



AUG 04 2015

Mr. Michael Rinehart
Pastoria Energy Facility, LLC
PO Box 866
Lebec, CA 93243

**Re: Notice of Minor Title V Permit Modification
District Facility # S-3636
Project # 1153407**

Dear Mr. Rinehart:

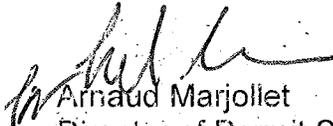
Enclosed is the District's analysis of your application for minor Title V permit modification for the facility identified above. You proposed a Title V minor permit modification to incorporate recently issued Authorities to Construct (ATCs) S-3636-1-6, '-2-6, and '-3-6 (under project S-1152511) into the Title V operating permit. The project authorized the deletion of the permit condition limiting of number of startups and shutdowns for three gas turbine engine combined cycle electric generating units.

Enclosed is the engineering evaluation with the following attachments: proposed modified Title V permit, recently issued Authorities to Construct (ATCs) S-3636-1-6, '-2-6, and '-3-6, emission increases, application, and previous Title V permit. This project will be subject to a 45-day EPA commenting period prior to the District taking final action.

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

Thank you for your cooperation in this matter.

Sincerely,


Arnaud Marjollet
Director of Permit Services

Enclosures

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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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

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

TITLE V APPLICATION REVIEW

Minor Modification
Project #: S-1153407

Engineer: Richard Edgehill
Date: August 3, 2015

Facility Number: S-3636
Facility Name: Pastoria Energy Facility, LLC
Mailing Address: PO Box 866
Lebec, CA 93243

Contact Name: Michael Rinehart
Phone: (661) 282-4404
Responsible Official: Michael Rinehart
Title: Plant Manager

I. PROPOSAL

Pastoria Energy Facility, LLC (Pastoria) is proposing a Title V minor permit modification to incorporate the recently issued Authorities to Construct (ATC) S-363-1-6, '-2-6, and '-3-6 into the Title V permit. The ATCs authorized deletion of the permit condition limiting of number of startups and shutdowns for three gas turbine engine combined cycle electric generating units.

The following condition was authorized to be deleted:

~~44. Total number of start-ups and shut-downs for the facility shall not exceed 674 events per year. [PSD Permit (SJ 99-03) X.G.6] Y~~

Note that annual and startup and shutdown emissions limits are currently included on the PTOs and are enforced by CEMs. Therefore, removal of the above "redundant" condition is considered administrative and is not a Rule 2520 Title V Significant Modification as there is no relaxation in monitoring or recordkeeping i.e. the limitation on number of startups and shutdowns is superfluous.

II. FACILITY LOCATION

El Tejon Historical Land Grant (corresponding to approx. Sec. 7, T10N, R18W SBB&M)

The site is 30 miles south of Bakersfield, 6 miles east of Grapevine and 0.75 mile north of the Edmunson Pumping Plant.

III. EQUIPMENT DESCRIPTION

S-3636-1-6: 168 MW NOMINALLY RATED GENERAL ELECTRIC 7FA NATURAL GAS FIRED GAS TURBINE ENGINE/ELECTRICAL GENERATOR #1 WITH DRY LOW NOX COMBUSTORS AND SELECTIVE CATALYTIC REDUCTION, WITH HRSG #1 AND 185 MW STEAM TURBINE #1 IN A TWO ON ONE COMBINED CYCLE WITH GAS TURBINE ENGINE S-3636-2

S-3636-2-6: 168 MW NOMINALLY RATED GENERAL ELECTRIC 7FA NATURAL GAS FIRED GAS TURBINE ENGINE/ELECTRICAL GENERATOR #2 WITH DRY LOW NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION, HRSG #2, AND A SINGLE 185 MW STEAM TURBINE #1 SHARED WITH GAS TURBINE ENGINE S-3636-1

S-3636-3-6: 168 MW NOMINALLY RATED GENERAL ELECTRIC 7FA NATURAL GAS FIRED GAS TURBINE ENGINE/ELECTRICAL GENERATOR #3 WITH DRY LOW NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION, HRSG #1 AND 90 MW STEAM TURBINE #2

IV. SCOPE OF EPA AND PUBLIC REVIEW

This change to a Title V permit is considered to be a minor modification and, as such, requires no public review.

V. APPLICABLE REQUIREMENTS

District Rule 2520, Federally Mandated Operating Permits (Adopted June 21, 2001)

VI. DESCRIPTION OF PROPOSED MODIFICATIONS

A condition match between the draft PTOs and current PTOs is provided below. The draft PTOs include the conditions from the base document ATCs.

S-1135-128

Draft PTO	Current PTO	Comments
1-43	1-43	
	44	Deleted as discussed previously
44,45	45,46	

VII. COMPLIANCE

In accordance with Rule 2520, 3.20, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
 - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

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

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

VIII. ATTACHMENTS

- I. Proposed Modified Title V Operating Permit
- II. Authority to Construct
- III. Application
- IV. Previous Title V Operating Permit

Attachment I
Proposed Title V Draft PTO

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3636-1-7

EXPIRATION DATE: 02/29/2016

EQUIPMENT DESCRIPTION:

168 MW NOMINALLY RATED GENERAL ELECTRIC 7FA NATURAL GAS FIRED GAS TURBINE ENGINE/ELECTRICAL GENERATOR #1 WITH DRY LOW NOX COMBUSTORS AND SELECTIVE CATALYTIC REDUCTION, WITH HRSG #1 AND 185 MW STEAM TURBINE #1 IN A TWO ON ONE COMBINED CYCLE WITH GAS TURBINE ENGINE S-3636-2

PERMIT UNIT REQUIREMENTS

1. Combustion turbine and electrical generator lube oil vents shall be equipped with mist eliminators to maintain visible emissions from lube oil vents no greater than 5% opacity, except for three minutes in any hour. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Combustion turbine engine(GTE) shall be equipped with continuously recording fuel gas flowmeter. [District Rule 2201 and PSD Permit (SJ 99-03) X.K] Federally Enforceable Through Title V Permit
3. Heat recovery steam generator (HRSG) exhaust duct downstream of the SCR unit shall be equipped with continuously recording emissions monitors (CEM) for NOx, CO, and O2. All CEMs shall be dedicated to this unit and shall meet the requirements of 40 CFR Part 60 Appendices B & F (for CO), and 40 CFR Part 75 (for NOx and O2), and shall be capable of monitoring emissions during normal operating conditions and during startups and shutdowns, provided the CEM(s) pass the relative accuracy requirements for startups and shutdown specified herein. If relative accuracy of CEM(s) cannot be certified during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained during source testing to determine compliance with emission limits in conditions 13, 17 and 18. [District Rule 2201 and PSD Permit (SJ 99-03) X.H.1] Federally Enforceable Through Title V Permit
4. HRSG exhaust duct shall be equipped with a continuously recording emission monitor upstream of the SCR unit for measuring the NOx concentration for the purposes of calculating ammonia slip. Permittee shall check, record, and quantify the calibration drift (CD) at two concentration values at least once daily (approximately 24 hours). The calibration shall be adjusted whenever the daily zero or high-level CD exceeds 5%. If either the zero or high-level CD exceeds 5% for five consecutive daily periods, the analyzer shall be deemed out-of-control. If either the zero or high-level CD exceeds 10% during any CD check, analyzer shall be deemed out-of-control. If the analyzer is out-of-control, the permittee shall take appropriate corrective action and then repeat the CD check. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Ammonia injection grid shall be equipped with operational ammonia flowmeter and injection pressure indicator. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.3] Federally Enforceable Through Title V Permit
7. Heat recovery steam generator design shall provide space for additional selective catalytic reduction catalyst and oxidation catalyst if required to meet NOx and CO emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Permittee shall monitor and record exhaust gas temperature at selective catalytic reduction and oxidation catalyst inlets. [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.

9. GTE shall be fired exclusively on natural gas, consisting primarily of methane and ethane, with a sulfur content no greater than 0.75 grains of sulfur compounds (as S) per 100 dry scf of natural gas. [District Rule 2201 and PSD Permit (SJ 99-03) X.K] Federally Enforceable Through Title V Permit
10. Cold startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmv emission limits in condition 15. Cold startup means a startup when the combustion turbine has not been in operation during the preceding 72 hours. Duration of the cold startups shall not exceed 3 hours. [District Rules 2201 and 4703 and PSD Permit (SJ 99-03) X.G.5] Federally Enforceable Through Title V Permit
11. Only one of GTEs S-3636-1, '2 or '3 shall be in startup at any one time. [District Rule 2201 and PSD Permit (SJ 99-03) X.G.2] Federally Enforceable Through Title V Permit
12. Ammonia shall be injected when the selective catalytic reduction system catalyst temperature exceeds 500 degrees F. Permittee shall monitor and record catalyst temperature during periods of startup. [District Rule 2201] Federally Enforceable Through Title V Permit
13. During the cold startup GTE exhaust emissions shall not exceed any of the following: NOx (as NO2) - 130 lb, VOC - 273 lb or CO - 1235 lb, in any one hour. [District Rule 2201 and PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
14. Emission rates from GTE, except during startup and/or shutdown, shall not exceed any of the following: NOx (as NO2) - 17.03 lb/hr and 2.5 ppmvd @ 15% O2, VOC - 2.0 ppmvd @ 15% O2, CO - 24.92 lb/hr and 6 ppmvd @ 15% O2 or ammonia - 10 ppmvd @15% O2. NOx (as NO2) emission limit is a one-hour average. Ammonia emission limit is a twenty-four hour rolling average. All other emission limits are three-hour rolling averages. [District Rules 2201, 4703 and PSD Permit (SJ 99-03) X.D & .E] Federally Enforceable Through Title V Permit
15. Emission rates from the GTE shall not exceed either of the following: PM10 - 9.0 lb/hr and SOx (as SO2) - 3.495 lb/hr. Emission limits are three-hour rolling averages. [District Rules 2201, 4001, and PSD Permit (SJ 99-03) X.F] Federally Enforceable Through Title V Permit
16. On any day when a startup or shutdown occurs, emission rates from GTE shall not exceed any of the following: PM10 - 216 lb/day, SOx (as SO2) - 84 lb/day, NOx (as NO2) - 450 lb/day, VOC - 355 lb/day or CO - 2,113 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Combined annual emissions from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed any of the following: PM10 - 224,343 lb/year, SOx (as SO2) - 84,780 lb/year, NOx (as NO2) - 344,484 lb/year, VOC - 227,619 lb/year or CO - 1,220,166 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Combined annual emissions of all hazardous air pollutants (HAPS) from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed 25 tons/year. Combined annual emissions of any single HAP from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed 10 tons/year. [District Rule 4002] Federally Enforceable Through Title V Permit
19. Each one-hour period shall commence on the hour. Each one-hour period in a three-hour rolling average will commence on the hour. The three-hour average will be compiled from the three most recent one-hour periods. Each one-hour period in a twenty-four-hour average for ammonia slip will commence on the hour. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Daily emissions will be compiled for a twenty-four hour period starting and ending at twelve-midnight. Each month in the twelve-consecutive-month rolling average emissions shall commence at the beginning of the first day of the month. The twelve-consecutive-month rolling average emissions to determine compliance with annual emissions limitations shall be compiled from the twelve most recent calendar months. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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21. Compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O₂ = ((a-(bxc/1,000,000)) x 1,000,000 / b) x d, where a = ammonia injection rate(lb/hr)/17(lb/lb. mol), b = dry exhaust gas flow rate (lb/hr)/(29(lb/lb. mol), c = change in measured NO_x concentration ppmv at 15% O₂ across catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, permittee may utilize a continuous in-stack ammonia monitor, acceptable to the District, to monitor compliance. At least 60 days prior to using a NH₃ CEM, the permittee must submit a monitoring plan for District review and approval. [District Rule 4102]
22. Compliance with the short term emission limits (ppmv @ 15% O₂ and lb/hr) shall be demonstrated annually by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm at full load conditions as follows - NO_x: ppmvd @ 15% O₂ and lb/hr, CO: ppmvd @ 15% O₂ and lb/hr, VOC: ppmvd @ 15% O₂ and lb/hr, PM₁₀: lb/hr, and ammonia: ppmvd @ 15% O₂. Sample collection to demonstrate compliance with ammonia emission limit shall be based on three consecutive test runs of thirty minutes each. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.1] Federally Enforceable Through Title V Permit
23. Compliance with the startup NO_x, CO, and VOC mass emission limits shall be demonstrated for one of the GTEs (S-3636-1, '2, or '3) at least once every seven years by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm. CEM relative accuracy shall be determined during startup source testing in accordance with methodology approved by the District. If CEM data is not certifiable to determine compliance with NO_x and CO startup emissions limits, then source testing to measure startup NO_x and CO mass emissions rates shall be conducted at least once every 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
24. Based on the initial speciated HAPS and total VOC source test conducted for one of the GTEs (S-3636-1, '2 or '3), Pastoria shall correlate the total HAPS emissions rate and the single highest HAP emission rate to the VOC mass emission determined during the speciated HAPs source test. Annual compliance with the HAPS emissions limit (25 tpy all HAPS or 10 tpy any single HAP) shall be by the combined VOC emissions rates for the GTEs (S-3636-1, '2 and '3) determined during annual compliance source testing and the correlation between VOC emissions and HAP(S). [District Rule 4002] Federally Enforceable Through Title V Permit
25. Compliance with natural gas sulfur content limit shall be demonstrated periodically as required by 40 CFR 60 Subpart GG and 40 CFR 75. [District Rules 2540 and PSD Permit (SJ 99-03) X.K] Federally Enforceable Through Title V Permit
26. 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. Official test results and field data collected by source tests required by conditions on this permit shall be submitted to the District within 60 days of testing. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.2] Federally Enforceable Through Title V Permit
27. Source test plans for seven-year source tests shall include a method for measuring the VOC/CO surrogate relationship that will be used to demonstrate compliance with VOC lb/hr, lb/day, and lb/twelve month rolling emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
28. The following test methods shall be used PM₁₀: EPA method 5 (front half and back half), NO_x: EPA Method 7E or 20, CO: EPA method 10 or 10B, O₂: EPA Method 3, 3A, or 20, VOC: EPA method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, 4703, and PSD Permit (SJ 99-03) X.C.2] Federally Enforceable Through Title V Permit
29. The permittee shall maintain hourly records of NO_x, CO, and ammonia emission concentrations (ppmv @ 15% O₂), and hourly, daily, and twelve month rolling average records of NO_x and CO emissions. Compliance with the hourly, daily, and twelve month rolling average VOC emission limits shall be demonstrated by the CO CEM data and the VOC/CO relationship determined by annual CO and VOC source tests. [District Rule 2201] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of SO_x lb/hr, lb/day, and lb/twelve month rolling average emission. SO_x emissions shall be based on fuel use records, natural gas sulfur content, and mass balance calculations. [District Rule 2201 and PSD Permit (SJ 99-03) X.K] 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.

31. Permittee shall maintain the following records for the GTE: occurrence, duration, and type of any startup, shutdown, or malfunction; performance testing; emission measurements; total daily and rolling twelve month average hours of operation; hourly quantity of fuel used and gross three hour average operating load. [District Rules 2201 & 4703] Federally Enforceable Through Title V Permit
32. Permittee shall maintain the following records for the continuous emissions monitoring system (CEMS): performance testing, evaluations, calibrations, checks, maintenance, adjustments, and any period during which a CEMS was inoperative. [District Rules 2201 & 4703, and PSD Permit (SJ 99-03) X.I.1] Federally Enforceable Through Title V Permit
33. Permittee shall provide notification and record keeping as required under 40 CFR, Part 60, Subpart A, 60.7. [District Rule 4001] Federally Enforceable Through Title V Permit
34. All records required to be maintained by this permit shall be maintained for a period of five years and shall be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3. 3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
36. Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
37. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
38. The permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080 and PSD Permit (SJ 99-03) X.I.3] Federally Enforceable Through Title V Permit
39. The combined annual emissions rate from all three CTGs and emergency engines S-3636-7-4 & -12-1, based on 12-month rolling average, must not exceed 344,485 lbs NOx and 1,140,000 lbs CO. [PSD Permit (SJ 99-03) X.D & .E] Federally Enforceable Through Title V Permit
40. The annual SOx emissions from each CTG, based on 12-month rolling average, must not exceed 28,170 lbs. [PSD Permit (SJ 99-03) X.F] Federally Enforceable Through Title V Permit
41. During the hot startup of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 107 lbs of NOx or 903 lbs of CO in any one hour. Hot startup means a startup when the combustion turbine has been in operation during the preceding 8 hours and duration of hot start-ups shall not exceed 1 hour. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
42. During the warm startup of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 119 lbs of NOx or 1021 lbs of CO in any one hour. Warm startup means a startup that is not a hot or cold startup and duration of warm startups shall not exceed 2.5 hours. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
43. During the Shutdown of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 58.5 lbs of NOx or 222.5 lbs of CO in any one hour. Shutdown shall be defined as the period beginning with the lowering of equipment from base load and lasting until fuel flow is completely off and combustion has ceased and duration of shutdowns shall not exceed one half hour. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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44. Any excess emission indicated by the CEM system must be considered a violation of the applicable emission limit in the PSD permit. [PSD Permit (SJ 99-03) X.I.4] Federally Enforceable Through Title V Permit
45. The quality assurance project plan used by the Permittee for the certification and operation of the continuous emissions monitors, which meets the requirements of 40 CFR Part 60, Appendix F, must be available upon request to EPA. [PSD Permit (SJ 99-03) X.I.5] Federally Enforceable Through Title V Permit

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

Facility Name: PASTORIA ENERGY FACILITY, LLC

Location: TEJON RANCH 30 MILES S OF BAKERSFIELD, AND 6.3 MILES E OF GRAPEVINE, RANCHO EL TEJON, CA

S-3636-1-7 : Aug 4 2015 9:45AM - EDGEHILR

DRAFT

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3636-2-7

EXPIRATION DATE: 02/29/2016

EQUIPMENT DESCRIPTION:

168 MW NOMINALLY RATED GENERAL ELECTRIC 7FA NATURAL GAS FIRED GAS TURBINE ENGINE/ELECTRICAL GENERATOR #2 WITH DRY LOW NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION, HRSG #2, AND A SINGLE 185 MW STEAM TURBINE #1 SHARED WITH GAS TURBINE ENGINE S-3636-1

PERMIT UNIT REQUIREMENTS

1. Combustion turbine and electrical generator lube oil vents shall be equipped with mist eliminators to maintain visible emissions from lube oil vents no greater than 5% opacity, except for three minutes in any hour. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Combustion turbine engine(GTE) shall be equipped with continuously recording fuel gas flowmeter. [District Rule 2201 and PSD Permit (SJ 99-03) X.K.] Federally Enforceable Through Title V Permit
3. Heat recovery steam generator (HRSG) exhaust duct downstream of the SCR unit shall be equipped with continuously recording emissions monitors (CEM) for NOx, CO, and O2. All CEMs shall be dedicated to this unit and shall meet the requirements of 40 CFR Part 60 Appendices B & F (for CO), and 40 CFR Part 75 (for NOx and O2), and shall be capable of monitoring emissions during normal operating conditions and during startups and shutdowns, provided the CEM(s) pass the relative accuracy requirements for startups and shutdown specified herein. If relative accuracy of CEM(s) cannot be certified during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained during source testing to determine compliance with emission limits in conditions 13, 17 and 18. [District Rule 2201 and PSD Permit (SJ 99-03) X.H.1] Federally Enforceable Through Title V Permit
4. HRSG exhaust duct shall be equipped with a continuously recording emission monitor upstream of the SCR unit for measuring the NOx concentration for the purposes of calculating ammonia slip. Permittee shall check, record, and quantify the calibration drift (CD) at two concentration values at least once daily (approximately 24 hours). The calibration shall be adjusted whenever the daily zero or high-level CD exceeds 5%. If either the zero or high-level CD exceeds 5% for five consecutive daily periods, the analyzer shall be deemed out-of-control. If either the zero or high-level CD exceeds 10% during any CD check, analyzer shall be deemed out-of-control. If the analyzer is out-of-control, the permittee shall take appropriate corrective action and then repeat the CD check. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Ammonia injection grid shall be equipped with operational ammonia flowmeter and injection pressure indicator. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.3] Federally Enforceable Through Title V Permit
7. Heat recovery steam generator design shall provide space for additional selective catalytic reduction catalyst and oxidation catalyst if required to meet NOx and CO emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Permittee shall monitor and record exhaust gas temperature at selective catalytic reduction and oxidation catalyst inlets. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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9. GTE shall be fired exclusively on natural gas, consisting primarily of methane and ethane, with a sulfur content no greater than 0.75 grains of sulfur compounds (as S) per 100 dry scf of natural gas. [District Rule 2201 and PSD Permit (SJ 99-03) X.K.] Federally Enforceable Through Title V Permit
10. Cold startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmv emission limits in condition 15. Cold startup means a startup when the combustion turbine has not been in operation during the preceding 72 hours. Duration of the cold startups shall not exceed 3 hours. [District Rules 2201 and 4703 and PSD Permit (SJ 99-03) X.G.5] Federally Enforceable Through Title V Permit
11. Only one of GTEs S-3636-1, '2 or '3 shall be in startup at any one time. [District Rule 2201 and PSD Permit (SJ 99-03) X.G.2] Federally Enforceable Through Title V Permit
12. Ammonia shall be injected when the selective catalytic reduction system catalyst temperature exceeds 500 degrees F. Permittee shall monitor and record catalyst temperature during periods of startup. [District Rule 2201] Federally Enforceable Through Title V Permit
13. During the cold startup GTE exhaust emissions shall not exceed any of the following: NOx (as NO2) - 130 lb, VOC - 273 lb or CO - 1235 lb, in any one hour. [District Rule 2201 and PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
14. Emission rates from GTE, except during startup and/or shutdown, shall not exceed any of the following: NOx (as NO2) - 17.03 lb/hr and 2.5 ppmvd @ 15% O2, VOC - 2.0 ppmvd @ 15% O2, CO - 24.92 lb/hr and 6 ppmvd @ 15% O2 or ammonia - 10 ppmvd @ 15% O2. NOx (as NO2) emission limit is a one-hour average. Ammonia emission limit is a twenty-four hour rolling average. All other emission limits are three-hour rolling averages. [District Rules 2201, 4703 and PSD Permit (SJ 99-03) X.D & .E] Federally Enforceable Through Title V Permit
15. Emission rates from the GTE shall not exceed either of the following: PM10 - 9.0 lb/hr and SOx (as SO2) - 3.495 lb/hr. Emission limits are three-hour rolling averages. [District Rules 2201, 4001, and PSD Permit (SJ 99-03) X.F] Federally Enforceable Through Title V Permit
16. On any day when a startup or shutdown occurs, emission rates from GTE shall not exceed any of the following: PM10 - 216 lb/day, SOx (as SO2) - 84 lb/day, NOx (as NO2) - 450 lb/day, VOC - 355 lb/day or CO - 2,113 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Combined annual emissions from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed any of the following: PM10 - 224,343 lb/year, SOx (as SO2) - 84,780 lb/year, NOx (as NO2) - 344,484 lb/year, VOC - 227,619 lb/year or CO - 1,220,166 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Combined annual emissions of all hazardous air pollutants (HAPS) from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed 25 tons/year. Combined annual emissions of any single HAP from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed 10 tons/year. [District Rule 4002] Federally Enforceable Through Title V Permit
19. Each one-hour period shall commence on the hour. Each one-hour period in a three-hour rolling average will commence on the hour. The three-hour average will be compiled from the three most recent one-hour periods. Each one-hour period in a twenty-four-hour average for ammonia slip will commence on the hour. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Daily emissions will be compiled for a twenty-four hour period starting and ending at twelve-midnight. Each month in the twelve-consecutive-month rolling average emissions shall commence at the beginning of the first day of the month. The twelve-consecutive-month rolling average emissions to determine compliance with annual emissions limitations shall be compiled from the twelve most recent calendar months. [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.

21. Compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O₂ = ((a-(bxc/1,000,000)) x 1,000,000 / b) x d, where a = ammonia injection rate(lb/hr)/17(lb/lb. mol), b = dry exhaust gas flow rate (lb/hr)/(29(lb/lb. mol), c = change in measured NO_x concentration ppmv at 15% O₂ across catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, permittee may utilize a continuous in-stack ammonia monitor, acceptable to the District, to monitor compliance. At least 60 days prior to using a NH₃ CEM, the permittee must submit a monitoring plan for District review and approval. [District Rule 4102]
22. Compliance with the short term emission limits (ppmv @ 15% O₂ and lb/hr) shall be demonstrated annually by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm at full load conditions as follows - NO_x: ppmvd @ 15% O₂ and lb/hr, CO: ppmvd @ 15% O₂ and lb/hr, VOC: ppmvd @ 15% O₂ and lb/hr, PM₁₀: lb/hr, and ammonia: ppmvd @ 15% O₂. Sample collection to demonstrate compliance with ammonia emission limit shall be based on three consecutive test runs of thirty minutes each. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.1] Federally Enforceable Through Title V Permit
23. Compliance with the startup NO_x, CO, and VOC mass emission limits shall be demonstrated for one of the GTEs (S-3636-1, '2, or '3) at least once every seven years by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm. CEM relative accuracy shall be determined during startup source testing in accordance with methodology approved by the District. If CEM data is not certifiable to determine compliance with NO_x and CO startup emissions limits, then source testing to measure startup NO_x and CO mass emissions rates shall be conducted at least once every 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
24. Based on the initial speciated HAPS and total VOC source test conducted for one of the GTEs (S-3636-1, '2 or '3), Pastoria shall correlate the total HAPS emissions rate and the single highest HAP emission rate to the VOC mass emission determined during the speciated HAPs source test. Annual compliance with the HAPS emissions limit (25 tpy all HAPS or 10 tpy any single HAP) shall be by the combined VOC emissions rates for the GTEs (S-3636-1, '2 and '3) determined during annual compliance source testing and the correlation between VOC emissions and HAP(S). [District Rule 4002] Federally Enforceable Through Title V Permit
25. Compliance with natural gas sulfur content limit shall be demonstrated periodically as required by 40 CFR 60 Subpart GG and 40 CFR 75. [District Rules 2540 and PSD Permit (SJ 99-03) X.K] Federally Enforceable Through Title V Permit
26. 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. Official test results and field data collected by source tests required by conditions on this permit shall be submitted to the District within 60 days of testing. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.2] Federally Enforceable Through Title V Permit
27. Source test plans for seven-year source tests shall include a method for measuring the VOC/CO surrogate relationship that will be used to demonstrate compliance with VOC lb/hr, lb/day, and lb/twelve month rolling emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
28. The following test methods shall be used PM₁₀: EPA method 5 (front half and back half), NO_x: EPA Method 7E or 20, CO: EPA method 10 or 10B, O₂: EPA Method 3, 3A, or 20, VOC: EPA method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, 4703, and PSD Permit (SJ 99-03) X.C.2] Federally Enforceable Through Title V Permit
29. The permittee shall maintain hourly records of NO_x, CO, and ammonia emission concentrations (ppmv @ 15% O₂), and hourly, daily, and twelve month rolling average records of NO_x and CO emissions. Compliance with the hourly, daily, and twelve month rolling average VOC emission limits shall be demonstrated by the CO CEM data and the VOC/CO relationship determined by annual CO and VOC source tests. [District Rule 2201] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of SO_x lb/hr, lb/day, and lb/twelve month rolling average emission. SO_x emissions shall be based on fuel use records, natural gas sulfur content, and mass balance calculations. [District Rule 2201 and PSD Permit (SJ 99-03) X.K] 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.

31. Permittee shall maintain the following records for the GTE: occurrence, duration, and type of any startup, shutdown, or malfunction; performance testing; emission measurements; total daily and rolling twelve month average hours of operation; hourly quantity of fuel used and gross three hour average operating load. [District Rules 2201 & 4703] Federally Enforceable Through Title V Permit
32. Permittee shall maintain the following records for the continuous emissions monitoring system (CEMS): performance testing, evaluations, calibrations, checks, maintenance, adjustments, and any period during which a CEMS was inoperative. [District Rules 2201 & 4703, and PSD Permit (SJ 99-03) X.I.1] Federally Enforceable Through Title V Permit
33. Permittee shall provide notification and record keeping as required under 40 CFR, Part 60, Subpart A, 60.7. [District Rule 4001] Federally Enforceable Through Title V Permit
34. All records required to be maintained by this permit shall be maintained for a period of five years and shall be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3. 3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
36. Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
37. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
38. The permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080 and PSD Permit (SJ 99-03) X.I.3] Federally Enforceable Through Title V Permit
39. The combined annual emissions rate from all three CTGs and emergency engines S-3636-7-4 & -12-41 based on 12-month rolling average, must not exceed 344,485 lbs NOx and 1,140,000 lbs CO. [PSD Permit (SJ 99-03) X.D & .E] Federally Enforceable Through Title V Permit
40. The annual SOx emissions from each CTG, based on 12-month rolling average, must not exceed 28,170 lbs. [PSD Permit (SJ 99-03) X.F] Federally Enforceable Through Title V Permit
41. During the hot startup of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 107 lbs of NOx or 903 lbs of CO in any one hour. Hot startup means a startup when the combustion turbine has been in operation during the preceding 8 hours and duration of hot start-ups shall not exceed 1 hour. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
42. During the warm startup of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 119 lbs of NOx or 1021 lbs of CO in any one hour. Warm startup means a startup that is not a hot or cold startup and duration of warm startups shall not exceed 2.5 hours. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
43. During the Shutdown of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 58.5 lbs of NOx or 222.5 lbs of CO in any one hour. Shutdown shall be defined as the period beginning with the lowering of equipment from base load and lasting until fuel flow is completely off and combustion has ceased and duration of shutdowns shall not exceed one half hour. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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44. Any excess emission indicated by the CEM system must be considered a violation of the applicable emission limit in the PSD permit. [PSD Permit (SJ 99-03) X.I.4] Federally Enforceable Through Title V Permit
45. The quality assurance project plan used by the Permittee for the certification and operation of the continuous emissions monitors, which meets the requirements of 40 CFR Part 60, Appendix F, must be available upon request to EPA. [PSD Permit (SJ 99-03) X.I.5] Federally Enforceable Through Title V Permit

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

DRAFT

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3636-3-7

EXPIRATION DATE: 02/29/2016

EQUIPMENT DESCRIPTION:

168 MW NOMINALLY RATED GENERAL ELECTRIC 7FA NATURAL GAS FIRED GAS TURBINE ENGINE/ELECTRICAL GENERATOR #3 WITH DRY LOW NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION, HRSG #1 AND 90 MW STEAM TURBINE #2

PERMIT UNIT REQUIREMENTS

1. Combustion turbine and electrical generator lube oil vents shall be equipped with mist eliminators to maintain visible emissions from lube oil vents no greater than 5% opacity, except for three minutes in any hour. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Combustion turbine engine(GTE) shall be equipped with continuously recording fuel gas flowmeter. [District Rule 2201 and PSD Permit (SJ 99-03) X.K.] Federally Enforceable Through Title V Permit
3. Heat recovery steam generator (HRSG) exhaust duct downstream of the SCR unit shall be equipped with continuously recording emissions monitors (CEM) for NOx, CO, and O2. All CEMs shall be dedicated to this unit and shall meet the requirements of 40 CFR Part 60 Appendices B & F (for CO), and 40 CFR Part 75 (for NOx and O2), and shall be capable of monitoring emissions during normal operating conditions and during startups and shutdowns, provided the CEM(s) pass the relative accuracy requirements for startups and shutdown specified herein. If relative accuracy of CEM(s) cannot be certified during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained during source testing to determine compliance with emission limits in conditions 13, 17 and 18. [District Rule 2201 and PSD Permit (SJ 99-03) X.H.1] Federally Enforceable Through Title V Permit
4. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3. 3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
5. Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
6. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
7. The permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080 and PSD Permit (SJ 99-03) X.I.3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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Facility Name: PASTORIA ENERGY FACILITY, LLC

Location: TEJON RANCH 30 MILES S OF BAKERSFIELD, AND 8.5 MILES E OF GRAPEVINE, RANCHO EL TEJON, CA

S-3636-3-7 - Aug 4 2015 9:45AM -- EDGEHLR

8. The combined annual emissions rate from all three CTGs and emergency engines S-3636-7-4 & -12-1, based on 12-month rolling average, must not exceed 344,485 lbs NOx and 1,140,000 lbs CO. [PSD Permit (SJ 99-03) X.D & .E] Federally Enforceable Through Title V Permit
9. The annual SOx emissions from each CTG, based on 12-month rolling average, must not exceed 28,170 lbs. [PSD Permit (SJ 99-03) X.F] Federally Enforceable Through Title V Permit
10. During the hot startup of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 107 lbs of NOx or 903 lbs of CO in any one hour. Hot startup means a startup when the combustion turbine has been in operation during the preceding 8 hours and duration of hot start-ups shall not exceed 1 hour. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
11. HRSG exhaust duct shall be equipped with a continuously recording emission monitor upstream of the SCR unit for measuring the NOx concentration for the purposes of calculating ammonia slip. Permittee shall check, record, and quantify the calibration drift (CD) at two concentration values at least once daily (approximately 24 hours). The calibration shall be adjusted whenever the daily zero or high-level CD exceeds 5%. If either the zero or high-level CD exceeds 5% for five consecutive daily periods, the analyzer shall be deemed out-of-control. If either the zero or high-level CD exceeds 10% during any CD check, analyzer shall be deemed out-of-control. If the analyzer is out-of-control, the permittee shall take appropriate corrective action and then repeat the CD check. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Ammonia injection grid shall be equipped with operational ammonia flowmeter and injection pressure indicator. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.3] Federally Enforceable Through Title V Permit
14. Heat recovery steam generator design shall provide space for additional selective catalytic reduction catalyst and oxidation catalyst if required to meet NOx and CO emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Permittee shall monitor and record exhaust gas temperature at selective catalytic reduction and oxidation catalyst inlets. [District Rule 2201] Federally Enforceable Through Title V Permit
16. GTE shall be fired exclusively on natural gas, consisting primarily of methane and ethane, with a sulfur content no greater than 0.75 grains of sulfur compounds (as S) per 100 dry scf of natural gas. [District Rule 2201 and PSD Permit (SJ 99-03) X.K] Federally Enforceable Through Title V Permit
17. Cold startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmv emission limits in condition 15. Cold startup means a startup when the combustion turbine has not been in operation during the preceding 72 hours. Duration of the cold startups shall not exceed 3 hours. [District Rules 2201 and 4703 and PSD Permit (SJ 99-03) X.G.5] Federally Enforceable Through Title V Permit
18. Only one of GTEs S-3636-1, '2 or '3 shall be in startup at any one time. [District Rule 2201 and PSD Permit (SJ 99-03) X.G.2] Federally Enforceable Through Title V Permit
19. Ammonia shall be injected when the selective catalytic reduction system catalyst temperature exceeds 500 degrees F. Permittee shall monitor and record catalyst temperature during periods of startup. [District Rule 2201] Federally Enforceable Through Title V Permit
20. During the cold startup GTE exhaust emissions shall not exceed any of the following: NOx (as NO2) - 130 lb, VOC - 273 lb or CO - 1235 lb, in any one hour. [District Rule 2201 and PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
21. Emission rates from GTE, except during startup and/or shutdown, shall not exceed any of the following: NOx (as NO2) - 17.03 lb/hr and 2.5 ppmvd @ 15% O2, VOC - 2.0 ppmvd @ 15% O2, CO - 24.92 lb/hr and 6 ppmvd @ 15% O2 or ammonia - 10 ppmvd @ 15% O2. NOx (as NO2) emission limit is a one-hour average. Ammonia emission limit is a twenty-four hour rolling average. All other emission limits are three-hour rolling averages. [District Rules 2201, 4703 and PSD Permit (SJ 99-03) X.D & .E] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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22. Emission rates from the GTE shall not exceed either of the following: PM10 - 9.0 lb/hr and SOx (as SO2) - 3.495 lb/hr. Emission limits are three-hour rolling averages. [District Rules 2201, 4001, and PSD Permit (SJ 99-03) X.F] Federally Enforceable Through Title V Permit
23. On any day when a startup or shutdown occurs, emission rates from GTE shall not exceed any of the following: PM10 - 216 lb/day, SOx (as SO2) - 84 lb/day, NOx (as NO2) - 450 lb/day, VOC - 355 lb/day or CO - 2,113 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Combined annual emissions from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed any of the following: PM10 - 224,343 lb/year, SOx (as SO2) - 84,780 lb/year, NOx (as NO2) - 344,484 lb/year, VOC - 227,619 lb/year or CO - 1,220,166 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Combined annual emissions of all hazardous air pollutants (HAPS) from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed 25 tons/year. Combined annual emissions of any single HAP from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed 10 tons/year. [District Rule 4002] Federally Enforceable Through Title V Permit
26. Each one-hour period shall commence on the hour. Each one-hour period in a three-hour rolling average will commence on the hour. The three-hour average will be compiled from the three most recent one-hour periods. Each one-hour period in a twenty-four-hour average for ammonia slip will commence on the hour. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Daily emissions will be compiled for a twenty-four hour period starting and ending at twelve-midnight. Each month in the twelve-consecutive-month rolling average emissions shall commence at the beginning of the first day of the month. The twelve-consecutive-month rolling average emissions to determine compliance with annual emissions limitations shall be compiled from the twelve most recent calendar months. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O2 = ((a-(bxc/1,000,000)) x 1,000,000 / b) x d, where a = ammonia injection rate(lb/hr)/17(lb/lb. mol), b = dry exhaust gas flow rate (lb/hr)/(29(lb/lb. mol), c = change in measured NOx concentration ppmv at 15% O2 across catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, permittee may utilize a continuous in-stack ammonia monitor, acceptable to the District, to monitor compliance. At least 60 days prior to using a NH3 CEM, the permittee must submit a monitoring plan for District review and approval. [District Rule 4102]
29. Compliance with the short term emission limits (ppmv @ 15% O2 and lb/hr) shall be demonstrated annually by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm at full load conditions as follows - NOx: ppmvd @ 15% O2 and lb/hr, CO: ppmvd @ 15% O2 and lb/hr, VOC: ppmvd @ 15% O2 and lb/hr, PM10: lb/hr, and ammonia: ppmvd @ 15% O2. Sample collection to demonstrate compliance with ammonia emission limit shall be based on three consecutive test runs of thirty minutes each. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.1] Federally Enforceable Through Title V Permit
30. Compliance with the startup NOx, CO, and VOC mass emission limits shall be demonstrated for one of the GTEs (S-3636-1, '2, or '3) at least once every seven years by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm. CEM relative accuracy shall be determined during startup source testing in accordance with methodology approved by the District. If CEM data is not certifiable to determine compliance with NOx and CO startup emissions limits, then source testing to measure startup NOx and CO mass emissions rates shall be conducted at least once every 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
31. Based on the initial speciated HAPS and total VOC source test conducted for one of the GTEs (S-3636-1, '2 or '3), Pastoria shall correlate the total HAPS emissions rate and the single highest HAP emission rate to the VOC mass emission determined during the speciated HAPS source test. Annual compliance with the HAPS emissions limit (25 tpy all HAPS or 10 tpy any single HAP) shall be by the combined VOC emissions rates for the GTEs (S-3636-1, '2 and '3) determined during annual compliance source testing and the correlation between VOC emissions and HAP(S). [District Rule 4002] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

32. Compliance with natural gas sulfur content limit shall be demonstrated periodically as required by 40 CFR 60 Subpart GG and 40 CFR 75. [District Rules 2540 and PSD Permit (SJ 99-03) X.K] Federally Enforceable Through Title V Permit
33. 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. Official test results and field data collected by source tests required by conditions on this permit shall be submitted to the District within 60 days of testing. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.2] Federally Enforceable Through Title V Permit
34. Source test plans for seven-year source tests shall include a method for measuring the VOC/CO surrogate relationship that will be used to demonstrate compliance with VOC lb/hr, lb/day, and lb/twelve month rolling emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
35. The following test methods shall be used PM10: EPA method 5 (front half and back half), NOx: EPA Method 7E or 20, CO: EPA method 10 or 10B, O2: EPA Method 3, 3A, or 20, VOC: EPA method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, 4703, and PSD Permit (SJ 99-03) X.C.2] Federally Enforceable Through Title V Permit
36. The permittee shall maintain hourly records of NOx, CO, and ammonia emission concentrations (ppmv @ 15% O2), and hourly, daily, and twelve month rolling average records of NOx and CO emissions. Compliance with the hourly, daily, and twelve month rolling average VOC emission limits shall be demonstrated by the CO CEM data and the VOC/CO relationship determined by annual CO and VOC source tests. [District Rule 2201] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of SOx lb/hr, lb/day, and lb/twelve month rolling average emission. SOx emissions shall be based on fuel use records, natural gas sulfur content, and mass balance calculations. [District Rule 2201 and PSD Permit (SJ 99-03) X.K] Federally Enforceable Through Title V Permit
38. Permittee shall maintain the following records for the GTE: occurrence, duration, and type of any startup, shutdown, or malfunction; performance testing; emission measurements; total daily and rolling twelve month average hours of operation; hourly quantity of fuel used and gross three hour average operating load. [District Rules 2201 & 4703] Federally Enforceable Through Title V Permit
39. Permittee shall maintain the following records for the continuous emissions monitoring system (CEMS): performance testing, evaluations, calibrations, checks, maintenance, adjustments, and any period during which a CEMS was inoperative. [District Rules 2201 & 4703, and PSD Permit (SJ 99-03) X.I.1] Federally Enforceable Through Title V Permit
40. Permittee shall provide notification and record keeping as required under 40 CFR, Part 60, Subpart A, 60.7. [District Rule 4001] Federally Enforceable Through Title V Permit
41. All records required to be maintained by this permit shall be maintained for a period of five years and shall be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
42. During the warm startup of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 119 lbs of NOx or 1021 lbs of CO in any one hour. Warm startup means a startup that is not a hot or cold startup and duration of warm startups shall not exceed 2.5 hours. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
43. During the Shutdown of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 58.5 lbs of NOx or 222.5 lbs of CO in any one hour. Shutdown shall be defined as the period beginning with the lowering of equipment from base load and lasting until fuel flow is completely off and combustion has ceased and duration of shutdowns shall not exceed one half hour. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
44. Any excess emission indicated by the CEM system must be considered a violation of the applicable emission limit in the PSD permit. [PSD Permit (SJ 99-03) X.I.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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45. The quality assurance project plan used by the Permittee for the certification and operation of the continuous emissions monitors, which meets the requirements of 40 CFR Part 60, Appendix F, must be available upon request to EPA. [PSD Permit (SJ 99-03) X.I.5] Federally Enforceable Through Title V Permit

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

Facility Name: PASTORIA ENERGY FACILITY, LLC

Location: TEJON RANCH 30 MILES S OF BAKERSFIELD, AND 6.3 MILES E OF GRAPEVINE, RANCHO EL TEJON, CA

S-3636-3-7 - Aug 4 2015 9:45AM - EDGEHLR

DRAFT

Attachment III
Application

5-3636-1-7, 1-2-7, 1-3-7

San Joaquin Valley Air Pollution Control District

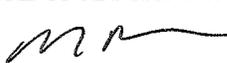
www.valleyair.org

RECEIVED
JUL 30 2015

SJVAPCD
Southern Region

Permit Application For:

ADMINISTRATIVE AMENDMENT MINOR MODIFICATION SIGNIFICANT MODIFICATION

1. PERMIT TO BE ISSUED TO: Pastoria Energy Facility, LLC	
2. MAILING ADDRESS: STREET/P.O. BOX: <u>P.O. Box 866</u> CITY: <u>Lebec</u> STATE: <u>CA</u> 9-DIGIT ZIP CODE: <u>93243</u>	
3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: STREET: <u>39789 Edmonston Pumping Plant Road</u> CITY: <u>Lebec</u> <u> </u> ¼ SECTION <u>7</u> TOWNSHIP <u>10N</u> RANGE <u>18W</u>	INSTALLATION DATE:
4. GENERAL NATURE OF BUSINESS: Electric Power Generation	
5. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE (include Permit #'s if known, and use additional sheets if necessary) Modify Title V permit to incorporate changes made and authorized in Authorities to Construct S-3636-1-6, S-3636-2-6 and S-3636-3-6	
6. TYPE OR PRINT NAME OF APPLICANT: Michael Rinehart	TITLE OF APPLICANT: Plant Manager
7. SIGNATURE OF APPLICANT: 	DATE: <u>7/29/15</u> PHONE: (661) 282-4404 FAX: (661) 282-4426 EMAIL: rinehartm@calpine.com

For APCD Use Only:

No \$

DATE STAMP	FILING FEE RECEIVED: \$ _____ CHECK#: _____
	DATE PAID: <u>S-1153407</u> <u>S-3636</u>

RECEIVED

JUL 30 2015

San Joaquin Valley Unified Air Pollution Control District

SJVAPCD
Southern Region

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE
 MINOR PERMIT MODIFICATION AMENDMENT

COMPANY NAME: Pastoria Energy Facility, LLC	FACILITY ID: S - 3636
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: Calpine Corp.	
3. Agent to the Owner: Michael Rinehart	

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

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

MR

7/29/15

Signature of Responsible Official

Date

Michael Rinehart

Name of Responsible Official (please print)

Plant Manager

Title of Responsible Official (please print)

Attachment IV
Previous Title V Operating Permit

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3636-1-5

EXPIRATION DATE: 02/29/2016

EQUIPMENT DESCRIPTION:

168 MW NOMINALLY RATED GENERAL ELECTRIC 7FA NATURAL GAS FIRED GAS TURBINE ENGINE/ELECTRICAL GENERATOR #1 WITH DRY LOW NOX COMBUSTORS AND SELECTIVE CATALYTIC REDUCTION, WITH HRSG #1 AND 185 MW STEAM TURBINE #1 IN A TWO ON ONE COMBINED CYCLE WITH GAS TURBINE ENGINE S-3636-2

PERMIT UNIT REQUIREMENTS

1. Combustion turbine and electrical generator lube oil vents shall be equipped with mist eliminators to maintain visible emissions from lube oil vents no greater than 5% opacity, except for three minutes in any hour. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Combustion turbine engine(GTE) shall be equipped with continuously recording fuel gas flowmeter. [District Rule 2201 and PSD Permit (SJ 99-03) X.K] Federally Enforceable Through Title V Permit
3. Heat recovery steam generator (HRSG) exhaust duct downstream of the SCR unit shall be equipped with continuously recording emissions monitors (CEM) for NO_x, CO, and O₂. All CEMs shall be dedicated to this unit and shall meet the requirements of 40 CFR Part 60 Appendices B & F (for CO), and 40 CFR Part 75 (for NO_x and O₂), and shall be capable of monitoring emissions during normal operating conditions and during startups and shutdowns, provided the CEM(s) pass the relative accuracy requirements for startups and shutdown specified herein. If relative accuracy of CEM(s) cannot be certified during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained during source testing to determine compliance with emission limits in conditions 13, 17 and 18. [District Rule 2201 and PSD Permit (SJ 99-03) X.H.1] Federally Enforceable Through Title V Permit
4. HRSG exhaust duct shall be equipped with a continuously recording emission monitor upstream of the SCR unit for measuring the NO_x concentration for the purposes of calculating ammonia slip. Permittee shall check, record, and quantify the calibration drift (CD) at two concentration values at least once daily (approximately 24 hours). The calibration shall be adjusted whenever the daily zero or high-level CD exceeds 5%. If either the zero or high-level CD exceeds 5% for five consecutive daily periods, the analyzer shall be deemed out-of-control. If either the zero or high-level CD exceeds 10% during any CD check, analyzer shall be deemed out-of-control. If the analyzer is out-of-control, the permittee shall take appropriate corrective action and then repeat the CD check. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Ammonia injection grid shall be equipped with operational ammonia flowmeter and injection pressure indicator. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.3] Federally Enforceable Through Title V Permit
7. Heat recovery steam generator design shall provide space for additional selective catalytic reduction catalyst and oxidation catalyst if required to meet NO_x and CO emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Permittee shall monitor and record exhaust gas temperature at selective catalytic reduction and oxidation catalyst inlets. [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.

Facility Name: PASTORIA ENERGY FACILITY, LLC

Location: TEJON RANCH 30 MILES S OF BAKERSFIELD, AND 6.5 MILES E OF GRAPEVINE, RANCHO EL TEJON, CA

S-3636-1-5 - Aug 3 2015 11:41AM - EDGEHILLR

9. GTE shall be fired exclusively on natural gas, consisting primarily of methane and ethane, with a sulfur content no greater than 0.75 grains of sulfur compounds (as S) per 100 dry scf of natural gas. [District Rule 2201 and PSD Permit (SJ 99-03) X.K.] Federally Enforceable Through Title V Permit
10. Cold startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmv emission limits in condition 15. Cold startup means a startup when the combustion turbine has not been in operation during the preceding 72 hours. Duration of the cold startups shall not exceed 3 hours. [District Rules 2201 and 4703 and PSD Permit (SJ 99-03) X.G.5] Federally Enforceable Through Title V Permit
11. Only one of GTEs S-3636-1, '2 or '3 shall be in startup at any one time. [District Rule 2201 and PSD Permit (SJ 99-03) X.G.2] Federally Enforceable Through Title V Permit
12. Ammonia shall be injected when the selective catalytic reduction system catalyst temperature exceeds 500 degrees F. Permittee shall monitor and record catalyst temperature during periods of startup. [District Rule 2201] Federally Enforceable Through Title V Permit
13. During the cold startup GTE exhaust emissions shall not exceed any of the following: NOx (as NO2) - 130 lb, VOC - 273 lb or CO - 1235 lb, in any one hour. [District Rule 2201 and PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
14. Emission rates from GTE, except during startup and/or shutdown, shall not exceed any of the following: NOx (as NO2) - 17.03 lb/hr and 2.5 ppmvd @ 15% O2, VOC - 2.0 ppmvd @ 15% O2, CO - 24.92 lb/hr and 6 ppmvd @ 15% O2 or ammonia - 10 ppmvd @ 15% O2. NOx (as NO2) emission limit is a one-hour average. Ammonia emission limit is a twenty-four hour rolling average. All other emission limits are three-hour rolling averages. [District Rules 2201, 4703 and PSD Permit (SJ 99-03) X.D & .E] Federally Enforceable Through Title V Permit
15. Emission rates from the GTE shall not exceed either of the following: PM10 - 9.0 lb/hr and SOx (as SO2) - 3.495 lb/hr. Emission limits are three-hour rolling averages. [District Rules 2201, 4001, and PSD Permit (SJ 99-03) X.F] Federally Enforceable Through Title V Permit
16. On any day when a startup or shutdown occurs, emission rates from GTE shall not exceed any of the following: PM10 - 216 lb/day, SOx (as SO2) - 84 lb/day, NOx (as NO2) - 450 lb/day, VOC - 355 lb/day or CO - 2,113 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Combined annual emissions from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed any of the following: PM10 - 224,343 lb/year, SOx (as SO2) - 84,780 lb/year, NOx (as NO2) - 344,484 lb/year, VOC - 227,619 lb/year or CO - 1,220,166 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Combined annual emissions of all hazardous air pollutants (HAPS) from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed 25 tons/year. Combined annual emissions of any single HAP from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed 10 tons/year. [District Rule 4002] Federally Enforceable Through Title V Permit
19. Each one-hour period shall commence on the hour. Each one-hour period in a three-hour rolling average will commence on the hour. The three-hour average will be compiled from the three most recent one-hour periods. Each one-hour period in a twenty-four-hour average for ammonia slip will commence on the hour. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Daily emissions will be compiled for a twenty-four hour period starting and ending at twelve-midnight. Each month in the twelve-consecutive-month rolling average emissions shall commence at the beginning of the first day of the month. The twelve-consecutive-month rolling average emissions to determine compliance with annual emissions limitations shall be compiled from the twelve most recent calendar months. [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.

21. Compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O₂ = ((a-(bxc/1,000,000)) x 1,000,000 / b) x d, where a = ammonia injection rate(lb/hr)/17(lb/lb. mol), b = dry exhaust gas flow rate (lb/hr)/(29(lb/lb. mol), c = change in measured NO_x concentration ppmv at 15% O₂ across catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, permittee may utilize a continuous in-stack ammonia monitor, acceptable to the District, to monitor compliance. At least 60 days prior to using a NH₃ CEM, the permittee must submit a monitoring plan for District review and approval. [District Rule 4102]
22. Compliance with the short term emission limits (ppmv @ 15% O₂ and lb/hr) shall be demonstrated annually by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm at full load conditions as follows - NO_x: ppmvd @ 15% O₂ and lb/hr, CO: ppmvd @ 15% O₂ and lb/hr, VOC: ppmvd @ 15% O₂ and lb/hr, PM₁₀: lb/hr, and ammonia: ppmvd @ 15% O₂. Sample collection to demonstrate compliance with ammonia emission limit shall be based on three consecutive test runs of thirty minutes each. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.1] Federally Enforceable Through Title V Permit
23. Compliance with the startup NO_x, CO, and VOC mass emission limits shall be demonstrated for one of the GTEs (S-3636-1, '2, or '3) at least once every seven years by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm. CEM relative accuracy shall be determined during startup source testing in accordance with methodology approved by the District. If CEM data is not certifiable to determine compliance with NO_x and CO startup emissions limits, then source testing to measure startup NO_x and CO mass emissions rates shall be conducted at least once every 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
24. Based on the initial speciated HAPS and total VOC source test conducted for one of the GTEs (S-3636-1, '2 or '3), Pastoria shall correlate the total HAPS emissions rate and the single highest HAP emission rate to the VOC mass emission determined during the speciated HAPS source test. Annual compliance with the HAPS emissions limit (25 tpy all HAPS or 10 tpy any single HAP) shall be by the combined VOC emissions rates for the GTEs (S-3636-1, '2 and '3) determined during annual compliance source testing and the correlation between VOC emissions and HAP(S). [District Rule 4002] Federally Enforceable Through Title V Permit
25. Compliance with natural gas sulfur content limit shall be demonstrated periodically as required by 40 CFR 60 Subpart GG and 40 CFR 75. [District Rules 2540 and PSD Permit (SJ 99-03) X.K.] Federally Enforceable Through Title V Permit
26. 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. Official test results and field data collected by source tests required by conditions on this permit shall be submitted to the District within 60 days of testing. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.2] Federally Enforceable Through Title V Permit
27. Source test plans for seven-year source tests shall include a method for measuring the VOC/CO surrogate relationship that will be used to demonstrate compliance with VOC lb/hr, lb/day, and lb/twelve month rolling emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
28. The following test methods shall be used PM₁₀: EPA method 5 (front half and back half), NO_x: EPA Method 7E or 20, CO: EPA method 10 or 10B, O₂: EPA Method 3, 3A, or 20, VOC: EPA method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, 4703, and PSD Permit (SJ 99-03) X.C.2] Federally Enforceable Through Title V Permit
29. The permittee shall maintain hourly records of NO_x, CO, and ammonia emission concentrations (ppmv @ 15% O₂), and hourly, daily, and twelve month rolling average records of NO_x and CO emissions. Compliance with the hourly, daily, and twelve month rolling average VOC emission limits shall be demonstrated by the CO CEM data and the VOC/CO relationship determined by annual CO and VOC source tests. [District Rule 2201] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of SO_x lb/hr, lb/day, and lb/twelve month rolling average emission. SO_x emissions shall be based on fuel use records, natural gas sulfur content, and mass balance calculations. [District Rule 2201 and PSD Permit (SJ 99-03) X.K.] 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.

31. Permittee shall maintain the following records for the GTE: occurrence, duration, and type of any startup, shutdown, or malfunction; performance testing; emission measurements; total daily and rolling twelve month average hours of operation; hourly quantity of fuel used and gross three hour average operating load. [District Rules 2201 & 4703] Federally Enforceable Through Title V Permit
32. Permittee shall maintain the following records for the continuous emissions monitoring system (CEMS): performance testing, evaluations, calibrations, checks, maintenance, adjustments, and any period during which a CEMS was inoperative. [District Rules 2201 & 4703, and PSD Permit (SJ 99-03) X.I.1] Federally Enforceable Through Title V Permit
33. Permittee shall provide notification and record keeping as required under 40 CFR, Part 60, Subpart A, 60.7. [District Rule 4001] Federally Enforceable Through Title V Permit
34. All records required to be maintained by this permit shall be maintained for a period of five years and shall be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3. 3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
36. Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
37. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
38. The permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080 and PSD Permit (SJ 99-03) X.I.3] Federally Enforceable Through Title V Permit
39. The combined annual emissions rate from all three CTGs and emergency engines S-3636-7-4 & -12-1, based on 12-month rolling average, must not exceed 344,485 lbs NOx and 1,140,000 lbs CO. [PSD Permit (SJ 99-03) X.D & .E] Federally Enforceable Through Title V Permit
40. The annual SOx emissions from each CTG, based on 12-month rolling average, must not exceed 28,170 lbs. [PSD Permit (SJ 99-03) X.F] Federally Enforceable Through Title V Permit
41. During the hot startup of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 107 lbs of NOx or 903 lbs of CO in any one hour. Hot startup means a startup when the combustion turbine has been in operation during the preceding 8 hours and duration of hot start-ups shall not exceed 1 hour. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
42. During the warm startup of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 119 lbs of NOx or 1021 lbs of CO in any one hour. Warm startup means a startup that is not a hot or cold startup and duration of warm startups shall not exceed 2.5 hours. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
43. During the Shutdown of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 58.5 lbs of NOx or 222.5 lbs of CO in any one hour. Shutdown shall be defined as the period beginning with the lowering of equipment from base load and lasting until fuel flow is completely off and combustion has ceased and duration of shutdowns shall not exceed one half hour. [PSD Permit (SJ 99-03) X.G.1] 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.

44. Total number of start-ups and shut-downs for the facility shall not exceed 674 events per year. [PSD Permit (SJ 99-03) X.G.6] Federally Enforceable Through Title V Permit
45. Any excess emission indicated by the CEM system must be considered a violation of the applicable emission limit in the PSD permit. [PSD Permit (SJ 99-03) X.I.4] Federally Enforceable Through Title V Permit
46. The quality assurance project plan used by the Permittee for the certification and operation of the continuous emissions monitors, which meets the requirements of 40 CFR Part 60, Appendix F, must be available upon request to EPA. [PSD Permit (SJ 99-03) X.I.5] Federally Enforceable Through Title V Permit

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

Facility Name: PASTORIA ENERGY FACILITY, LLC

Location: TEJON RANCH 30 MILES S OF BAKERSFIELD, AND 6.5 MILES E OF GRAPEVINE, RANCHO EL TEJON, CA

S-3636-1-5 Aug 3 2015 11:41AM -- EDGEHILR

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3636-2-5

EXPIRATION DATE: 02/29/2016

EQUIPMENT DESCRIPTION:

168 MW NOMINALLY RATED GENERAL ELECTRIC 7FA NATURAL GAS FIRED GAS TURBINE ENGINE/ELECTRICAL GENERATOR #2 WITH DRY LOW NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION, HRSG #2, AND A SINGLE 185 MW STEAM TURBINE #1 SHARED WITH GAS TURBINE ENGINE S-3636-1

PERMIT UNIT REQUIREMENTS

1. Combustion turbine and electrical generator lube oil vents shall be equipped with mist eliminators to maintain visible emissions from lube oil vents no greater than 5% opacity, except for three minutes in any hour. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Combustion turbine engine(GTE) shall be equipped with continuously recording fuel gas flowmeter. [District Rule 2201 and PSD Permit (SJ 99-03) X.K.] Federally Enforceable Through Title V Permit
3. Heat recovery steam generator (HRSG) exhaust duct downstream of the SCR unit shall be equipped with continuously recording emissions monitors (CEM) for NO_x, CO, and O₂. All CEMs shall be dedicated to this unit and shall meet the requirements of 40 CFR Part 60 Appendices B & F (for CO), and 40 CFR Part 75 (for NO_x and O₂), and shall be capable of monitoring emissions during normal operating conditions and during startups and shutdowns, provided the CEM(s) pass the relative accuracy requirements for startups and shutdown specified herein. If relative accuracy of CEM(s) cannot be certified during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained during source testing to determine compliance with emission limits in conditions 13, 17 and 18. [District Rule 2201 and PSD Permit (SJ 99-03) X.H.1] Federally Enforceable Through Title V Permit
4. HRSG exhaust duct shall be equipped with a continuously recording emission monitor upstream of the SCR unit for measuring the NO_x concentration for the purposes of calculating ammonia slip. Permittee shall check, record, and quantify the calibration drift (CD) at two concentration values at least once daily (approximately 24 hours). The calibration shall be adjusted whenever the daily zero or high-level CD exceeds 5%. If either the zero or high-level CD exceeds 5% for five consecutive daily periods, the analyzer shall be deemed out-of-control. If either the zero or high-level CD exceeds 10% during any CD check, analyzer shall be deemed out-of-control. If the analyzer is out-of-control, the permittee shall take appropriate corrective action and then repeat the CD check. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Ammonia injection grid shall be equipped with operational ammonia flowmeter and injection pressure indicator. [District Rule 2201] Federally Enforceable Through Title V Permit
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7. Heat recovery steam generator design shall provide space for additional selective catalytic reduction catalyst and oxidation catalyst if required to meet NO_x and CO emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Permittee shall monitor and record exhaust gas temperature at selective catalytic reduction and oxidation catalyst inlets. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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9. GTE shall be fired exclusively on natural gas, consisting primarily of methane and ethane, with a sulfur content no greater than 0.75 grains of sulfur compounds (as S) per 100 dry scf of natural gas. [District Rule 2201 and PSD Permit (SJ 99-03) X.K.] Federally Enforceable Through Title V Permit
10. Cold startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmv emission limits in condition 15. Cold startup means a startup when the combustion turbine has not been in operation during the preceding 72 hours. Duration of the cold startups shall not exceed 3 hours. [District Rules 2201 and 4703 and PSD Permit (SJ 99-03) X.G.5] Federally Enforceable Through Title V Permit
11. Only one of GTEs S-3636-1, '2 or '3 shall be in startup at any one time. [District Rule 2201 and PSD Permit (SJ 99-03) X.G.2] Federally Enforceable Through Title V Permit
12. Ammonia shall be injected when the selective catalytic reduction system catalyst temperature exceeds 500 degrees F. Permittee shall monitor and record catalyst temperature during periods of startup. [District Rule 2201] Federally Enforceable Through Title V Permit
13. During the cold startup GTE exhaust emissions shall not exceed any of the following: NOx (as NO2) - 130 lb, VOC - 273 lb or CO - 1235 lb, in any one hour. [District Rule 2201 and PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
14. Emission rates from GTE, except during startup and/or shutdown, shall not exceed any of the following: NOx (as NO2) - 17.03 lb/hr and 2.5 ppmvd @ 15% O2, VOC - 2.0 ppmvd @ 15% O2, CO - 24.92 lb/hr and 6 ppmvd @ 15% O2 or ammonia - 10 ppmvd @ 15% O2. NOx (as NO2) emission limit is a one-hour average. Ammonia emission limit is a twenty-four hour rolling average. All other emission limits are three-hour rolling averages. [District Rules 2201, 4703 and PSD Permit (SJ 99-03) X.D & .E] Federally Enforceable Through Title V Permit
15. Emission rates from the GTE shall not exceed either of the following: PM10 - 9.0 lb/hr and SOx (as SO2) - 3.495 lb/hr. Emission limits are three-hour rolling averages. [District Rules 2201, 4001, and PSD Permit (SJ 99-03) X.F] Federally Enforceable Through Title V Permit
16. On any day when a startup or shutdown occurs, emission rates from GTE shall not exceed any of the following: PM10 - 216 lb/day, SOx (as SO2) - 84 lb/day, NOx (as NO2) - 450 lb/day, VOC - 355 lb/day or CO - 2,113 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Combined annual emissions from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed any of the following: PM10 - 224,343 lb/year, SOx (as SO2) - 84,780 lb/year, NOx (as NO2) - 344,484 lb/year, VOC - 227,619 lb/year or CO - 1,220,166 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Combined annual emissions of all hazardous air pollutants (HAPS) from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed 25 tons/year. Combined annual emissions of any single HAP from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed 10 tons/year. [District Rule 4002] Federally Enforceable Through Title V Permit
19. Each one-hour period shall commence on the hour. Each one-hour period in a three-hour rolling average will commence on the hour. The three-hour average will be compiled from the three most recent one-hour periods. Each one-hour period in a twenty-four-hour average for ammonia slip will commence on the hour. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Daily emissions will be compiled for a twenty-four hour period starting and ending at twelve-midnight. Each month in the twelve-consecutive-month rolling average emissions shall commence at the beginning of the first day of the month. The twelve-consecutive-month rolling average emissions to determine compliance with annual emissions limitations shall be compiled from the twelve most recent calendar months. [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.

21. Compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O2 = $((a-(bxc/1,000,000)) \times 1,000,000 / b) \times d$, where a = ammonia injection rate(lb/hr)/17(lb/lb. mol), b = dry exhaust gas flow rate (lb/hr)/(29(lb/lb. mol), c = change in measured NOx concentration ppmv at 15% O2 across catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, permittee may utilize a continuous in-stack ammonia monitor, acceptable to the District, to monitor compliance. At least 60 days prior to using a NH3 CEM, the permittee must submit a monitoring plan for District review and approval. [District Rule 4102]
22. Compliance with the short term emission limits (ppmv @ 15% O2 and lb/hr) shall be demonstrated annually by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm at full load conditions as follows - NOx: ppmvd @ 15% O2 and lb/hr, CO: ppmvd @ 15% O2 and lb/hr, VOC: ppmvd @ 15% O2 and lb/hr, PM10: lb/hr, and ammonia: ppmvd @ 15% O2. Sample collection to demonstrate compliance with ammonia emission limit shall be based on three consecutive test runs of thirty minutes each. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.1] Federally Enforceable Through Title V Permit
23. Compliance with the startup NOx, CO, and VOC mass emission limits shall be demonstrated for one of the GTEs (S-3636-1, '2, or '3) at least once every seven years by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm. CEM relative accuracy shall be determined during startup source testing in accordance with methodology approved by the District. If CEM data is not certifiable to determine compliance with NOx and CO startup emissions limits, then source testing to measure startup NOx and CO mass emissions rates shall be conducted at least once every 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
24. Based on the initial speciated HAPS and total VOC source test conducted for one of the GTEs (S-3636-1, '2 or '3), Pastoria shall correlate the total HAPS emissions rate and the single highest HAP emission rate to the VOC mass emission determined during the speciated HAPs source test. Annual compliance with the HAPS emissions limit (25 tpy all HAPS or 10 tpy any single HAP) shall be by the combined VOC emissions rates for the GTEs (S-3636-1, '2 and '3) determined during annual compliance source testing and the correlation between VOC emissions and HAP(S). [District Rule 4002] Federally Enforceable Through Title V Permit
25. Compliance with natural gas sulfur content limit shall be demonstrated periodically as required by 40 CFR 60 Subpart GG and 40 CFR 75. [District Rules 2540 and PSD Permit (SJ 99-03) X.K] Federally Enforceable Through Title V Permit
26. 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. Official test results and field data collected by source tests required by conditions on this permit shall be submitted to the District within 60 days of testing. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.2] Federally Enforceable Through Title V Permit
27. Source test plans for seven-year source tests shall include a method for measuring the VOC/CO surrogate relationship that will be used to demonstrate compliance with VOC lb/hr, lb/day, and lb/twelve month rolling emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
28. The following test methods shall be used PM10: EPA method 5 (front half and back half), NOx: EPA Method 7E or 20, CO: EPA method 10 or 10B, O2: EPA Method 3, 3A, or 20, VOC: EPA method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, 4703, and PSD Permit (SJ 99-03) X.C.2] Federally Enforceable Through Title V Permit
29. The permittee shall maintain hourly records of NOx, CO, and ammonia emission concentrations (ppmv @ 15% O2), and hourly, daily, and twelve month rolling average records of NOx and CO emissions. Compliance with the hourly, daily, and twelve month rolling average VOC emission limits shall be demonstrated by the CO CEM data and the VOC/CO relationship determined by annual CO and VOC source tests. [District Rule 2201] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of SOx lb/hr, lb/day, and lb/twelve month rolling average emission. SOx emissions shall be based on fuel use records, natural gas sulfur content, and mass balance calculations. [District Rule 2201 and PSD Permit (SJ 99-03) X.K] 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.

31. Permittee shall maintain the following records for the GTE: occurrence, duration, and type of any startup, shutdown, or malfunction; performance testing; emission measurements; total daily and rolling twelve month average hours of operation; hourly quantity of fuel used and gross three hour average operating load. [District Rules 2201 & 4703] Federally Enforceable Through Title V Permit
32. Permittee shall maintain the following records for the continuous emissions monitoring system (CEMS): performance testing, evaluations, calibrations, checks, maintenance, adjustments, and any period during which a CEMS was inoperative. [District Rules 2201 & 4703, and PSD Permit (SJ 99-03) X.I.1] Federally Enforceable Through Title V Permit
33. Permittee shall provide notification and record keeping as required under 40 CFR, Part 60, Subpart A, 60.7. [District Rule 4001] Federally Enforceable Through Title V Permit
34. All records required to be maintained by this permit shall be maintained for a period of five years and shall be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3. 3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
36. Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
37. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
38. The permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080 and PSD Permit (SJ 99-03) X.I.3] Federally Enforceable Through Title V Permit
39. The combined annual emissions rate from all three CTGs and emergency engines S-3636-7-4 & -12-41 based on 12-month rolling average, must not exceed 344,485 lbs NOx and 1,140,000 lbs CO. [PSD Permit (SJ 99-03) X.D & .E] Federally Enforceable Through Title V Permit
40. The annual SOx emissions from each CTG, based on 12-month rolling average, must not exceed 28,170 lbs. [PSD Permit (SJ 99-03) X.F] Federally Enforceable Through Title V Permit
41. During the hot startup of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 107 lbs of NOx or 903 lbs of CO in any one hour. Hot startup means a startup when the combustion turbine has been in operation during the preceding 8 hours and duration of hot start-ups shall not exceed 1 hour. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
42. During the warm startup of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 119 lbs of NOx or 1021 lbs of CO in any one hour. Warm startup means a startup that is not a hot or cold startup and duration of warm startups shall not exceed 2.5 hours. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
43. During the Shutdown of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 58.5 lbs of NOx or 222.5 lbs of CO in any one hour. Shutdown shall be defined as the period beginning with the lowering of equipment from base load and lasting until fuel flow is completely off and combustion has ceased and duration of shutdowns shall not exceed one half hour. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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44. Total number of start-ups and shut-downs for the facility shall not exceed 674 events per year. [PSD Permit (SJ 99-03) X.G.6] Federally Enforceable Through Title V Permit
45. Any excess emission indicated by the CEM system must be considered a violation of the applicable emission limit in the PSD permit. [PSD Permit (SJ 99-03) X.I.4] Federally Enforceable Through Title V Permit
46. The quality assurance project plan used by the Permittee for the certification and operation of the continuous emissions monitors, which meets the requirements of 40 CFR Part 60, Appendix F, must be available upon request to EPA. [PSD Permit (SJ 99-03) X.I.5] Federally Enforceable Through Title V Permit

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

Facility Name: PASTORIA ENERGY FACILITY, LLC

Location: TEJON RANCH 30 MILES S OF BAKERSFIELD, AND 6.5 MILES E OF GRAPEVINE, RANCHO EL TEJON, CA

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3636-3-5

EXPIRATION DATE: 02/29/2016

EQUIPMENT DESCRIPTION:

168 MW NOMINALLY RATED GENERAL ELECTRIC 7FA NATURAL GAS FIRED GAS TURBINE ENGINE/ELECTRICAL GENERATOR #3 WITH DRY LOW NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION, HRSG #1 AND 90 MW STEAM TURBINE #2

PERMIT UNIT REQUIREMENTS

1. Combustion turbine and electrical generator lube oil vents shall be equipped with mist eliminators to maintain visible emissions from lube oil vents no greater than 5% opacity, except for three minutes in any hour. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Combustion turbine engine(GTE) shall be equipped with continuously recording fuel gas flowmeter. [District Rule 2201 and PSD Permit (SJ 99-03) X.K] Federally Enforceable Through Title V Permit
3. Heat recovery steam generator (HRSG) exhaust duct downstream of the SCR unit shall be equipped with continuously recording emissions monitors (CEM) for NO_x, CO, and O₂. All CEMs shall be dedicated to this unit and shall meet the requirements of 40 CFR Part 60 Appendices B & F (for CO), and 40 CFR Part 75 (for NO_x and O₂), and shall be capable of monitoring emissions during normal operating conditions and during startups and shutdowns, provided the CEM(s) pass the relative accuracy requirements for startups and shutdown specified herein. If relative accuracy of CEM(s) cannot be certified during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained during source testing to determine compliance with emission limits in conditions 13, 17 and 18. [District Rule 2201 and PSD Permit (SJ 99-03) X.H.1] Federally Enforceable Through Title V Permit
4. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3. 3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
5. Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
6. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
7. The permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080 and PSD Permit (SJ 99-03) X.I.3] 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.

Facility Name: PASTORIA ENERGY FACILITY, LLC

Location: TEJON RANCH 30 MILES S OF BAKERSFIELD, AND 6.5 MILES E OF GRAPEVINE, RANCHO EL TEJON, CA

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8. The combined annual emissions rate from all three CTGs and emergency engines S-3636-7-4 & -12-1, based on 12-month rolling average, must not exceed 344,485 lbs NOx and 1,140,000 lbs CO. [PSD Permit (SJ 99-03) X.D & .E] Federally Enforceable Through Title V Permit
9. The annual SOx emissions from each CTG, based on 12-month rolling average, must not exceed 28,170 lbs. [PSD Permit (SJ 99-03) X.F] Federally Enforceable Through Title V Permit
10. During the hot startup of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 107 lbs of NOx or 903 lbs of CO in any one hour. Hot startup means a startup when the combustion turbine has been in operation during the preceding 8 hours and duration of hot start-ups shall not exceed 1 hour. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
11. HRSG exhaust duct shall be equipped with a continuously recording emission monitor upstream of the SCR unit for measuring the NOx concentration for the purposes of calculating ammonia slip. Permittee shall check, record, and quantify the calibration drift (CD) at two concentration values at least once daily (approximately 24 hours). The calibration shall be adjusted whenever the daily zero or high-level CD exceeds 5%. If either the zero or high-level CD exceeds 5% for five consecutive daily periods, the analyzer shall be deemed out-of-control. If either the zero or high-level CD exceeds 10% during any CD check, analyzer shall be deemed out-of-control. If the analyzer is out-of-control, the permittee shall take appropriate corrective action and then repeat the CD check. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Ammonia injection grid shall be equipped with operational ammonia flowmeter and injection pressure indicator. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.3] Federally Enforceable Through Title V Permit
14. Heat recovery steam generator design shall provide space for additional selective catalytic reduction catalyst and oxidation catalyst if required to meet NOx and CO emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Permittee shall monitor and record exhaust gas temperature at selective catalytic reduction and oxidation catalyst inlets. [District Rule 2201] Federally Enforceable Through Title V Permit
16. GTE shall be fired exclusively on natural gas, consisting primarily of methane and ethane, with a sulfur content no greater than 0.75 grains of sulfur compounds (as S) per 100 dry scf of natural gas. [District Rule 2201 and PSD Permit (SJ 99-03) X.K] Federally Enforceable Through Title V Permit
17. Cold startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmv emission limits in condition 15. Cold startup means a startup when the combustion turbine has not been in operation during the preceding 72 hours. Duration of the cold startups shall not exceed 3 hours. [District Rules 2201 and 4703 and PSD Permit (SJ 99-03) X.G.5] Federally Enforceable Through Title V Permit
18. Only one of GTEs S-3636-1, '2 or '3 shall be in startup at any one time. [District Rule 2201 and PSD Permit (SJ 99-03) X.G.2] Federally Enforceable Through Title V Permit
19. Ammonia shall be injected when the selective catalytic reduction system catalyst temperature exceeds 500 degrees F. Permittee shall monitor and record catalyst temperature during periods of startup. [District Rule 2201] Federally Enforceable Through Title V Permit
20. During the cold startup GTE exhaust emissions shall not exceed any of the following: NOx (as NO2) - 130 lb, VOC - 273 lb or CO - 1235 lb, in any one hour. [District Rule 2201 and PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
21. Emission rates from GTE, except during startup and/or shutdown, shall not exceed any of the following: NOx (as NO2) - 17.03 lb/hr and 2.5 ppmvd @ 15% O2, VOC - 2.0 ppmvd @ 15% O2, CO - 24.92 lb/hr and 6 ppmvd @ 15% O2 or ammonia - 10 ppmvd @ 15% O2. NOx (as NO2) emission limit is a one-hour average. Ammonia emission limit is a twenty-four hour rolling average. All other emission limits are three-hour rolling averages. [District Rules 2201, 4703 and PSD Permit (SJ 99-03) X.D & .E] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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22. Emission rates from the GTE shall not exceed either of the following: PM10 - 9.0 lb/hr and SOx (as SO2) - 3.495 lb/hr. Emission limits are three-hour rolling averages. [District Rules 2201, 4001, and PSD Permit (SJ 99-03) X.F] Federally Enforceable Through Title V Permit
23. On any day when a startup or shutdown occurs, emission rates from GTE shall not exceed any of the following: PM10 - 216 lb/day, SOx (as SO2) - 84 lb/day, NOx (as NO2) - 450 lb/day, VOC - 355 lb/day or CO - 2,113 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Combined annual emissions from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed any of the following: PM10 - 224,343 lb/year, SOx (as SO2) - 84,780 lb/year, NOx (as NO2) - 344,484 lb/year, VOC - 227,619 lb/year or CO - 1,220,166 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Combined annual emissions of all hazardous air pollutants (HAPS) from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed 25 tons/year. Combined annual emissions of any single HAP from GTEs S-3636-1, '2 and '3, calculated on a twelve consecutive month rolling basis, shall not exceed 10 tons/year. [District Rule 4002] Federally Enforceable Through Title V Permit
26. Each one-hour period shall commence on the hour. Each one-hour period in a three-hour rolling average will commence on the hour. The three-hour average will be compiled from the three most recent one-hour periods. Each one-hour period in a twenty-four-hour average for ammonia slip will commence on the hour. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Daily emissions will be compiled for a twenty-four hour period starting and ending at twelve-midnight. Each month in the twelve-consecutive-month rolling average emissions shall commence at the beginning of the first day of the month. The twelve-consecutive-month rolling average emissions to determine compliance with annual emissions limitations shall be compiled from the twelve most recent calendar months. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O2 = ((a-(bxc/1,000,000)) x 1,000,000 / b) x d, where a = ammonia injection rate(lb/hr)/17(lb/lb. mol), b = dry exhaust gas flow rate (lb/hr)/(29(lb/lb. mol), c = change in measured NOx concentration ppmv at 15% O2 across catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, permittee may utilize a continuous in-stack ammonia monitor, acceptable to the District, to monitor compliance. At least 60 days prior to using a NH3 CEM, the permittee must submit a monitoring plan for District review and approval. [District Rule 4102]
29. Compliance with the short term emission limits (ppmv @ 15% O2 and lb/hr) shall be demonstrated annually by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm at full load conditions as follows - NOx: ppmvd @ 15% O2 and lb/hr, CO: ppmvd @ 15% O2 and lb/hr, VOC: ppmvd @ 15% O2 and lb/hr, PM10: lb/hr, and ammonia: ppmvd @ 15% O2. Sample collection to demonstrate compliance with ammonia emission limit shall be based on three consecutive test runs of thirty minutes each. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.1] Federally Enforceable Through Title V Permit
30. Compliance with the startup NOx, CO, and VOC mass emission limits shall be demonstrated for one of the GTEs (S-3636-1, '2, or '3) at least once every seven years by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm. CEM relative accuracy shall be determined during startup source testing in accordance with methodology approved by the District. If CEM data is not certifiable to determine compliance with NOx and CO startup emissions limits, then source testing to measure startup NOx and CO mass emissions rates shall be conducted at least once every 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
31. Based on the initial speciated HAPS and total VOC source test conducted for one of the GTEs (S-3636-1, '2 or '3), Pastoria shall correlate the total HAPS emissions rate and the single highest HAP emission rate to the VOC mass emission determined during the speciated HAPs source test. Annual compliance with the HAPS emissions limit (25 tpy all HAPS or 10 tpy any single HAP) shall be by the combined VOC emissions rates for the GTEs (S-3636-1, '2 and '3) determined during annual compliance source testing and the correlation between VOC emissions and HAP(S). [District Rule 4002] 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.

Facility Name: PASTORIA ENERGY FACILITY, LLC

Location: TEJON RANCH 30 MILES S OF BAKERSFIELD, AND 6.5 MILES E OF GRAPEVINE, RANCHO EL TEJON, CA

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32. Compliance with natural gas sulfur content limit shall be demonstrated periodically as required by 40 CFR 60 Subpart GG and 40 CFR 75. [District Rules 2540 and PSD Permit (SJ 99-03) X.K] Federally Enforceable Through Title V Permit
33. 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. Official test results and field data collected by source tests required by conditions on this permit shall be submitted to the District within 60 days of testing. [District Rule 1081 and PSD Permit (SJ 99-03) X.C.2] Federally Enforceable Through Title V Permit
34. Source test plans for seven-year source tests shall include a method for measuring the VOC/CO surrogate relationship that will be used to demonstrate compliance with VOC lb/hr, lb/day, and lb/twelve month rolling emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
35. The following test methods shall be used PM10: EPA method 5 (front half and back half), NOx: EPA Method 7E or 20, CO: EPA method 10 or 10B, O2: EPA Method 3, 3A, or 20, VOC: EPA method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, 4703, and PSD Permit (SJ 99-03) X.C.2] Federally Enforceable Through Title V Permit
36. The permittee shall maintain hourly records of NOx, CO, and ammonia emission concentrations (ppmv @ 15% O2), and hourly, daily, and twelve month rolling average records of NOx and CO emissions. Compliance with the hourly, daily, and twelve month rolling average VOC emission limits shall be demonstrated by the CO CEM data and the VOC/CO relationship determined by annual CO and VOC source tests. [District Rule 2201] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of SOx lb/hr, lb/day, and lb/twelve month rolling average emission. SOx emissions shall be based on fuel use records, natural gas sulfur content, and mass balance calculations. [District Rule 2201 and PSD Permit (SJ 99-03) X.K] Federally Enforceable Through Title V Permit
38. Permittee shall maintain the following records for the GTE: occurrence, duration, and type of any startup, shutdown, or malfunction; performance testing; emission measurements; total daily and rolling twelve month average hours of operation; hourly quantity of fuel used and gross three hour average operating load. [District Rules 2201 & 4703] Federally Enforceable Through Title V Permit
39. Permittee shall maintain the following records for the continuous emissions monitoring system (CEMS): performance testing, evaluations, calibrations, checks, maintenance, adjustments, and any period during which a CEMS was inoperative. [District Rules 2201 & 4703, and PSD Permit (SJ 99-03) X.I.1] Federally Enforceable Through Title V Permit
40. Permittee shall provide notification and record keeping as required under 40 CFR, Part 60, Subpart A, 60.7. [District Rule 4001] Federally Enforceable Through Title V Permit
41. All records required to be maintained by this permit shall be maintained for a period of five years and shall be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
42. During the warm startup of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 119 lbs of NOx or 1021 lbs of CO in any one hour. Warm startup means a startup that is not a hot or cold startup and duration of warm startups shall not exceed 2.5 hours. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
43. During the Shutdown of any CTG, the combined emissions from any one CTG and HRSG exhausts must not exceed 58.5 lbs of NOx or 222.5 lbs of CO in any one hour. Shutdown shall be defined as the period beginning with the lowering of equipment from base load and lasting until fuel flow is completely off and combustion has ceased and duration of shutdowns shall not exceed one half hour. [PSD Permit (SJ 99-03) X.G.1] Federally Enforceable Through Title V Permit
44. Total number of start-ups and shut-downs for the facility shall not exceed 674 events per year. [PSD Permit (SJ 99-03) X.G.6] 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.

45. Any excess emission indicated by the CEM system must be considered a violation of the applicable emission limit in the PSD permit. [PSD Permit (SJ 99-03) X.I.4] Federally Enforceable Through Title V Permit
46. The quality assurance project plan used by the Permittee for the certification and operation of the continuous emissions monitors, which meets the requirements of 40 CFR Part 60, Appendix F, must be available upon request to EPA. [PSD Permit (SJ 99-03) X.I.5] Federally Enforceable Through Title V Permit

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

Facility Name: PASTORIA ENERGY FACILITY, LLC

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