



JAN - 7 2010

Gerardo C. Rios, Chief
Permits Office
Air Division
U.S. EPA - Region IX
75 Hawthorne St.
San Francisco, CA 94105

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1372
Project # S-1094140**

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for Plains Exploration & Production Company located within the heavy oil western stationary source in Kern County, CA, which has been issued a Title V permit. Plains Exploration & Production Company is requesting that Certificates of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The facility is proposing to lower the NOx emissions limit for ten steam generators to comply with the requirements of District Rule 4320. Additionally, for five of the steam generators that are dual-fueled, the facility is proposing to lower SOx emissions by 95% by weight, also for Rule 4320 compliance.

Enclosed is the engineering evaluation of this application, along with the current Title V permit, and proposed Authorities to Construct # S-1372-2-25, -4-21, -8-29, -20-26, -29-28, -34-25, -113-14, -127-21, -317-11, and -394-2 with Certificates of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

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

Mr. Gerardo C. Rios
Page 2

Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "David Warner", with a long horizontal flourish extending to the right.

David Warner
Director of Permit Services

Enclosures

c: Jerry Sandhu, Permit Services



JAN - 7 2010

Mike Tollstrup, Chief
Project Assessment Branch
Air Resources Board
P O Box 2815
Sacramento, CA 95812-2815

Re: **Notice of Preliminary Decision - ATC / Certificate of Conformity**
Facility # S-1372
Project # S-1094140

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Plains Exploration & Production Company located within the heavy oil western stationary source in Kern County, CA. The facility is proposing to lower the NOx emissions limit for ten steam generators to comply with the requirements of District Rule 4320. Additionally, for five of the steam generators that are dual-fueled, the facility is proposing to lower SOx emissions by 95% by weight, also for Rule 4320 compliance.

The public notice will be published approximately three days from the date of this letter. Please submit your written comments within the 30-day public comment period which begins on the date of publication of the public notice.

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

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

Enclosures

c: Jerry Sandhu, Permit Services

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San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



JAN - 7 2010

Mr. Kenneth R. Bork
Plains Exploration & Production Company
1200 Discovery Dr, Suite 500
Bakersfield, CA 93309

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1372
Project # S-1094140**

Dear Mr. Bork:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Plains Exploration & Production Company located within the heavy oil western stationary source in Kern County, CA. The facility is proposing to lower the NOx emissions limit for ten steam generators to comply with the requirements of District Rule 4320. Additionally, for five of the steam generators that are dual-fueled, the facility is proposing to lower SOx emissions by 95% by weight, also for Rule 4320 compliance.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the Authorities to Construct will be issued to the facility with Certificates of Conformity. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

The public notice will be published approximately three days from the date of this letter. Please submit your written comments within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

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Mr. Kenneth R. Bork
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Sincerely,

A handwritten signature in black ink, appearing to read "David Warner", with a long horizontal flourish extending to the right.

David Warner
Director of Permit Services

Enclosures

c: Jerry Sandhu, Permit Services

**NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
AUTHORITY TO CONSTRUCT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed issuance of Authority To Construct to Plains Exploration & Production Company for its heavy oil facility located within the heavy oil western stationary source in Kern County, California. The facility is proposing to lower the NOx emissions limit for ten steam generators to comply with the requirements of District Rule 4320. Additionally, for five of the steam generators that are dual-fueled, the facility is proposing to lower SOx emissions by 95% by weight, also for Rule 4320 compliance.

The analysis of the regulatory basis for these proposed actions, Project #S-1094140, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 1990 E. GETTYSBURG AVE, FRESNO, CA 93726-0244.**

San Joaquin Valley Air Pollution Control District Authority to Construct

Modify Natural Gas/TEOR Gas-Fired Steam Generators for Rule 4320 Compliance

Facility Name: Plains Exploration & Production Company
Date: December 31, 2009
Mailing Address: 1200 Discovery Dr, Suite 500
Engineer: Jerry Sandhu
Bakersfield, CA 93309
Lead Engineer: Sheraz Gill
Contact Person: Kenneth R. Bork
Telephone: (661) 395-5458
Fax: (661) 395-5298
Application #s: S-1372-2-25, -4-21, -8-29, -20-26, -29-28, -34-25, -113-14, -127-21, -317-11, and -394-2
Project #: S-1094140
Deemed Complete: August 4, 2009

I. PROPOSAL

Plains Exploration & Production Company (PXP) requests Authority to Construct (ATC) permits to modify ten steam generators located within the heavy oil western stationary source. In order to comply with District Rule 4320 requirements, the applicant is proposing to lower the NOx emissions limit for each steam generator. Eight steam generators (S-1372-2, -4, -8, -20, -29, -34, -113, and -394) are rated greater than 20 MMBtu/hr. For these units PXP is proposing to lower the NOx emissions limit to 7 ppmv, which complies with Category C.2.a ("Units with a total rated heat input > 20.0 MMBtu/hr") in Table 1 of District Rule 4320. Units S-1372-127 and -317 are fired on less than 50% PUC quality gas, by volume. For these two units PXP is proposing to lower the NOx emissions limit to 12 ppmv, which complies with Category C.3 ("Units firing on less than 50%, by volume, PUC quality gas") in Table 1 of District Rule 4320.

Additionally, for units that are dual-fueled (PUC and waste gas-fired) (S-1372-2, -4, -8, -127, and -317), PXP is proposing to comply with the particulate matter emissions requirements of Rule 4320 by reducing SO2 emissions from the steam generators by at least 95% by weight. No equipment modifications are proposed.

The facility currently follows Alternate Monitoring Scheme "A" using a portable analyzer, according to District Policy SSP-1105, and is requesting to maintain the current monitoring arrangement.

Two units being modified under this project (S-1372-29 and -394) have valid ATCs which have been implemented but not yet converted to Permits to Operate (PTOs). PXP has indicated that these previously issued but unconverted ATCs shall serve as base documents for this project. The following ATCs will be used as base permits: S-1372-29-

23 and -394-0. Copies of these ATCs are included in Appendix A, along with the base PTOs for the remaining units. For all other units the current PTO will be used as the base permit.

PXP received their Title V Permit on June 30, 2002. This modification can be classified as a Title V minor modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. PXP must apply to administratively amend their Title V Operating Permit to include the requirements of the ATCs issued with this project. The facility has completed and submitted a Compliance Certification Form, which is included in Appendix D.

II. APPLICABLE RULES

- Rule 2201 New and Modified Stationary Source Review Rule (9/21/06)
- Rule 2520 Federally Mandated Operating Permits (6/21/01)
- Rule 4001 New Source Performance Standards (4/14/99)
- Rule 4101 Visible Emissions (2/17/05)
- Rule 4102 Nuisance (12/17/92)
- Rule 4201 Particulate Matter Concentration (12/17/92)
- Rule 4301 Fuel Burning Equipment (12/17/92)
- Rule 4304 Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters (10/19/95)
- Rule 4305 Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
- Rule 4306 Boilers, Steam Generators and Process Heaters – Phase III (3/17/05)
- Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
- Rule 4405 Oxides Of Nitrogen Emissions From Existing Steam Generators Used In Thermally Enhanced Oil Recovery -Central And Western Kern County Fields (12/17/92)
- Rule 4406 Sulfur Compounds From Oil-Field Steam Generators – Kern County (12/17/92)
- Rule 4801 Sulfur Compounds (12/17/92)
- CH&SC 41700 Health Risk Assessment
- CH&SC 42301.6 School Notice
- Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
- California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. PROJECT LOCATION

The locations of the steam generators are summarized in the following table.

Permit Number	Lease/Field	Location
S-1372-2-25	Gamble/Cymric	NW Sec 6, T30S-R22E
S-1372-4-21	Gamble/Cymric	NW Sec 6, T30S-R22E
S-1372-8-29	E&M/Midway Sunset	SE Sec 10, T31S-R22E
S-1372-20-26	Bremer/Midway Sunset	W Sec 16, T31S-R22E
S-1372-29-28	E&M/Midway Sunset	SE Sec 10, T31S-R22E
S-1372-34-25	Morris/Cymric	NE Sec 8, T30S-R22E
S-1372-113-14	McKittrick Front/Cymric	NW Sec 6, T30S-R22E
S-1372-127-21	McKittrick Front/Cymric	NW Sec 6, T30S-R22E
S-1372-317-11	McKittrick Front/Cymric	NW Sec 6, T30S-R22E
S-1372-394-2	Reardon/Midway Sunset	W Sec 3, T31S-R22E

The equipment will not be located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. PROCESS DESCRIPTION

The steam generators are used to provide high quality steam for injection into heavy crude oil production zones. The heat added by the steam reduces the viscosity of the crude oil making it easier to pump from oil wells.

These units will operate a maximum of 24 hr/day, 7 days/week, and 52 weeks/year.

V. EQUIPMENT LISTING

Pre-Project Equipment Description:

- PTO S-1372-2-26:** 32.0 MMBTU/HR NATURAL GAS/ TEOR GAS FIRED STEAM GENERATOR #5 (DIS #44826-70) WITH FGR AND O2 CONTROLLER (GAMBLE LEASE)
- PTO S-1372-4-22:** 25.2 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #4 (DIS #44784-67) WITH NORTH AMERICAN MAGNA-FLAME 4211-25-LE LOW-NOX BURNER WITH FGR AND O2 CONTROLLER (GAMBLE LEASE)
- PTO S-1372-8-24:** 32 MMBTU/HR J.F. NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (#10 E&M, DIS# 44510-76) WITH NORTH AMERICAN LOW NOX BURNER, FGR, AND O2 CONTROLLER
- PTO S-1372-20-24:** 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (#30 DIS# 45005-80) EQUIPPED WITH A NORTH AMERICAN, MODEL MAGNA-FLAME G-LE,

LOW NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM AND AN O2 CONTROLLER

ATC S-1372-29-23: 30.0 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR #23 (DIS #45223-80) WITH NORTH AMERICAN MAGNA-FLAME G-LE LOW NOX BURNER, FGR, AND O2 CONTROLLER

PTO S-1372-34-23: 62.5 MMBTU/HR NATURAL GAS/CASING GAS-FIRED STEAM GENERATOR (#37; DIS# 45237-82) WITH O2 CONTROLLER, LOW NOX BURNER, AND FGR APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

PTO S-1372-113-12: 62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR (#44) WITH NORTH AMERICAN GLE LOW NOX BURNER, O2 CONTROLLER, AND FGR

PTO S-1372-127-22: 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #43 EQUIPPED WITH A NORTH AMERICAN, MODEL MAGNA-FLAME G-LE, LOW NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM O2 CONTROLLER, AND EXHAUST GAS SOX SCRUBBER W/ESP SHARED WITH S-1372-317 (MCKITTRICK FRONT LEASE)

PTO S-1372-317-12: 67.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR EQUIPPED WITH A NORTH AMERICAN, MODEL MAGNA-FLAME G-LE, LOW NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, AND EXHAUST GAS SOX SCRUBBER W/ESP SHARED WITH S-1372-127 (MCKITTRICK FRONT LEASE)

ATC S-1372-394-0: 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR (SG #68) WITH NORTH AMERICAN GLE MODEL G ULTRA LOW NOX BURNER, FGR, AND O2 CONTROLLER

Proposed Modifications:

ATC S-1372-2-25: MODIFICATION OF 32.0 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR #5 (DIS #44826-70) WITH FGR AND O2 CONTROLLER (GAMBLE LEASE): LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 AND REDUCE SOX EMISSIONS BY 95% BY WEIGHT FOR RULE 4320 COMPLIANCE

ATC S-1372-4-21: MODIFICATION OF 25.2 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #4 (DIS #44784-67) WITH NORTH AMERICAN MAGNA-FLAME 4211-25-LE LOW-NOX BURNER WITH FGR AND O2 CONTROLLER (GAMBLE LEASE): LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 AND REDUCE SOX

EMISSIONS BY 95% BY WEIGHT FOR RULE 4320 COMPLIANCE

- ATC S-1372-8-29:** MODIFICATION OF 32 MMBTU/HR J.F. NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (#10 E&M, DIS# 44510-76) WITH NORTH AMERICAN LOW NOX BURNER, FGR, AND O2 CONTROLLER: LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 AND REDUCE SOX EMISSIONS BY 95% BY WEIGHT FOR RULE 4320 COMPLIANCE
- ATC S-1372-20-26:** MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (#30 DIS# 45005-80) EQUIPPED WITH A NORTH AMERICAN, MODEL MAGNA-FLAME G-LE, LOW NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM AND AN O2 CONTROLLER: LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE
- ATC S-1372-29-28:** MODIFICATION OF 30.0 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR #23 (DIS #45223-80) WITH NORTH AMERICAN MAGNA-FLAME G-LE LOW NOX BURNER, FGR, AND O2 CONTROLLER: LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE
- ATC S-1372-34-25:** MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/CASING GAS-FIRED STEAM GENERATOR (#37; DIS# 45237-82) WITH O2 CONTROLLER, LOW NOX BURNER, AND FGR APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE
- ATC S-1372-113-14:** MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR (#44) WITH NORTH AMERICAN GLE LOW NOX BURNER, O2 CONTROLLER, AND FGR: LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE
- ATC S-1372-127-21:** MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #43 EQUIPPED WITH A NORTH AMERICAN MODEL MAGNA-FLAME G-LE LOW NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, O2 CONTROLLER, AND EXHAUST GAS SOX SCRUBBER W/ESP SHARED WITH S-1372-317 (MCKITTRICK FRONT LEASE): LOWER NOX EMISSIONS TO 12 PPMV @ 3% O2 AND REDUCE SOX EMISSIONS BY 95% BY WEIGHT FOR RULE 4320 COMPLIANCE
- ATC S-1372-317-11:** MODIFICATION OF 67.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR EQUIPPED WITH A NORTH AMERICAN MODEL MAGNA-FLAME G-LE LOW NOX BURNER,

FLUE GAS RECIRCULATION SYSTEM, AND EXHAUST GAS SOX SCRUBBER W/ESP SHARED WITH S-1372-127 (MCKITTRICK FRONT LEASE): LOWER NOX EMISSIONS TO 12 PPMV @ 3% O2 AND REDUCE SOX EMISSIONS BY 95% BY WEIGHT FOR RULE 4320 COMPLIANCE

ATC S-1372-394-2: MODIFICATION OF 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR (SG #68) WITH NORTH AMERICAN GLE MODEL G ULTRA LOW NOX BURNER, FGR, AND O2 CONTROLLER: LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

Post-Project Equipment Description:

ATC S-1372-2-25: 32.0 MMBTU/HR NATURAL GAS/ TEOR GAS FIRED STEAM GENERATOR #5 (DIS #44826-70) WITH FGR AND O2 CONTROLLER (GAMBLE LEASE)

ATC S-1372-4-21: 25.2 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #4 (DIS #44784-67) WITH NORTH AMERICAN MAGNA-FLAME 4211-25-LE LOW-NOX BURNER WITH FGR AND O2 CONTROLLER (GAMBLE LEASE)

ATC S-1372-8-29: 32 MMBTU/HR J.F. NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (#10 E&M, DIS# 44510-76) WITH NORTH AMERICAN LOW NOX BURNER, FGR, AND O2 CONTROLLER

ATC S-1372-20-26: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (#30 DIS# 45005-80) EQUIPPED WITH A NORTH AMERICAN, MODEL MAGNA-FLAME G-LE, LOW NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM AND AN O2 CONTROLLER

ATC S-1372-29-28: 30.0 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR #23 (DIS #45223-80) WITH NORTH AMERICAN MAGNA-FLAME G-LE LOW NOX BURNER, FGR, AND O2 CONTROLLER

ATC S-1372-34-25: 62.5 MMBTU/HR NATURAL GAS/CASING GAS-FIRED STEAM GENERATOR (#37; DIS# 45237-82) WITH O2 CONTROLLER, LOW NOX BURNER, AND FGR APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

ATC S-1372-113-14: 62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR (#44) WITH NORTH AMERICAN GLE LOW NOX BURNER, O2 CONTROLLER, AND FGR

ATC S-1372-127-21: 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #43 EQUIPPED WITH A NORTH AMERICAN MODEL MAGNA-FLAME G-LE LOW NOX BURNER, FLUE GAS

RECIRCULATION SYSTEM, O2 CONTROLLER, AND EXHAUST GAS SOX SCRUBBER W/ESP SHARED WITH S-1372-317 (MCKITTRICK FRONT LEASE)

ATC S-1372-317-11: 67.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR EQUIPPED WITH A NORTH AMERICAN MODEL MAGNA-FLAME G-LE LOW NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, AND EXHAUST GAS SOX SCRUBBER W/ESP SHARED WITH S-1372-127 (MCKITTRICK FRONT LEASE)

ATC S-1372-394-2: 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR (SG #68) WITH NORTH AMERICAN GLE MODEL G ULTRA LOW NOX BURNER, FGR, AND O2 CONTROLLER

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

Low-NO_x and ultra low-NO_x burners reduce NO_x formation by producing lower flame temperatures (and longer flames) than conventional burners. Conventional burners thoroughly mix all the fuel and air in a single stage just prior to combustion, whereas low-NO_x burners delay the mixing of fuel and air by introducing the fuel (or sometimes the air) in multiple stages. Generally, in the first combustion stage, the air-fuel mixture is fuel rich. In a fuel rich environment, all the oxygen will be consumed in reactions with the fuel, leaving no excess oxygen available to react with nitrogen to produce thermal NO_x. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized.

The use of flue gas re-circulation (FGR) can reduce nitrogen oxides (NO_x) emissions by 60% to 70%. In an FGR system, a portion of the flue gas is re-circulated back to the inlet air. As flue gas is composed mainly of nitrogen and the products of combustion, it is much lower in oxygen than the inlet air and contains virtually no combustible hydrocarbons to burn. Thus, flue gas is practically inert. The addition of an inert mass of gas to the combustion reaction serves to absorb heat without producing heat, thereby lowering the flame temperature. Since thermal NO_x is formed by high flame temperatures, the lower flame temperatures produced by FGR serve to reduce thermal NO_x.

Sulfur is removed from TEOR gas prior to combustion using existing sulfa-treat vessels which achieve 95% control of sulfur emissions.

VII. GENERAL CALCULATIONS

A. Assumptions

- The maximum operating schedule is 24 hours per day
- The units are fired on natural gas or TEOR gas.
- Annual pre-project and post-project potential to emit is calculated based on 8,760 hours of operation per year
- Pre-project: only units -20, -29, -34, -127, and -317 are permitted to have startup and shutdown periods (current permits)

- Post-project: the facility has proposed startup and shutdown periods for each unit. Total duration of startup and shutdown will be limited to 4 hr/day combined (applicant)
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice)
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B)

B. Emission Factors

For all units permitted to fire only on natural gas, SO_x emission factors will be revised to 0.00285 lb/MMBtu, per District Policy APR-1720.

Pre-Project Emission Factors (EF1)

S-1372-2-26

Pollutant	EF1 for S-1372-2-26		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.939 lb-SO _x /MMBtu		Current Permit
PM10	0.014 lb-PM10/MMBtu		Current Permit
CO	0.081 lb-CO/MMBtu	111 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.006 lb-VOC/MMBtu		Current Permit

This unit shares a SO_x SLC of 1,075.2 lb/day with units -1, -4, -127, -100, and -317.

S-1372-4-22

Pollutant	EF1 for S-1372-4-22		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.088 lb-SO _x /MMBtu		Current Permit
PM10	0.014 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.006 lb-VOC/MMBtu		S-1080384 ¹

This unit shares a SO_x SLC of 1,075.2 lb/day with units -1, -2, -127, -100, and -317.

¹ The current PTO does not list a VOC EF. The VOC EF used to perform emissions calculations the last time this unit was modified will be used.

S-1372-8-24

Pollutant	EF1 for S-1372-8-24		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	1,578.08 lb/day		Current Permit
PM10	0.014 lb-PM10/MMBtu		Current Permit
CO	0.1 lb-CO/MMBtu	138 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

The current permit does not list an explicit SO_x emission factor, but the unit shares a SO_x SLC of 1,578.08 lb/day with units -17, -18, -19, and -20.

S-1372-20-24

Pollutant	EF1 for S-1372-20-24 – Steady State		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.0637 lb-SO _x /MMBtu		Current Permit
PM10	0.064 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.006 lb-VOC/MMBtu		Current Permit

Pollutant	EF1 for S-1372-20-24 – Startup & Shutdown		Source
NO _x	0.1 lb-NO _x /MMBtu	84 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.0637 lb-SO _x /MMBtu		Current Permit
PM10	0.064 lb-PM10/MMBtu		Current Permit
CO	0.084 lb-CO/MMBtu	115 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.006 lb-VOC/MMBtu		Current Permit

The current PTO limits daily NO_x and CO emissions to 54.0 lb/day and 126.0 lb/day, respectively. Maximum daily emissions based on the above emission factors and burner rating cannot accurately be calculated for this unit because the permit does not limit the number of daily startup and shutdown occurrences. Therefore, the daily NO_x and CO emissions limits will be used for PE purposes for NO_x and CO.

This unit shares a SO_x SLC of 1,578.08 lb/day with units -17, -18, -19, and -20.

S-1372-29-23

Pollutant	EF1 for S-1372-29-23 – Steady State		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.00285 lb-SO _x /MMBtu		APR 1720
PM10	0.007 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

Pollutant	EF1 for S-1372-29-23 – Startup & Shutdown		Source
NO _x	0.1 lb-NO _x /MMBtu	84 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.00285 lb-SO _x /MMBtu		APR 1720
PM10	0.007 lb-PM10/MMBtu		Current Permit
CO	0.084 lb-CO/MMBtu	115 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

The current PTO limits daily NO_x and CO emissions to 25.9 lb/day and 59.0 lb/day, respectively. Maximum daily emissions based on the above emission factors and burner rating cannot accurately be calculated for this unit because the permit does not limit the number of daily startup and shutdown occurrences. Therefore, the daily NO_x and CO emissions limits will be used for PE purposes for NO_x and CO.

S-1372-34-23

Pollutant	EF1 for S-1372-34-23 – Steady State		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.0653 lb-SO _x /MMBtu		Current Permit
PM10	0.014 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

Pollutant	EF1 for S-1372-34-23 – Startup & Shutdown		Source
NO _x	0.036 lb-NO _x /MMBtu	30 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.0653 lb-SO _x /MMBtu		Current Permit
PM10	0.014 lb-PM10/MMBtu		Current Permit
CO	0.084 lb-CO/MMBtu	115 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

The current PTO limits daily NO_x and CO emissions to 54.0 lb/day and 126.0 lb/day, respectively. Maximum daily emissions based on the above emission factors and burner rating cannot accurately be calculated for this unit because the permit does not limit the number of daily startup and shutdown occurrences. Therefore, the daily NO_x and CO emissions limits will be used for PE purposes for NO_x and CO.

S-1372-113-12

Pollutant	EF1 for S-1372-113-12		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.00285 lb-SO _x /MMBtu		Current Permit
PM10	0.005 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

S-1372-127-22

Pollutant	EF1 for S-1372-127-22 – Steady State		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.324 lb-SO _x /MMBtu		Current Permit
PM10	0.008 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

Pollutant	EF1 for S-1372-127-22 – Startup & Shutdown		Source
NO _x	0.1 lb-NO _x /MMBtu	84 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.324 lb-SO _x /MMBtu		Current Permit
PM10	0.008 lb-PM10/MMBtu		Current Permit
CO	0.084 lb-CO/MMBtu	115 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

The current PTO limits daily NO_x and CO emissions to 54.0 lb/day and 126.0 lb/day, respectively. Maximum daily emissions based on the above emission factors and burner rating cannot accurately be calculated for this unit because the permit does not limit the number of daily startup and shutdown occurrences. Therefore, the daily NO_x and CO emissions limits will be used for PE purposes for NO_x and CO.

This unit shares a SO_x SLC of 1,075.2 lb/day with units -1, -2, -4, -100, and -317.

This unit has an annual PM10 emission limit of 4,161 lb/yr.

S-1372-317-12

Pollutant	EF1 for S-1372-317-10 – Steady State		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.324 lb-SO _x /MMBtu		Current Permit
PM10	0.008 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.039 lb-VOC/MMBtu		Current Permit

Pollutant	EF1 for S-1372-317-10 – Startup & Shutdown		Source
NO _x	0.1 lb-NO _x /MMBtu	84 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.324 lb-SO _x /MMBtu		Current Permit
PM10	0.008 lb-PM10/MMBtu		Current Permit
CO	0.084 lb-CO/MMBtu	115 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.039 lb-VOC/MMBtu		Current Permit

The current PTO limits daily NO_x and CO emissions to 58.3 lb/day and 59.9 lb/day, respectively. Maximum daily emissions based on the above emission factors and burner rating cannot accurately be calculated for this unit because the permit does not limit the number of daily startup and shutdown occurrences. Therefore, the daily NO_x and CO emissions limits will be used for PE purposes for NO_x and CO.

This unit shares a SO_x SLC of 1,075.2 lb/day with units -1, -2, -4, -100, and -127.

This unit has an annual PM10 emission limit of 4,161 lb/yr.

S-1372-394-0

Pollutant	EF1 for S-1372-394-0		Source
NO _x	0.011 lb-NO _x /MMBtu	9 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.00285 lb-SO _x /MMBtu		Current Permit
PM10	0.0076 lb-PM10/MMBtu		Current Permit
CO	0.022 lb-CO/MMBtu	30 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

Post-Project Emission Factors (EF2)

S-1372-2-25

Pollutant	EF2 for S-1372-2-25 – Steady State		Source
NO _x	0.008 lb-NO _x /MMBtu	7 ppmvd NO _x (@ 3% O ₂)	Rule 4320
SO _x	0.939 lb-SO _x /MMBtu		Current Permit
PM10	0.014 lb-PM10/MMBtu		Current Permit
CO	0.081 lb-CO/MMBtu	111 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.006 lb-VOC/MMBtu		Current Permit

Pollutant	EF2 for S-1372-2-25 – Startup & Shutdown		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.939 lb-SO _x /MMBtu		Current Permit
PM10	0.014 lb-PM10/MMBtu		Current Permit
CO	0.081 lb-CO/MMBtu	111 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.006 lb-VOC/MMBtu		Current Permit

This unit shares a SO_x SLC of 1,075.2 lb/day with units -1, -4, -127, -100, and -317.

S-1372-4-21

Pollutant	EF2 for S-1372-4-21 – Steady State		Source
NO _x	0.008 lb-NO _x /MMBtu	7 ppmvd NO _x (@ 3% O ₂)	Rule 4320
SO _x	0.088 lb-SO _x /MMBtu		Current Permit
PM10	0.014 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.006 lb-VOC/MMBtu		S-1080384

Pollutant	EF2 for S-1372-4-21 – Startup & Shutdown		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.088 lb-SO _x /MMBtu		Current Permit
PM10	0.014 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.006 lb-VOC/MMBtu		S-1080384

This unit shares a SO_x SLC of 1,075.2 lb/day with units -1, -2, -127, -100, and -317.

S-1372-8-29

Pollutant	EF2 for S-1372-8-29 – Steady State		Source
NO _x	0.008 lb-NO _x /MMBtu	7 ppmvd NO _x (@ 3% O ₂)	Rule 4320
SO _x	1,578.08 lb/day		Current Permit
PM10	0.014 lb-PM10/MMBtu		Current Permit
CO	0.1 lb-CO/MMBtu	138 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

Pollutant	EF2 for S-1372-8-29 – Startup & Shutdown		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	1,578.08 lb/day		Current Permit
PM10	0.014 lb-PM10/MMBtu		Current Permit
CO	0.1 lb-CO/MMBtu	138 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

The current permit does not list an explicit SO_x emission factor, but the unit shares a SO_x SLC of 1,578.08 lb/day with units -17, -18, -19, and -20.

S-1372-20-26

Pollutant	EF2 for S-1372-20-26 – Steady State		Source
NO _x	0.008 lb-NO _x /MMBtu	7 ppmvd NO _x (@ 3% O ₂)	Rule 4320
SO _x	0.0637 lb-SO _x /MMBtu		Current Permit
PM10	0.064 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.006 lb-VOC/MMBtu		Current Permit

Pollutant	EF2 for S-1372-20-26 – Startup & Shutdown		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Applicant
SO _x	0.0637 lb-SO _x /MMBtu		Current Permit
PM10	0.064 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Applicant
VOC	0.006 lb-VOC/MMBtu		Current Permit

This unit shares a SO_x SLC of 1,578.08 lb/day with units -17, -18, -19, and -20.

S-1372-29-28

Pollutant	EF2 for S-1372-29-28 – Steady State		Source
NO _x	0.008 lb-NO _x /MMBtu	7 ppmvd NO _x (@ 3% O ₂)	Rule 4320
SO _x	0.00285 lb-SO _x /MMBtu		APR 1720
PM10	0.007 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

Pollutant	EF2 for S-1372-29-28 – Startup & Shutdown		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Applicant
SO _x	0.00285 lb-SO _x /MMBtu		APR 1720
PM10	0.007 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Applicant
VOC	0.003 lb-VOC/MMBtu		Current Permit

S-1372-34-25

Pollutant	EF2 for S-1372-34-25 – Steady State		Source
NO _x	0.008 lb-NO _x /MMBtu	7 ppmvd NO _x (@ 3% O ₂)	Rule 4320
SO _x	0.0653 lb-SO _x /MMBtu		Current Permit
PM10	0.014 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

Pollutant	EF2 for S-1372-34-25 – Startup & Shutdown		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Applicant
SO _x	0.0653 lb-SO _x /MMBtu		Current Permit
PM10	0.014 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Applicant
VOC	0.003 lb-VOC/MMBtu		Current Permit

S-1372-113-14

Pollutant	EF2 for S-1372-113-14 – Steady State		Source
NO _x	0.008 lb-NO _x /MMBtu	7 ppmvd NO _x (@ 3% O ₂)	Rule 4320
SO _x	0.00285 lb-SO _x /MMBtu		Current Permit
PM10	0.005 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

Pollutant	EF2 for S-1372-113-14 – Startup & Shutdown		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.00285 lb-SO _x /MMBtu		Current Permit
PM10	0.005 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

S-1372-127-21

Pollutant	EF2 for S-1372-127-21 – Steady State		Source
NO _x	0.014 lb-NO _x /MMBtu	12 ppmvd NO _x (@ 3% O ₂)	Rule 4320
SO _x	0.324 lb-SO _x /MMBtu		Current Permit
PM10	0.008 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

Pollutant	EF2 for S-1372-127-21 – Startup & Shutdown		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Applicant
SO _x	0.324 lb-SO _x /MMBtu		Current Permit
PM10	0.008 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Applicant
VOC	0.003 lb-VOC/MMBtu		Current Permit

This unit shares a SO_x SLC of 1,075.2 lb/day with units -1, -2, -4, -100, and -317.

This unit has an annual PM10 emission limit of 4,161 lb/yr.

S-1372-317-11

Pollutant	EF2 for S-1372-317-11 – Steady State		Source
NO _x	0.014 lb-NO _x /MMBtu	12 ppmvd NO _x (@ 3% O ₂)	Rule 4320
SO _x	0.324 lb-SO _x /MMBtu		Current Permit
PM10	0.008 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.039 lb-VOC/MMBtu		Current Permit

Pollutant	EF2 for S-1372-317-11 – Startup & Shutdown		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3% O ₂)	Applicant
SO _x	0.324 lb-SO _x /MMBtu		Current Permit
PM10	0.008 lb-PM10/MMBtu		Current Permit
CO	0.0364 lb-CO/MMBtu	50 ppmvd CO (@ 3% O ₂)	Applicant
VOC	0.039 lb-VOC/MMBtu		Current Permit

This unit shares a SO_x SLC of 1,075.2 lb/day with units -1, -2, -4, -100, and -317.

This unit has an annual PM10 emission limit of 4,161 lb/yr.

S-1372-394-2

Pollutant	EF2 for S-1372-394-2 – Steady State		Source
NO _x	0.008 lb-NO _x /MMBtu	7 ppmvd NO _x (@ 3% O ₂)	Rule 4320
SO _x	0.00285 lb-SO _x /MMBtu		Current Permit
PM10	0.0076 lb-PM10/MMBtu		Current Permit
CO	0.022 lb-CO/MMBtu	30 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

Pollutant	EF2 for S-1372-394-2 – Startup & Shutdown		Source
NO _x	0.011 lb-NO _x /MMBtu	9 ppmvd NO _x (@ 3% O ₂)	Current Permit
SO _x	0.00285 lb-SO _x /MMBtu		Current Permit
PM10	0.0076 lb-PM10/MMBtu		Current Permit
CO	0.022 lb-CO/MMBtu	30 ppmvd CO (@ 3% O ₂)	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

C. Calculations

1. Pre-Project Potential to Emit (PE1)

S-1372-2-26:

The PE1 for each pollutant is calculated with the following equation:

- $PE1 = EF \text{ (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op. Sched. (hr/day or hr/year)}$

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.018	32	24	13.8
SO _x	0.939	32	24	721.2
PM ₁₀	0.014	32	24	10.8
CO	0.081	32	24	62.2
VOC	0.006	32	24	4.6

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.018	32	8,760	5,046
SO _x	0.939	32	8,760	263,220*
PM ₁₀	0.014	32	8,760	3,924
CO	0.081	32	8,760	22,706
VOC	0.006	32	8,760	1,682

* This unit shares a 392,448 lb/yr SO_x SLC with units -1, -4, -100, -127, and -317 (based on the daily SLC of 1,075.2 lb/day for these units). In PAS, all emissions are entered under unit -1.

S-1372-4-22:

The PE1 for each pollutant is calculated with the following equation:

- $PE1 = EF \text{ (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op. Sched. (hr/day or hr/year)}$

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.018	25.2	24	10.9
SO _x	0.088	25.2	24	53.2
PM ₁₀	0.014	25.2	24	8.5
CO	0.0364	25.2	24	22.0
VOC	0.006	25.2	24	3.6

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.018	25.2	8,760	3,974
SO _x	0.088	25.2	8,760	19,426*
PM ₁₀	0.014	25.2	8,760	3,091
CO	0.0364	25.2	8,760	8,035
VOC	0.006	25.2	8,760	1,325

* This unit shares a 392,448 lb/yr SO_x SLC with units -1, -2, -100, -127, and -317 (based on the daily SLC of 1,075.2 lb/day for these units). In PAS, all emissions are entered under unit -1.

S-1372-8-24:

The PE1 for each pollutant is calculated with the following equation:

- PE1 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year)

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.018	32	24	13.8
SO _x	--	32	24	1578.08*
PM ₁₀	0.014	32	24	10.8
CO	0.1	32	24	76.8
VOC	0.003	32	24	2.3

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.018	32	8,760	5,046
SO _x	--	32	8,760	436,553**
PM ₁₀	0.014	32	8,760	3,924
CO	0.1	32	8,760	28,032
VOC	0.003	32	8,760	841

* The current PTO does not list a SO_x emission factor. Since the unit shares a daily SO_x SLC of 1,578.08 lb/day, for worst case emissions purposes it will be assumed that unit -8 can potentially emit this amount in any given day.

** This unit shares a 575,999 lb/yr SO_x SLC with units -17, -18, -19, and -20 (based on the daily SLC of 1,578.08 lb/day for these units). 436,553 lb/yr is the remaining SO_x balance after subtracting the current SO_x emissions entered in PAS for units -17, -18, -19, and -20.

S-1372-20-24:

The PE1 for each pollutant is calculated with the following equation:

- PE1 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year)

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
SO _x	0.0637	62.5	24	95.6
PM ₁₀	0.064	62.5	24	96.0
VOC	0.006	62.5	24	9.0

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
SO _x	0.0637	62.5	8,760	34,876*
PM ₁₀	0.064	62.5	8,760	35,040
VOC	0.006	62.5	8,760	3,285

* This unit shares a 575,999 lb/yr SO_x SLC with units -8, -17, -18, and -19.

Daily PE_{NOx} = 54.0 lb/day

Annual PE_{NOx} = 54.0 lb/day x 365 day/yr = 19,710

Daily PE_{CO} = 126.0 lb/day

Annual PE_{CO} = 54.0 lb/day x 365 day/yr = 45,990

S-1372-29-23:

The PE1 for each pollutant is calculated with the following equation:

- PE1 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year)

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
SO _x	0.00285	30	24	2.1
PM ₁₀	0.007	30	24	5.0
VOC	0.003	30	24	2.2

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
SO _x	0.00285	30	8,760	749
PM ₁₀	0.007	30	8,760	1,840
VOC	0.003	30	8,760	788

Daily PE_{NOx} = 25.9 lb/day
 Annual PE_{NOx} = 25.9 lb/day x 365 day/yr = 9,454

Daily PE_{CO} = 59.0 lb/day
 Annual PE_{CO} = 59.0 lb/day x 365 day/yr = 21,535

S-1372-34-23:

The PE1 for each pollutant is calculated with the following equation:

- PE1 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year)

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
SO _x	0.0653	62.5	24	98.0
PM ₁₀	0.014	62.5	24	21.0
VOC	0.003	62.5	24	4.5

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
SO _x	0.0653	62.5	8,760	35,752
PM ₁₀	0.014	62.5	8,760	7,665
VOC	0.003	62.5	8,760	1,643

Daily PE_{NOx} = 54.0 lb/day
 Annual PE_{NOx} = 54.0 lb/day x 365 day/yr = 19,710

Daily PE_{CO} = 126.0 lb/day
 Annual PE_{CO} = 54.0 lb/day x 365 day/yr = 45,990

S-1372-113-12:

The PE1 for each pollutant is calculated with the following equation:

- PE1 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year)

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.018	62.5	24	27.0
SO _x	0.00285	62.5	24	4.3
PM ₁₀	0.005	62.5	24	7.5
CO	0.0364	62.5	24	54.6
VOC	0.003	62.5	24	4.5

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.018	62.5	8,760	9,855
SO _x	0.00285	62.5	8,760	1,560
PM ₁₀	0.005	62.5	8,760	2,738
CO	0.0364	62.5	8,760	19,929
VOC	0.003	62.5	8,760	1,643

S-1372-127-22:

The PE1 for each pollutant is calculated with the following equation:

- PE1 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year)

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
SO _x	0.324	62.5	24	486.0
PM ₁₀	0.008	62.5	24	12.0
VOC	0.003	62.5	24	4.5

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
SO _x	0.324	62.5	8,760	177,390*
PM ₁₀	0.008	62.5	8,760	4,161**
VOC	0.003	62.5	8,760	1,643

* This unit shares a 392,448 lb/yr SO_x SLC with units -1, -2, -4, -100, and -317. In PAS, all emissions are entered under unit -1.

** The current PTO limits PM₁₀ emissions from this unit to 4,161 lb/yr.

Daily PE_{NOx} = 54.0 lb/day
 Annual PE_{NOx} = 54.0 lb/day x 365 day/yr = 19,710

Daily PE_{CO} = 126.0 lb/day
 Annual PE_{CO} = 126.0 lb/day x 365 day/yr = 45,990

S-1372-317-12:

The PE1 for each pollutant is calculated with the following equation:

- PE1 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year)

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
SO _x	0.324	67.5	24	524.9
PM ₁₀	0.008	67.5	24	13.0
VOC	0.039	67.5	24	63.2

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
SO _x	0.324	67.5	8,760	191,581*
PM ₁₀	0.008	67.5	8,760	4,161**
VOC	0.039	67.5	8,760	23,061

* This unit shares a 392,448 lb/yr SO_x SLC with units -1, -2, -4, -100, and -127 (based on the daily SLC of 1,075.2 lb/day for these units). In PAS, all emissions are entered under unit -1.

** The current PTO limits PM₁₀ emissions from this unit to 4,161 lb/yr.

Daily PE_{NOx} = 58.3 lb/day
 Annual PE_{NOx} = 58.3 lb/day x 365 day/yr = 21,280

Daily PE_{CO} = 59.9 lb/day
 Annual PE_{CO} = 59.9 lb/day x 365 day/yr = 21,864

S-1372-394-0:

The PE1 for each pollutant is calculated with the following equation:

- PE1 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year)

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.011	85	24	22.4
SO _x	0.00285	85	24	5.8
PM ₁₀	0.0076	85	24	15.5
CO	0.022	85	24	44.9
VOC	0.003	85	24	6.1

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.011	85	8,760	8,191
SO _x	0.00285	85	8,760	2,122
PM ₁₀	0.0076	85	8,760	5,659
CO	0.022	85	8,760	16,381
VOC	0.003	85	8,760	2,234

2. Post-Project Potential to Emit (PE2)

The PE1 for each pollutant is calculated with the following equation:

- PE1 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year)

S-1372-2-25:

Daily Emissions:

Pollutant	Daily Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat Input	Hours per day	Daily PE2
NO _x	0.008 (lb-NO _x /MMBtu)	x 32 (MMBtu/hr)	x 20 (hr/day)	= 5.1 (lb-NO _x /day)
SO _x	0.939 (lb-SO _x /MMBtu)	x 32 (MMBtu/hr)	x 20 (hr/day)	= 601.0 (lb-SO _x /day)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 32 (MMBtu/hr)	x 20 (hr/day)	= 9.0 (lb-PM ₁₀ /day)
CO	0.081 (lb-CO/MMBtu)	x 32 (MMBtu/hr)	x 20 (hr/day)	= 51.8 (lb-CO/day)
VOC	0.006 (lb-VOC/MMBtu)	x 32 (MMBtu/hr)	x 20 (hr/day)	= 3.8 (lb-VOC/day)

Pollutant	Daily Post-Project Potential to Emit (PE2) – Start-up and Shutdown					
	Emission Factors	Heat input	Hours per day	Daily PE2		
NO _x	0.018 (lb-NO _x /MMBtu)	x 32 (MMBtu/hr)	x 4 (hr/day)	=	2.3	(lb-NO _x /day)
SO _x	0.939 (lb-SO _x /MMBtu)	x 32 (MMBtu/hr)	x 4 (hr/day)	=	120.2	(lb-SO _x /day)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 32 (MMBtu/hr)	x 4 (hr/day)	=	1.8	(lb-PM ₁₀ /day)
CO	0.081 (lb-CO/MMBtu)	x 32 (MMBtu/hr)	x 4 (hr/day)	=	10.4	(lb-CO/day)
VOC	0.006 (lb-VOC/MMBtu)	x 32 (MMBtu/hr)	x 4 (hr/day)	=	0.8	(lb-VOC/day)

Annual Emissions:

Pollutant	Annual Post-Project Potential to Emit (PE2) – Steady State					
	Emission Factors	Heat input	Hours per year	Annual PE2		
NO _x	0.008 (lb-NO _x /MMBtu)	x 32 (MMBtu/hr)	x 7,300 (hr/yr)	=	1,869	(lb-NO _x /yr)
SO _x	0.939 (lb-SO _x /MMBtu)	x 32 (MMBtu/hr)	x 7,300 (hr/yr)	=	219,350	(lb-SO _x /yr)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 32 (MMBtu/hr)	x 7,300 (hr/yr)	=	3,270	(lb-PM ₁₀ /yr)
CO	0.081 (lb-CO/MMBtu)	x 32 (MMBtu/hr)	x 7,300 (hr/yr)	=	18,922	(lb-CO/yr)
VOC	0.006 (lb-VOC/MMBtu)	x 32 (MMBtu/hr)	x 7,300 (hr/yr)	=	1,402	(lb-VOC/yr)

Pollutant	Annual Post-Project Potential to Emit (PE2) – Start-Up & Shutdown					
	Emission Factors	Heat input	Hours per year	Annual PE2		
NO _x	0.018 (lb-NO _x /MMBtu)	x 32 (MMBtu/hr)	x 1,460 (hr/yr)	=	841	(lb-NO _x /yr)
SO _x	0.939 (lb-SO _x /MMBtu)	x 32 (MMBtu/hr)	x 1,460 (hr/yr)	=	43,870	(lb-SO _x /yr)
PM ₁₀	0.0140 (lb-PM ₁₀ /MMBtu)	x 32 (MMBtu/hr)	x 1,460 (hr/yr)	=	654	(lb-PM ₁₀ /yr)
CO	0.081 (lb-CO/MMBtu)	x 32 (MMBtu/hr)	x 1,460 (hr/yr)	=	3,784	(lb-CO/yr)
VOC	0.006 (lb-VOC/MMBtu)	x 32 (MMBtu/hr)	x 1,460 (hr/yr)	=	280	(lb-VOC/yr)

Pollutant	Total Annual Post-Project Potential to Emit (PE2)		
	Emissions from Combustion Steady State (lb/year)	Emissions from Startup and Shutdown (lb/year)	Total Emissions (lb/year)
NO _x	1,869	841	2,710
SO _x	219,350	43,870	263,220*
PM ₁₀	3,270	654	3,924
CO	18,922	3,784	22,706
VOC	1,402	280	1,682

*This is the unit's maximum annual PE. However, this unit shares an annual SO_x SLC of 392,448 lb/yr.

S-1372-4-21:

Daily Emissions:

Pollutant	Daily Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat input	Hours per day	Daily PE2
NO _x	0.008 (lb-NO _x /MMBtu)	x 25.2 (MMBtu/hr)	x 20 (hr/day)	= 4.0 (lb-NO _x /day)
SO _x	0.088 (lb-SO _x /MMBtu)	x 25.2 (MMBtu/hr)	x 20 (hr/day)	= 44.4 (lb-SO _x /day)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 25.2 (MMBtu/hr)	x 20 (hr/day)	= 7.1 (lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x 25.2 (MMBtu/hr)	x 20 (hr/day)	= 18.3 (lb-CO/day)
VOC	0.006 (lb-VOC/MMBtu)	x 25.2 (MMBtu/hr)	x 20 (hr/day)	= 3.0 (lb-VOC/day)

Pollutant	Daily Post-Project Potential to Emit (PE2) - Start-up and Shutdown			
	Emission Factors	Heat input	Hours per day	Daily PE2
NO _x	0.018 (lb-NO _x /MMBtu)	x 25.2 (MMBtu/hr)	x 4 (hr/day)	= 1.8 (lb-NO _x /day)
SO _x	0.088 (lb-SO _x /MMBtu)	x 25.2 (MMBtu/hr)	x 4 (hr/day)	= 8.9 (lb-SO _x /day)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 25.2 (MMBtu/hr)	x 4 (hr/day)	= 1.4 (lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x 25.2 (MMBtu/hr)	x 4 (hr/day)	= 3.7 (lb-CO/day)
VOC	0.006 (lb-VOC/MMBtu)	x 25.2 (MMBtu/hr)	x 4 (hr/day)	= 0.6 (lb-VOC/day)

Annual Emissions:

Pollutant	Annual Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat input	Hours per year	Annual PE2
NO _x	0.008 (lb-NO _x /MMBtu)	x 25.2 (MMBtu/hr)	x 7,300 (hr/yr)	= 1,472 (lb-NO _x /yr)
SO _x	0.088 (lb-SO _x /MMBtu)	x 25.2 (MMBtu/hr)	x 7,300 (hr/yr)	= 16,188 (lb-SO _x /yr)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 25.2 (MMBtu/hr)	x 7,300 (hr/yr)	= 2,575 (lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x 25.2 (MMBtu/hr)	x 7,300 (hr/yr)	= 6,696 (lb-CO/yr)
VOC	0.006 (lb-VOC/MMBtu)	x 25.2 (MMBtu/hr)	x 7,300 (hr/yr)	= 1,104 (lb-VOC/yr)

Pollutant	Annual Post-Project Potential to Emit (PE2) - Start-Up & Shutdown			
	Emission Factors	Heat input	Hours per year	Annual PE2
NO _x	0.018 (lb-NO _x /MMBtu)	x 25.2 (MMBtu/hr)	x 1,460 (hr/yr)	= 662 (lb-NO _x /yr)
SO _x	0.088 (lb-SO _x /MMBtu)	x 25.2 (MMBtu/hr)	x 1,460 (hr/yr)	= 3,238 (lb-SO _x /yr)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 25.2 (MMBtu/hr)	x 1,460 (hr/yr)	= 515 (lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x 25.2 (MMBtu/hr)	x 1,460 (hr/yr)	= 1,339 (lb-CO/yr)
VOC	0.006 (lb-VOC/MMBtu)	x 25.2 (MMBtu/hr)	x 1,460 (hr/yr)	= 221 (lb-VOC/yr)

Pollutant	Total Annual Post-Project Potential to Emit (PE2)		
	Emissions from Combustion Steady State (lb/year)	Emissions from Startup and Shutdown (lb/year)	Total Emissions (lb/year)
NO _x	1,472	662	2,134
SO _x	16,188	3,238	19,426*
PM ₁₀	2,575	515	3,090
CO	6,696	1,339	8,035
VOC	1,104	221	1,325

*This is the unit's maximum annual PE. However, this unit shares an annual SO_x SLC of 392,448 lb/yr.

S-1372-8-29:

Daily Emissions:

Pollutant	Daily Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat input	Hours per day	Daily PE2
NO _x	0.008 (lb-NO _x /MMBtu)	x 32 (MMBtu/hr)	x 20 (hr/day)	= 5.1 (lb-NO _x /day)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 32 (MMBtu/hr)	x 20 (hr/day)	= 9.0 (lb-PM ₁₀ /day)
CO	0.1 (lb-CO/MMBtu)	x 32 (MMBtu/hr)	x 20 (hr/day)	= 64.0 (lb-CO/day)
VOC	0.003 (lb-VOC/MMBtu)	x 32 (MMBtu/hr)	x 20 (hr/day)	= 1.9 (lb-VOC/day)

Pollutant	Daily Post-Project Potential to Emit (PE2) - Start-up and Shutdown			
	Emission Factors	Heat input	Hours per day	Daily PE2
NO _x	0.018 (lb-NO _x /MMBtu)	x 32 (MMBtu/hr)	x 4 (hr/day)	= 2.3 (lb-NO _x /day)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 32 (MMBtu/hr)	x 4 (hr/day)	= 1.8 (lb-PM ₁₀ /day)
CO	0.1 (lb-CO/MMBtu)	x 32 (MMBtu/hr)	x 4 (hr/day)	= 12.8 (lb-CO/day)
VOC	0.003 (lb-VOC/MMBtu)	x 32 (MMBtu/hr)	x 4 (hr/day)	= 0.4 (lb-VOC/day)

The current PTO only lists a daily SO_x SLC of 1,578.08 lb/day, which will be used as worst case daily SO_x emissions for this unit.

Annual Emissions:

Pollutant	Annual Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat input	Hours per year	Annual PE2
NO _x	0.008 (lb-NO _x /MMBtu)	x 32 (MMBtu/hr)	x 7,300 (hr/yr)	= 1,869 (lb-NO _x /yr)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 32 (MMBtu/hr)	x 7,300 (hr/yr)	= 3,270 (lb-PM ₁₀ /yr)
CO	0.1 (lb-CO/MMBtu)	x 32 (MMBtu/hr)	x 7,300 (hr/yr)	= 23,360 (lb-CO/yr)
VOC	0.003 (lb-VOC/MMBtu)	x 32 (MMBtu/hr)	x 7,300 (hr/yr)	= 701 (lb-VOC/yr)

Pollutant	Annual Post-Project Potential to Emit (PE2) - Start-Up & Shutdown			
	Emission Factors	Heat input	Hours per year	Annual PE2
NO _x	0.018 (lb-NO _x /MMBtu)	x 32 (MMBtu/hr)	x 1,460 (hr/yr)	= 841 (lb-NO _x /yr)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 32 (MMBtu/hr)	x 1,460 (hr/yr)	= 654 (lb-PM ₁₀ /yr)
CO	0.1 (lb-CO/MMBtu)	x 32 (MMBtu/hr)	x 1,460 (hr/yr)	= 4,672 (lb-CO/yr)
VOC	0.003 (lb-VOC/MMBtu)	x 32 (MMBtu/hr)	x 1,460 (hr/yr)	= 140 (lb-VOC/yr)

Pollutant	Total Annual Post-Project Potential to Emit (PE2)		
	Emissions from Combustion Steady State (lb/year)	Emissions from Startup and Shutdown (lb/year)	Total Emissions (lb/year)
NO _x	1,869	841	2,710
SO _x	--	--	575,999*
PM ₁₀	3,270	654	3,924
CO	23,360	4,672	28,032
VOC	701	140	841

*This unit shares an annual SO_x SLC of 575,999 lb/yr.

S-1372-20-26:

Daily Emissions:

Pollutant	Daily Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat input	Hours per day	Daily PE2
NO _x	0.008 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 10.0 (lb-NO _x /day)
SO _x	0.0637 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 79.6 (lb-SO _x /day)
PM ₁₀	0.064 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 80.0 (lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 45.5 (lb-CO/day)
VOC	0.006 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 7.5 (lb-VOC/day)

Pollutant	Daily Post-Project Potential to Emit (PE2) - Start-up and Shutdown			
	Emission Factors	Heat input	Hours per day	Daily PE2
NO _x	0.018 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 4.5 (lb-NO _x /day)
SO _x	0.0637 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 15.9 (lb-SO _x /day)
PM ₁₀	0.064 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 16.0 (lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 9.1 (lb-CO/day)
VOC	0.006 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 1.5 (lb-VOC/day)

Annual Emissions:

Pollutant	Annual Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat input	Hours per year	Annual PE2
NO _x	0.008 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 3,650 (lb-NO _x /yr)
SO _x	0.0637 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 29,063 (lb-SO _x /yr)
PM ₁₀	0.064 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 29,200 (lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 16,608 (lb-CO/yr)
VOC	0.006 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 2,738 (lb-VOC/yr)

Pollutant	Annual Post-Project Potential to Emit (PE2) - Start-Up & Shutdown			
	Emission Factors	Heat input	Hours per year	Annual PE2
NO _x	0.018 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 1,643 (lb-NO _x /yr)
SO _x	0.0637 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 5,813 (lb-SO _x /yr)
PM ₁₀	0.064 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 5,840 (lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 3,322 (lb-CO/yr)
VOC	0.006 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 548 (lb-VOC/yr)

Pollutant	Total Annual Post-Project Potential to Emit (PE2)		
	Emissions from Combustion Steady State (lb/year)	Emissions from Startup and Shutdown (lb/year)	Total Emissions (lb/year)
NO _x	3,650	1,643	5,293
SO _x	29,063	5,813	34,876*
PM ₁₀	29,200	5,840	35,040
CO	16,608	3,322	19,930
VOC	2,738	548	3,286

*This is the unit's maximum annual PE. However, this unit shares an annual SO_x SLC of 575,999 lb/yr.

S-1372-29-28:

Daily Emissions:

Pollutant	Daily Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat input	Hours per day	Daily PE2
NO _x	0.008 (lb-NO _x /MMBtu)	x 30 (MMBtu/hr)	x 20 (hr/day)	= 4.8 (lb-NO _x /day)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 30 (MMBtu/hr)	x 20 (hr/day)	= 1.7 (lb-SO _x /day)
PM ₁₀	0.007 (lb-PM ₁₀ /MMBtu)	x 30 (MMBtu/hr)	x 20 (hr/day)	= 4.2 (lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x 30 (MMBtu/hr)	x 20 (hr/day)	= 21.8 (lb-CO/day)
VOC	0.003 (lb-VOC/MMBtu)	x 30 (MMBtu/hr)	x 20 (hr/day)	= 1.8 (lb-VOC/day)

Pollutant	Daily Post-Project Potential to Emit (PE2) - Start-up and Shutdown					
	Emission Factors	Heat input	Hours per day	Daily PE2		
NO _x	0.018 (lb-NO _x /MMBtu)	x 30 (MMBtu/hr)	x 4 (hr/day)	=	2.2	(lb-NO _x /day)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 30 (MMBtu/hr)	x 4 (hr/day)	=	0.3	(lb-SO _x /day)
PM ₁₀	0.007 (lb-PM ₁₀ /MMBtu)	x 30 (MMBtu/hr)	x 4 (hr/day)	=	0.8	(lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x 30 (MMBtu/hr)	x 4 (hr/day)	=	4.4	(lb-CO/day)
VOC	0.003 (lb-VOC/MMBtu)	x 30 (MMBtu/hr)	x 4 (hr/day)	=	0.4	(lb-VOC/day)

Annual Emissions:

Pollutant	Annual Post-Project Potential to Emit (PE2) - Steady State					
	Emission Factors	Heat input	Hours per year	Annual PE2		
NO _x	0.008 (lb-NO _x /MMBtu)	x 30 (MMBtu/hr)	x 7,300 (hr/yr)	=	1,752	(lb-NO _x /yr)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 30 (MMBtu/hr)	x 7,300 (hr/yr)	=	624	(lb-SO _x /yr)
PM ₁₀	0.007 (lb-PM ₁₀ /MMBtu)	x 30 (MMBtu/hr)	x 7,300 (hr/yr)	=	1,533	(lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x 30 (MMBtu/hr)	x 7,300 (hr/yr)	=	7,972	(lb-CO/yr)
VOC	0.003 (lb-VOC/MMBtu)	x 30 (MMBtu/hr)	x 7,300 (hr/yr)	=	657	(lb-VOC/yr)

Pollutant	Annual Post-Project Potential to Emit (PE2) - Start-Up & Shutdown					
	Emission Factors	Heat input	Hours per year	Annual PE2		
NO _x	0.018 (lb-NO _x /MMBtu)	x 30 (MMBtu/hr)	x 1,460 (hr/yr)	=	788	(lb-NO _x /yr)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 30 (MMBtu/hr)	x 1,460 (hr/yr)	=	125	(lb-SO _x /yr)
PM ₁₀	0.007 (lb-PM ₁₀ /MMBtu)	x 30 (MMBtu/hr)	x 1,460 (hr/yr)	=	307	(lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x 30 (MMBtu/hr)	x 1,460 (hr/yr)	=	1,594	(lb-CO/yr)
VOC	0.003 (lb-VOC/MMBtu)	x 30 (MMBtu/hr)	x 1,460 (hr/yr)	=	131	(lb-VOC/yr)

Pollutant	Total Annual Post-Project Potential to Emit (PE2)		
	Emissions from Combustion Steady State (lb/year)	Emissions from Start-up and Shutdown (lb/year)	Total Emissions (lb/year)
NO _x	1,752	788	2,540
SO _x	624	125	749
PM ₁₀	1,533	307	1,840
CO	7,972	1,594	9,566
VOC	657	131	788

S-1372-34-25:

Daily Emissions:

Pollutant	Daily Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat input	Hours per day	Daily PE2
NO _x	0.008 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 10.0 (lb-NO _x /day)
SO _x	0.0653 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 81.6 (lb-SO _x /day)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 17.5 (lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 45.5 (lb-CO/day)
VOC	0.003 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 3.8 (lb-VOC/day)

Pollutant	Daily Post-Project Potential to Emit (PE2) - Start-up and Shutdown			
	Emission Factors	Heat input	Hours per day	Daily PE2
NO _x	0.018 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 4.5 (lb-NO _x /day)
SO _x	0.0653 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 16.3 (lb-SO _x /day)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 3.5 (lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 9.1 (lb-CO/day)
VOC	0.003 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 0.8 (lb-VOC/day)

Annual Emissions:

Pollutant	Annual Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat input	Hours per year	Annual PE2
NO _x	0.008 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 3,650 (lb-NO _x /yr)
SO _x	0.0653 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 29,793 (lb-SO _x /yr)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 6,388 (lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 16,608 (lb-CO/yr)
VOC	0.003 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 1,369 (lb-VOC/yr)

Pollutant	Annual Post-Project Potential to Emit (PE2) - Start-Up & Shutdown			
	Emission Factors	Heat input	Hours per year	Annual PE2
NO _x	0.018 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 1,643 (lb-NO _x /yr)
SO _x	0.0653 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 5,959 (lb-SO _x /yr)
PM ₁₀	0.014 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 1,278 (lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 3,322 (lb-CO/yr)
VOC	0.003 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 274 (lb-VOC/yr)

Pollutant	Total Annual Post-Project Potential to Emit (PE2)		
	Emissions from Combustion Steady State (lb/year)	Emissions from Startup and Shutdown (lb/year)	Total Emissions (lb/year)
NO _x	3,650	1,643	5,293
SO _x	29,793	5,959	35,752
PM ₁₀	6,388	1,278	7,666
CO	16,608	3,322	19,930
VOC	1,369	274	1,643

S-1372-113-14:

Daily Emissions:

Pollutant	Daily Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat Input	Hours per day	Daily PE2
NO _x	0.008 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 10.0 (lb-NO _x /day)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 3.6 (lb-SO _x /day)
PM ₁₀	0.005 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 6.3 (lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 45.5 (lb-CO/day)
VOC	0.003 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 3.8 (lb-VOC/day)

Pollutant	Daily Post-Project Potential to Emit (PE2) - Start-up and Shutdown			
	Emission Factors	Heat Input	Hours per day	Daily PE2
NO _x	0.018 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 4.5 (lb-NO _x /day)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 0.7 (lb-SO _x /day)
PM ₁₀	0.005 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 1.3 (lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 9.1 (lb-CO/day)
VOC	0.003 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 0.8 (lb-VOC/day)

Annual Emissions:

Pollutant	Annual Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat Input	Hours per year	Annual PE2
NO _x	0.008 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 3,650 (lb-NO _x /yr)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 1,300 (lb-SO _x /yr)
PM ₁₀	0.005 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 2,281 (lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 16,608 (lb-CO/yr)
VOC	0.003 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 1,369 (lb-VOC/yr)

Pollutant	Annual Post-Project Potential to Emit (PE2) - Start-Up & Shutdown			
	Emission Factors	Heat Input	Hours per year	Annual PE2
NO _x	0.018 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 1,643 (lb-NO _x /yr)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 260 (lb-SO _x /yr)
PM ₁₀	0.005 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 456 (lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 3,322 (lb-CO/yr)
VOC	0.003 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 274 (lb-VOC/yr)

Pollutant	Total Annual Post-Project Potential to Emit (PE2)		
	Emissions from Combustion Steady State (lb/year)	Emissions from Startup and Shutdown (lb/year)	Total Emissions (lb/year)
NO _x	3,650	1,643	5,293
SO _x	1,300	260	1,560
PM ₁₀	2,281	456	2,737
CO	16,608	3,322	19,930
VOC	1,369	274	1,643

S-1372-127-21:

Daily Emissions:

Pollutant	Daily Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat Input	Hours per day	Daily PE2
NO _x	0.014 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 17.5 (lb-NO _x /day)
SO _x	0.324 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 405.0 (lb-SO _x /day)
PM ₁₀	0.008 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 10.0 (lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 45.5 (lb-CO/day)
VOC	0.003 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 20 (hr/day)	= 3.8 (lb-VOC/day)

Pollutant	Daily Post-Project Potential to Emit (PE2) - Start-up and Shutdown			
	Emission Factors	Heat Input	Hours per day	Daily PE2
NO _x	0.018 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 4.5 (lb-NO _x /day)
SO _x	0.324 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 81.0 (lb-SO _x /day)
PM ₁₀	0.008 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 2.0 (lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 9.1 (lb-CO/day)
VOC	0.003 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 4 (hr/day)	= 0.8 (lb-VOC/day)

Annual Emissions:

Pollutant	Annual Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat input	Hours per year	Annual PE2
NO _x	0.014 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 6,388 (lb-NO _x /yr)
SO _x	0.324 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 147,825 (lb-SO _x /yr)
PM ₁₀	0.008 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 3,650 (lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 16,608 (lb-CO/yr)
VOC	0.003 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 7,300 (hr/yr)	= 1,369 (lb-VOC/yr)

Pollutant	Annual Post-Project Potential to Emit (PE2) - Start-Up & Shutdown			
	Emission Factors	Heat input	Hours per year	Annual PE2
NO _x	0.018 (lb-NO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 1,643 (lb-NO _x /yr)
SO _x	0.324 (lb-SO _x /MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 29,565 (lb-SO _x /yr)
PM ₁₀	0.008 (lb-PM ₁₀ /MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 730 (lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 3,322 (lb-CO/yr)
VOC	0.003 (lb-VOC/MMBtu)	x 62.5 (MMBtu/hr)	x 1,460 (hr/yr)	= 274 (lb-VOC/yr)

Pollutant	Total Annual Post-Project Potential to Emit (PE2)		
	Emissions from Combustion Steady State (lb/year)	Emissions from Startup and Shutdown (lb/year)	Total Emissions (lb/year)
NO _x	6,388	1,643	8,031
SO _x	147,825	29,565	177,390*
PM ₁₀	3,650	730	4,161**
CO	16,608	3,322	19,930
VOC	1,369	274	1,643

*This is the unit's maximum annual PE. However, this unit shares an annual SO_x SLC of 392,448 lb/yr.

**The unit has an annual PM₁₀ limit of 4,161 lb/yr.

S-1372-317-11:

Daily Emissions:

Pollutant	Daily Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat input	Hours per day	Daily PE2
NO _x	0.014 (lb-NO _x /MMBtu)	x 67.5 (MMBtu/hr)	x 20 (hr/day)	= 18.9 (lb-NO _x /day)
SO _x	0.324 (lb-SO _x /MMBtu)	x 67.5 (MMBtu/hr)	x 20 (hr/day)	= 437.4 (lb-SO _x /day)
PM ₁₀	0.008 (lb-PM ₁₀ /MMBtu)	x 67.5 (MMBtu/hr)	x 20 (hr/day)	= 10.8 (lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x 67.5 (MMBtu/hr)	x 20 (hr/day)	= 49.1 (lb-CO/day)
VOC	0.039 (lb-VOC/MMBtu)	x 67.5 (MMBtu/hr)	x 20 (hr/day)	= 52.7 (lb-VOC/day)

Pollutant	Daily Post-Project Potential to Emit (PE2) – Start-up and Shutdown					
	Emission Factors		Heat input	Hours per day	Daily PE2	
NO _x	0.018 (lb-NO _x /MMBtu)	x	67.5 (MMBtu/hr)	x	4 (hr/day)	= 4.9 (lb-NO _x /day)
SO _x	0.324 (lb-SO _x /MMBtu)	x	67.5 (MMBtu/hr)	x	4 (hr/day)	= 87.5 (lb-SO _x /day)
PM ₁₀	0.008 (lb-PM ₁₀ /MMBtu)	x	67.5 (MMBtu/hr)	x	4 (hr/day)	= 2.2 (lb-PM ₁₀ /day)
CO	0.0364 (lb-CO/MMBtu)	x	67.5 (MMBtu/hr)	x	4 (hr/day)	= 9.8 (lb-CO/day)
VOC	0.039 (lb-VOC/MMBtu)	x	67.5 (MMBtu/hr)	x	4 (hr/day)	= 10.5 (lb-VOC/day)

Annual Emissions:

Pollutant	Annual Post-Project Potential to Emit (PE2) - Steady State					
	Emission Factors		Heat input	Hours per year	Annual PE2	
NO _x	0.014 (lb-NO _x /MMBtu)	x	67.5 (MMBtu/hr)	x	7,300 (hr/yr)	= 6,899 (lb-NO _x /yr)
SO _x	0.324 (lb-SO _x /MMBtu)	x	67.5 (MMBtu/hr)	x	7,300 (hr/yr)	= 159,651 (lb-SO _x /yr)
PM ₁₀	0.008 (lb-PM ₁₀ /MMBtu)	x	67.5 (MMBtu/hr)	x	7,300 (hr/yr)	= 3,942 (lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x	67.5 (MMBtu/hr)	x	7,300 (hr/yr)	= 17,936 (lb-CO/yr)
VOC	0.039 (lb-VOC/MMBtu)	x	67.5 (MMBtu/hr)	x	7,300 (hr/yr)	= 19,217 (lb-VOC/yr)

Pollutant	Annual Post-Project Potential to Emit (PE2) - Start-Up & Shutdown					
	Emission Factors		Heat input	Hours per year	Annual PE2	
NO _x	0.018 (lb-NO _x /MMBtu)	x	67.5 (MMBtu/hr)	x	1,460 (hr/yr)	= 1,774 (lb-NO _x /yr)
SO _x	0.324 (lb-SO _x /MMBtu)	x	67.5 (MMBtu/hr)	x	1,460 (hr/yr)	= 31,930 (lb-SO _x /yr)
PM ₁₀	0.008 (lb-PM ₁₀ /MMBtu)	x	67.5 (MMBtu/hr)	x	1,460 (hr/yr)	= 788 (lb-PM ₁₀ /yr)
CO	0.0364 (lb-CO/MMBtu)	x	67.5 (MMBtu/hr)	x	1,460 (hr/yr)	= 3,587 (lb-CO/yr)
VOC	0.039 (lb-VOC/MMBtu)	x	67.5 (MMBtu/hr)	x	1,460 (hr/yr)	= 3,843 (lb-VOC/yr)

Pollutant	Total Annual Post-Project Potential to Emit (PE2)		
	Emissions from Combustion Steady State (lb/year)	Emissions from Startup and Shutdown (lb/year)	Total Emissions (lb/year)
NO _x	6,899	1,774	8,673
SO _x	159,651	31,930	191,581*
PM ₁₀	3,942	788	4,161**
CO	17,936	3,587	21,523
VOC	19,217	3,843	23,060

*This is the unit's maximum annual PE. However, this unit shares an annual SO_x SLC of 392,448 lb/yr.

**The unit has an annual PM₁₀ limit of 4,161 lb/yr.

S-1372-394-2:

Daily Emissions:

Pollutant	Daily Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat Input	Hours per day	Daily PE2
NO_x	0.008 (lb-NO _x /MMBtu)	x 85 (MMBtu/hr)	x 20 (hr/day)	= 13.6 (lb-NO _x /day)
SO_x	0.00285 (lb-SO _x /MMBtu)	x 85 (MMBtu/hr)	x 20 (hr/day)	= 4.8 (lb-SO _x /day)
PM₁₀	0.0076 (lb-PM ₁₀ /MMBtu)	x 85 (MMBtu/hr)	x 20 (hr/day)	= 12.9 (lb-PM ₁₀ /day)
CO	0.022 (lb-CO/MMBtu)	x 85 (MMBtu/hr)	x 20 (hr/day)	= 37.4 (lb-CO/day)
VOC	0.003 (lb-VOC/MMBtu)	x 85 (MMBtu/hr)	x 20 (hr/day)	= 5.1 (lb-VOC/day)

Pollutant	Daily Post-Project Potential to Emit (PE2) - Start-up and Shutdown			
	Emission Factors	Heat Input	Hours per day	Daily PE2
NO_x	0.011 (lb-NO _x /MMBtu)	x 85 (MMBtu/hr)	x 4 (hr/day)	= 3.7 (lb-NO _x /day)
SO_x	0.00285 (lb-SO _x /MMBtu)	x 85 (MMBtu/hr)	x 4 (hr/day)	= 1.0 (lb-SO _x /day)
PM₁₀	0.0076 (lb-PM ₁₀ /MMBtu)	x 85 (MMBtu/hr)	x 4 (hr/day)	= 2.6 (lb-PM ₁₀ /day)
CO	0.022 (lb-CO/MMBtu)	x 85 (MMBtu/hr)	x 4 (hr/day)	= 7.5 (lb-CO/day)
VOC	0.003 (lb-VOC/MMBtu)	x 85 (MMBtu/hr)	x 4 (hr/day)	= 1.0 (lb-VOC/day)

Annual Emissions:

Pollutant	Annual Post-Project Potential to Emit (PE2) - Steady State			
	Emission Factors	Heat Input	Hours per year	Annual PE2
NO_x	0.008 (lb-NO _x /MMBtu)	x 85 (MMBtu/hr)	x 7,300 (hr/yr)	= 4,964 (lb-NO _x /yr)
SO_x	0.00285 (lb-SO _x /MMBtu)	x 85 (MMBtu/hr)	x 7,300 (hr/yr)	= 1,768 (lb-SO _x /yr)
PM₁₀	0.0076 (lb-PM ₁₀ /MMBtu)	x 85 (MMBtu/hr)	x 7,300 (hr/yr)	= 4,716 (lb-PM ₁₀ /yr)
CO	0.022 (lb-CO/MMBtu)	x 85 (MMBtu/hr)	x 7,300 (hr/yr)	= 13,651 (lb-CO/yr)
VOC	0.003 (lb-VOC/MMBtu)	x 85 (MMBtu/hr)	x 7,300 (hr/yr)	= 1,862 (lb-VOC/yr)

Pollutant	Annual Post-Project Potential to Emit (PE2) - Start-Up & Shutdown			
	Emission Factors	Heat Input	Hours per year	Annual PE2
NO_x	0.011 (lb-NO _x /MMBtu)	x 85 (MMBtu/hr)	x 1,460 (hr/yr)	= 1,365 (lb-NO _x /yr)
SO_x	0.00285 (lb-SO _x /MMBtu)	x 85 (MMBtu/hr)	x 1,460 (hr/yr)	= 354 (lb-SO _x /yr)
PM₁₀	0.0076 (lb-PM ₁₀ /MMBtu)	x 85 (MMBtu/hr)	x 1,460 (hr/yr)	= 943 (lb-PM ₁₀ /yr)
CO	0.022 (lb-CO/MMBtu)	x 85 (MMBtu/hr)	x 1,460 (hr/yr)	= 2,730 (lb-CO/yr)
VOC	0.003 (lb-VOC/MMBtu)	x 85 (MMBtu/hr)	x 1,460 (hr/yr)	= 372 (lb-VOC/yr)

Pollutant	Total Annual Post-Project Potential to Emit (PE2)		
	Emissions from Combustion Steady State (lb/year)	Emissions from Startup and Shutdown (lb/year)	Total Emissions (lb/year)
NO _x	4,964	1,365	6,329
SO _x	1,768	354	2,122
PM ₁₀	4,716	943	5,659
CO	13,651	2,730	16,381
VOC	1,862	372	2,234

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

SSPE1 calculations are necessary to aid the following determinations:

- If the facility is becoming a new Major Source,
- An offset threshold will be surpassed, or
- A Stationary Source Increase in Permitted Emissions (SSIPE) public notice is triggered

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for all pollutants. There is no increase in potential emissions for any of the units, for any pollutant in this project. Additionally, the reduction in emissions for the units associated with this project are not expected to lower the facility emissions below the Offset and Major Source Thresholds. Therefore, SSPE1 calculations are not necessary.

4. Post-Project Stationary Source Potential to Emit (SSPE2)

SSPE2 calculations are necessary to aid the following determinations:

- If the facility is becoming a new Major Source,
- An offset threshold will be surpassed, or
- An SSIPE public notice is triggered

Pursuant to Section 4.10 of District Rule 2201, the Post-Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for all pollutants. There is no increase in potential emissions for any of the units, for any pollutant in this project. Additionally, the reduction in emissions for the units associated with this project are not expected to lower the facility emissions below the Offset and Major Source Thresholds. Therefore, SSPE2 calculations are not necessary.

5. Major Source Determination

Pursuant to Section 3.24 of District Rule 2201, a major source is a stationary source a Post-Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the Major Source threshold values (excluding ERCs banked onsite that have not been used onsite).

This source is an existing Major Source for all pollutants and will remain so. No change in Major Source status is proposed or expected as a result of this project.

6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed on a pollutant-by-pollutant basis to determine the amount of offsets required, where necessary, when the SSPE1 is greater than the offset threshold. This project is exempt from offsets pursuant to Rule 2201, Section 4.6.8. Therefore, BE calculations are not required.

7. Major Modification

Major Modification is defined in 40 CFR Part 51.165 as "*any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.*"

As discussed in Section VII.C.5 previously, the facility is a Major Source; however, the project by itself would need to be a significant increase in order to trigger a Major Modification. As seen in Section VII.C.2 and presented in the following table, the modified emissions units involved with this project have a potential to emit which is greater than the Major Modification thresholds. Therefore, the project increase can be significant and the project can constitute a Major Modification. The applicant has conceded that the project is a major modification for SO_x and PM₁₀ as indicated in the following tables.

Permit Unit	NO _x	SO _x	PM ₁₀	VOC
S-1372-2-25	2,710	263,220	3,924	1,682
S-1372-4-21	2,134	19,426	3,090	1,325
S-1372-8-29	2,710	575,999	3,924	841
S-1372-20-26	5,293	34,876	35,040	3,286
S-1372-29-28	2,540	749	1,840	788
S-1372-34-25	5,293	35,752	7,666	1,643
S-1372-113-14	5,293	1,560	2,737	1,643
S-1372-127-21	8,031	177,390	4,161	1,643
S-1372-317-11	8,673	191,581	4,161	23,060
S-1372-394-2	6,329	2,122	5,659	2,234
Total PE2	49,006	1,302,675	72,202	38,145

Major Modification Thresholds for Existing Major Sources			
Pollutant	Combined PE2 (lb/yr)	Major Modification Threshold (lb/yr)	Major Modification ?
NO _x	49,006	50,000	No
SO _x	1,302,675	80,000	Yes
PM10	72,202	30,000	Yes
PM2.5	0.25 x 72,202 = 18,051*	20,000	No
VOC	38,145	50,000	No

*40 CFR Part 51 - Appendix S requirement for PM2.5

On May 8, 2008 EPA finalized regulations to implement an NSR program for PM2.5. The new requirements became effective July 15, 2008. Under the new regulations a major source and "significant emissions rate" for PM2.5 are defined as 100 tons/yr and 10 tons/yr, respectively. However, in determining the PM2.5 emissions, only the "front half" or filterable (not condensable) fraction is considered. AP-42 states that PM can be assumed to be PM10 with natural gas combustion in boilers. Therefore, using the 0.25 ratio of filterable PM to total PM in AP-42 Table 1.4-2 (3/98), the project emissions of PM2.5 are calculated as follows:

$$\text{PM2.5} = 0.25 \text{ lb-PM2.5/lb-PM} \times 72,202 \text{ lb-PM/yr} = 18,051 \text{ lb-PM2.5/yr}$$

8. Federal Major Modification

District Rule 2201, Section 3.17 states that major modifications are also federal major modifications, unless they qualify for either a "Less-Than-Significant Emissions Increase" exclusion or a "Plantwide Applicability Limit" (PAL) exclusion.

A Less-Than-Significant Emissions Increase exclusion is for an emissions increase for the project, or a Net Emissions Increase for the project (as defined in 40 CFR 51.165 (a)(2)(ii)(B) through (D), and (F)), that is not significant for a given regulated NSR pollutant, and therefore is not a federal major modification for that pollutant.

- To determine the post-project projected actual emissions from existing units, the provisions of 40 CFR 51.165 (a)(1)(xxviii) shall be used.
- To determine the pre-project baseline actual emissions, the provisions of 40 CFR 51.165 (a)(1)(xxxv)(A) through (D) shall be used.
- If the project is determined not to be a federal major modification pursuant to the provisions of 40 CFR 51.165 (a)(2)(ii)(B), but there is a reasonable possibility that the project may result in a significant emissions increase, the owner or operator shall comply with all of the provisions of 40 CFR 51.165 (a)(6) and (a)(7).
- Emissions increases calculated pursuant to this section are significant if they exceed the significance thresholds specified in the table below.

Significant Threshold (lb/year)	
Pollutant	Threshold (lb/year)
VOC	50,000
NO _x	50,000
PM ₁₀	30,000
SO _x	80,000

The Net Emissions Increases (NEI) will be calculated below to determine if this project has significant emission increases.

BAE = Baseline Actual Emissions. The actual emissions created by the project during the baseline period.

PAE = Projected Actual Emissions. The post-project projected emissions of the units in this project.

BPE = Baseline Potential Emissions. The portion of the unit's emissions following the project that an existing unit *could have accommodated* during the baseline period (as defined in 40 CFR 51.165 (a)(1)(xxviii)(B)-3), excluding any emissions unrelated to this particular project, including any increased utilization due to product demand growth.

$$\begin{aligned}
 \text{NEI} &= [\text{PAE} - (\text{BPE} - \text{BAE})] - \text{BAE} \\
 &= \text{PAE} - \text{BPE} + \text{BAE} - \text{BAE} \\
 &= \text{PAE} - \text{BPE}
 \end{aligned}$$

Since there is no change in design capacity and because the modifications are proposed solely to comply with District rule 4320, the PAE cannot exceed the BPE. Therefore:

$$PAE \leq BPE$$

And

$$NEI = PAE - BPE \leq 0$$

Since the BPE is equal to or greater than the PAE, the NEI for this project will be less than or equal to zero. Therefore, this project cannot exceed any Federal Major Modification threshold and no further discussion is necessary.

9. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix B.

VIII. COMPLIANCE

District Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

However, Section 4.2 of Rule 2202 states that BACT shall not be required for the following:

- 4.2.3 For existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders, as approved by the APCO, shall be exempt from Best Available Control Technology for all air pollutants, provided all of the following conditions are met:

- 4.2.3.1 There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;
- 4.2.3.2 There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;
- 4.2.3.3 There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and
- 4.2.3.4 The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO_x, or 25 tons per year of VOC, or 15 tons per year of SO_x, or 15 tons per year of PM₁₀, or 50 tons per year of CO.

Since each of the above-listed criteria is met, BACT is not required for any pollutant.

B. Offsets

1. Offset Applicability

The proposed modifications are solely for compliance with Rule 4320, and are exempt from offsets if the following criteria are satisfied. Rule 2201, Section 4.6.8 provides the following exemption from offsets.

Emission offsets shall not be required for the following:

- 4.6.8 For existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders, as approved by the APCO, shall be exempt from offset requirements for all air pollutants provided all of the following conditions are met:
 - 4.6.8.1 There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;
 - 4.6.8.2 There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;
 - 4.6.8.3 There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and
 - 4.6.8.4 The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO_x, or 25 tons per

year of VOC, or 15 tons per year of SO_x, or 15 tons per year of PM-10, or 50 tons per year of CO.

Since the above-listed criteria are met, offsets are not required for any pollutant.

2. Quantity of Offsets Required

As seen above, the project meets the exemption requirements of section 4.6.8 of District Rule 2201; therefore offset calculations are not necessary and offsets are not required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:

- a. Any new Major Source, which is a new facility that is also a Major Source,
- b. Major Modifications,
- c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- d. Any project which results in the offset thresholds being surpassed, and/or
- e. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Source

As demonstrated in section VII.C.5 above, the facility is not becoming a Major Source as a result of this project.

b. Major Modification

As demonstrated in VII.C.7, this project does constitute a Major Modification; therefore, public noticing for Major Modification purposes is required.

c. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project; therefore public noticing is not required for this project for Potential to Emit exceeding the 100 lb/day limit.

d. Offset Threshold

Public notification is required if the Pre-Project Stationary Source Potential to Emit (SSPE1) is increased from a level below the offset threshold to a level exceeding the emissions offset threshold, for any pollutant.

There is no increase in permitted emissions as a result of this project. Therefore, the SSPE is not increasing with this project and an offset threshold cannot be surpassed as a result of this project. A public notice will not be required for offset threshold purposes.

e. SSIPE > 20,000 lb/year

An SSIPE exceeding 20,000 pounds per year for any one pollutant triggers public notice, where SSIPE = SSPE2 - SSPE1.

There is no increase in permitted emissions as a result of this project. As a result, SSPE is not increasing with this project. Therefore, the SSIPE is zero for all pollutants and public notice will not be required for SSIPE purposes.

2. Public Notice Action

As discussed above, the project is a major modification and public notice will be required.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

The DELs for the units will be stated in the form of emission factors or daily emissions limits. The DELs for each unit are shown below:

S-1372-2-25:

- Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.939 lb-SO_x/MMBtu, 0.014 lb-PM10/MMBtu, 111 ppmvd CO @ 3% O₂ or 0.081 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.939 lb-SO_x/MMBtu, 0.014 lb-PM10/MMBtu, 111 ppmvd CO @ 3% O₂ or 0.081 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- Total sulfur oxide (SO_x as SO₂) emissions shall not exceed 1,075.2 lb/day from steam generators S-1372-1, -2, -4, -127, -317, and flare -100. [District Rule 2201]

S-1372-4-21:

- Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.088 lb-SO_x/MMBtu, 0.014 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

- During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.088 lb-SO_x/MMBtu, 0.014 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- Total sulfur oxide (SO_x as SO₂) emissions shall not exceed 1,075.2 lb/day from steam generators S-1372-1, -2, -4, -127, -317, and flare -100. [District Rule 2201]

S-1372-8-29:

- Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.014 lb-PM10/MMBtu, 138 ppmvd CO @ 3% O₂ or 0.1 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.014 lb-PM10/MMBtu, 138 ppmvd CO @ 3% O₂ or 0.1 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- Total SO_x (as SO₂) emissions shall not exceed 1,578.08 lb/day for the following steam generators: S-1372-8 (#10), S-1372-17 (#19), S-1372-18 (#28), S-1372-19 (#29), and S-1372-20 (#30). [District Rule 2201]

S-1372-20-26:

- Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.0637 lb-SO_x/MMBtu, 0.064 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.0637 lb-SO_x/MMBtu, 0.064 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- Total SO_x (as SO₂) emissions shall not exceed 1,578.08 lb/day for the following steam generators: S-1372-8 (#10), S-1372-17 (#19), S-1372-18 (#28), S-1372-19 (#29), and S-1372-20 (#30). [District Rule 2201]

S-1372-29-28:

- Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.007 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu,

0.00285 lb-SO_x/MMBtu, 0.007 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

S-1372-34-25:

- Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.0653 lb-SO_x/MMBtu, 0.014 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.0653 lb-SO_x/MMBtu, 0.014 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

S-1372-113-14:

- Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.005 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.005 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

S-1372-127-21:

- Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu, 0.324 lb-SO_x/MMBtu, 0.008 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.324 lb-SO_x/MMBtu, 0.008 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- Total sulfur oxide (SO_x as SO₂) emissions shall not exceed 1,075.2 lb/day from steam generators S-1372-1, -2, -4, -127, -317, and flare -100. [District Rule 2201]
- PM10 emissions from this unit shall not exceed 4,161 lb-PM10/yr. [District Rule 2201]

S-1372-317-11:

- Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu,

0.324 lb-SO_x/MMBtu, 0.008 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.039 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

- During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu; 0.324 lb-SO_x/MMBtu, 0.008 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.039 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- Total sulfur oxide (Sox as SO₂) emissions shall not exceed 1,075.2 lb/day from steam generators S-1372-1, -2, -4, -127, -317, and flare -100. [District Rule 2201]
- PM10 emissions from this unit shall not exceed 4,161 lb-PM10/yr. [District Rule 2201]

S-1372-394-2:

- Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM10/MMBtu, 30 ppmvd CO @ 3% O₂ or 0.022 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM10/MMBtu, 30 ppmvd CO @ 3% O₂ or 0.022 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

All ATCs:

In addition, the following condition will be listed on each ATC:

- Duration of startup and shutdown shall not exceed 2 hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rules 2201, 4305, 4306, and 4320]

E. Compliance Assurance

1. Source Testing

These units are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr*. Source testing requirements, in accordance with District Rules 4305, 4306, and 4320 have been included on the ATCs.

2. Monitoring

As required by District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr*, these units are subject to monitoring requirements. Monitoring requirements, in accordance with District Rules 4305, 4306, and 4320 have been included on the ATCs.

3. Recordkeeping

As required by District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr* these units are subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rules 4305, 4306, and 4320 have been included on the ATCs.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

District Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit pursuant to Section 3.20 of this rule:

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.

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment.

District Rule 4001 New Source Performance Standards

40 CFR Part 60 Subpart Db applies to Industrial-Commercial-Industrial Steam Generators greater than 100 MMBtu/hr (post-6/19/84 construction, modification or, reconstruction).

40 CFR Part 60, Subpart A, section 14, defines the meaning of modification to which the standards are applicable. §60.14, paragraph (a) states, *“Except as provided under paragraphs (e) and (f) of this section, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere.”*

No newly constructed or reconstructed units are proposed in this project, nor are the units being modified (as defined above). Since the permittee is only proposing to decrease the NO_x emission factor, the project will result in a decrease in NO_x emissions. No increase in any emissions are expected from this project. Therefore, the requirements of this section do not apply to the units.

District Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringelmann 1 or equivalent to 20% opacity.

A permit condition will be listed on the permits as follows:

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Therefore, compliance with District Rule 4101 requirements is expected.

District Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

A permit condition will be listed on the permits as follows:

- {98} No air contaminant shall be released into the atmosphere, which causes a public nuisance. [District Rule 4102]

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

The applicant is not proposing an increase in emissions with this project. Additionally, no changes in stack parameters or receptor distances are expected. Therefore, a health risk assessment is not necessary and no further risk analysis is required.

District Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot. The units with the highest PM10 emission factor will be used for this calculation (S-1372-2-25 and -20-26 @ 0.064 lb-PM₁₀/MMBtu).

F-Factor for NG:	8,578 dscf/MMBtu at 60 °F
PM10 Emission Factor:	0.064 lb-PM10/MMBtu
Percentage of PM as PM10 in Exhaust:	100%
Exhaust Oxygen (O ₂) Concentration:	3%
Excess Air Correction to F Factor =	$\frac{20.9}{(20.9 - 3)} = 1.17$

$$GL = \left(\frac{0.064 \text{ lb-PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb-PM}} \right) / \left(\frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17 \right)$$

$$GL = 0.04 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$$

Therefore, compliance with District Rule 4201 requirements is expected and a permit condition will be listed on the permit as follows:

- {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

District Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO₂, NO₂, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

District Rule 4301 Limits (lb/hr)			
Pollutant	NO _x	Total PM	SO ₂
S-1372-2-25	0.58	2.05	2.04
S-1372-4-21	0.45	0.35	2.22
S-1372-8-29	0.58	0.45	3.52
S-1372-20-26	1.13	4.00	3.98
S-1372-29-28	0.54	0.21	0.09
S-1372-34-25	1.13	0.88	4.08
S-1372-113-14	1.13	0.31	0.18
S-1372-127-21	1.13	0.50	20.25
S-1372-317-11	1.22	0.54	21.87
S-1372-394-2	0.94	0.65	0.24
Rule Limit (lb/hr)	140	10	200

Hourly Emissions = EF (lb/MMBtu) x Burner Rating (MMBtu/hr)

The NO_x hourly emissions are based on the hourly emissions during start-up and shutdown.

The above table indicates compliance with the maximum lb/hr emissions in this rule; therefore, continued compliance is expected.

District Rule 4304 – Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters

Pursuant to District Rules 4305, 4306, and 4320, Section 6.3.1, the boilers are not required to tune since they follow District approved Alternate Monitoring scheme A, where the applicable emission limits are periodically monitored. Therefore, the units are not subject to this rule.

District Rule 4305 Boilers, Steam Generators and Process Heaters – Phase 2

Each steam generator is natural gas/TEOR gas/vapor recovery/or casing gas-fired with maximum heat input ratings ranging from 25.2 MMBtu/hr to 85 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, these units are subject to District Rule 4306. Each subject steam generator currently meets Rule 4306 requirements and continued compliance is expected.

Additionally, since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4305 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4305.

District Rule 4306 Boilers, Steam Generators and Process Heaters – Phase 3

Each steam generator is natural gas/TEOR gas/vapor recovery/or casing gas-fired with maximum heat input ratings ranging from 25.2 MMBtu/hr to 85 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, these units are subject to District Rule 4306. Each subject steam generator currently meets Rule 4306 requirements and continued compliance is expected.

Additionally, since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4306 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4306.

District Rule 4320 Advance Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5 MMBtu/hr

This rule limits NO_x, CO, SO₂, and PM₁₀ emissions from boilers, steam generators and process heaters rated greater than 5 MMBtu/hr. This rule also provides a compliance option of payment of fees in proportion to the actual amount of NO_x emitted over the previous year.

The units in this project are all rated at greater than 5 MMBtu/hr heat input. Therefore, all the units being modified under this project are subject to this rule.

Section 5.1 states that an operator of a unit(s) subject to this rule shall comply with all applicable requirements of the rule and one of the following, on a unit-by-unit basis:

- 5.1.1 Operate the unit to comply with the emission limits specified in Sections 5.2 and 5.4; or
- 5.1.2 Pay an annual emissions fee to the District as specified in Section 5.3 and comply with the control requirements specified in Section 5.4; or
- 5.1.3 Comply with the applicable Low-use Unit requirements of Section 5.5.

The facility has elected to comply with the emission limits specified in Sections 5.2 and 5.4. Therefore, Sections 5.3 and 5.5 will not be discussed.

Section 5.2.1 states that on and after the indicated Compliance Deadline, units shall not be operated in a manner which exceeds the applicable NO_x limit specified in Table 1 of this rule. Additionally, on and after October 1, 2008, units shall not be operated in a manner to which exceeds a CO limit of 400 ppmv.

Section 5.2.2 applies only to units fired on liquid fuel. All the units are fired on gaseous fuels. Therefore, this section does not apply.

Section 5.2.3 states that all ppmv emission limits specified in this section are referenced at dry stack gas conditions and 3.00 percent by volume stack gas oxygen. Emission concentrations shall be corrected to 3.00 percent oxygen in accordance with Section 8.1.

Section 5.2.4 applies only to units fired on liquid fuel. All the units are fired on gaseous fuels. Therefore, this section does not apply.

The units being modified are oil steam generators with maximum heat input ratings ranging from 25.2 MMBtu/hr to 85 MMBtu/hr. Additionally, units -127 and -317 are fired on less than 50%, by volume, PUC quality gas. Therefore, the applicable emissions limits for these units are specified in Categories C.2 and C.3 of Table 1, as summarized below:

Rule 4320 NOx Emission Limits			
C. Oilfield Steam Generators	NOx Limit	Authority to Construct	Compliance Deadline
2. Units with a total rated heat input >20 MMBtu/hr	a) Standard Schedule 7 ppmv or 0.008 lb/MMBtu ; or	July 1, 2009	July 1, 2010
	b) Staged Enhanced Schedule Initial Limit 9 ppmv or 0.011 lb/MMBtu; and	July 1, 2011	July 1, 2012
	Final Limit 5 ppmv or 0.0062 lb/MMBtu	January 1, 2013	January 1, 2014
3. Units firing on less than 50%, by volume, PUC quality gas.	Staged Enhanced Schedule Initial Limit 12 ppmv or 0.014 lb/MMBtu; and	July 1, 2010	July 1, 2011
	Final Limit 9 ppmv or 0.011 lb/MMBtu	January 1, 2013	January 1, 2014

The facility is proposing to lower the NOx emission limit for units -2, -4, -8, -20, -29, -34, -113, and -394 to 7 ppmv @ 3% O₂, which satisfies the Standard Schedule option of Category C.2 of Table 1. The facility is proposing to lower the NOx emission limit for units -127 and -317 to 12 ppmv @ 3% O₂, which satisfies the Staged Enhanced Schedule Initial Limit option of Category C.3 of Table 1. The DEL conditions listed in Section D of the Rule 2201 discussion will ensure compliance with the 7 ppmv or 12 ppmv NOx emission limit, the 400 ppmv CO emission limit, and the 3 percent stack oxygen concentration requirement for each steam generator. Therefore, compliance with Section 5.2 emissions limits is satisfied.

Section 5.2.5 states that prior to January 1, 2014, if a unit was designated to comply with a Staged Enhanced Schedule, an operator may redesignate the unit for compliance under Section 5.1.2, provided the unit meets the Initial NOx Limit; emission fees are paid, at time of the application for redesignation, for all past emissions from the unit since January 1, 2009 through the calendar year prior to the calculation date; and the total annual fee is paid from that date forward.

Units -127 and -317 are currently permitted to burn natural gas, vapor recovery gas, or a blend of the two gasses. There are two separate fuel lines to each unit, and each fuel line is equipped with a flow meter to monitor the amount of fuel burned. PXP has determined that these steam generators are fired on a blend of natural gas/waste gas less than 50%

PUC quality gas by volume. PXP will be required to keep records of total gas and the total PUC quality gas fired by the steam generator to comply with Rule 4320, Table 1, Category C.3. The following conditions will be placed on ATCs -127-21 and -317-11 to ensure compliance with these requirements:

- The total gas fired in this unit, on a monthly average, shall be less than 50% PUC quality natural gas, by volume. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet and no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet. PUC quality natural gas also means high methane gas of at least 80% methane by volume. [District Rule 4320]
- The permittee shall maintain monthly records of the volume of PUC quality natural gas and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is less than 50%. [District Rule 4320]
- A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of gas combusted in the unit shall be installed, utilized and maintained for each fuel line. [District Rules 2201 and 4320]
- Permittee shall submit an Authority to Construct (ATC) application on or before January 1, 2013 to either be in compliance with the NOx emissions Staged Enhanced Final Limit for oilfield steam generators firing on less than 50%, by volume, PUC quality gas, or to redesignate the unit for compliance with Section 5.1.2 of District Rule 4320. [District Rule 4320]

Section 5.4 lists the control requirements for particulate matter. Section 5.4.1 states that to limit particulate matter emissions, an operator shall comply with one of the following requirements:

- 5.4.1.1 On and after the applicable NOx Compliance Deadline specified in Section 5.2 Table 1, operators shall fire units exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;
- 5.4.1.2 On and after the applicable NOx Compliance Deadline specified in Section 5.2 Table 1, operators shall limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet; or
- 5.4.1.3 On and after the applicable NOx Compliance Deadline specified in Section 5.2 Table 1, operators shall install and properly operate an emission control system that reduces SO₂ emissions by at least 95% by weight, or limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% O₂.
- 5.4.1.4 Notwithstanding the compliance deadlines indicated in Sections 5.4.1.1 through 5.4.1.3, refinery units, which require modification of refinery equipment to reduce sulfur emissions, shall be in compliance with the applicable requirement in Section 5.4.1 no later than July 1, 2013.

Units S-1372-20, -29, -34, -113, and -394 are PUC gas-fired devices, which satisfy Section 5.4.1.1 above. However, units S-1372-2, -4, -8, -127, and -317 are dual fuel devices (PUC and waste gas-fired, with units -127 and -317 less than 50% PUC quality gas.). For units S-1372-2, -4, -8, -127, and -317 the facility has proposed to reduce sulfur emissions by at least 95% by weight using existing sulfur emission control systems (listed on PTOs S-1372-74, -100, -127, and -317). The following conditions will be added to ATCs S-1372-2-25, -4-21, -8-29, -127-21, and -317-11 to ensure compliance:

S-1372-2-25 and -4-21 (using the sulfur control system listed on PTO S-1372-100):

- All vapor recovery gas burned in this device shall first be treated by the sulfur removal system listed on S-1372-100 so that at least 95% by weight of the sulfur is removed. [District Rules 2201, 4301, 4320, 4406, and 4801]

S-1372-8-29 (using the sulfur control system listed on PTO S-1372-74):

- All vapor recovery gas burned in this device shall first be treated by the sulfur removal system listed on S-1372-74 so that at least 95% by weight of the sulfur is removed. [District Rules 2201, 4301, 4320, 4406, and 4801]

S-1372-127-21 (using the sulfur control system listed on this permit):

- All vapor recovery gas burned in this device shall first be treated by the scrubber/wet ESP so at least 95% by weight of the sulfur is removed. [District Rules 2201, 4301, 4320, 4406, and 4801]

S-1372-317-11 (using the sulfur control system listed on this permit):

- All vapor recovery gas burned in this device shall first be treated by the scrubber/wet ESP so at least 95% by weight of the sulfur is removed. [District Rules 2201, 4301, 4320, 4406, and 4801]

Additionally, the steam generators are not located at an oil refinery. Therefore, the requirements of Section 5.4 shall be met on and after the applicable NOx Compliance Deadline specified in Section 5.2 Table 1. However, since the facility intends to implement the emission control requirements immediately, the permit conditions for these requirements will not state that compliance does not need to be met until July 1, 2010.

Section 5.4.2 states that liquid fuel shall be used only during PUC quality natural gas curtailment periods, provided the requirements of Sections 4.2 and 6.1.5 are met and the fuel contains no more than 15 ppm sulfur, as determined by the test method specified in Section 6.2.

The facility is not proposing to use liquid fuel for any of the steam generators. Therefore this section does not apply.

Section 5.6 states that on and after the full compliance deadline specified in Section 5.0, the applicable emission limits of Sections 5.2 Table 1 and 5.5.2 shall not apply during start-up or shutdown provided an operator complies with the requirements specified below.

- 5.6.1 The duration of each start-up or each shutdown shall not exceed two hours, except as provided in Section 5.6.3.
- 5.6.2 The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown.
- 5.6.3 Notwithstanding the requirement of Section 5.6.1, an operator may submit an application for a Permit to Operate condition to allow more than two hours for each start-up or each shutdown.

The applicant is proposing that the start-up and shutdown times shall not exceed two hours each. In addition, the applicant is proposing the use of ultra low NO_x burners to control emissions from the steam generators. The facility has indicated that the burners will be in operation at time of start-up and shutdown. Therefore, the applicant has satisfied the requirements of Section 5.6.

The following condition will be listed on each ATC to ensure compliance:

- Duration of startup and shutdown shall not exceed 2 hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rules 2201, 4305, 4306, and 4320]

Section 5.7.1 requires that permit units subject to the emission limits specified in Section 5.2 shall either install and maintain an operational APCO approved Continuous Emission Monitoring System (CEMS) for NO_x, CO and O₂, or implement an APCO-approved alternate monitoring.

Consistent with current permit requirements, PXP proposes to implement Alternate Monitoring Scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NO_x, CO, and O₂ exhaust concentrations be conducted at least once per month (in which a source test is not performed) using a portable analyzer.

The following conditions will listed on each ATC to ensure compliance with the requirements of the proposed alternate monitoring plan:

- The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]
- If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer

than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320]

- All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320]
- The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320]

Sections 5.7.2 and 5.7.3 apply to units subject to the requirements of Section 5.5. These steam generators are not subject to Section 5.5, therefore Sections 5.7.2 and 5.7.3 do not apply.

Section 5.7.4 applies to units operated at seasonal sources. PXP is not a season source. Therefore this section does not apply.

Section 5.7.5 states that the APCO shall not approve an alternative monitoring system or parametric monitoring system unless it is documented that continued operation within ranges of specified emissions-related performance indicators or operational characteristics provides a reasonable assurance of compliance with applicable emission limits.

The facility has proposed to use an APCO-approved Alternate Monitoring System (Monitoring Scheme A). Therefore, this section is not applicable.

Section 5.7.6.1 applies only to operators complying with Sections 5.4.1.1 or 5.4.1.2. The facility has chosen to satisfy Section 5.4 requirements by complying with Section 5.4.1.3. Therefore, this section does not apply.

Section 5.7.6.2 states that operators complying with Section 5.4.1.3 by installing and operating a control device with 95% SO_x reduction shall propose the key system operating

parameters and frequency of the monitoring and recording. The monitoring option proposed shall be submitted for approval by the APCO.

Section 5.7.6.3 states that operators complying with Section 5.4.1.3 shall perform an annual source test unless a more frequent sampling and reporting period is included in the Permit to Operate. Source tests shall be performed in accordance with the test methods in Section 6.2.

The following condition will be added to ATCs S-1372-2-25, -4-21, -8-29, -127-21, and -317-11 to ensure compliance:

- Compliance with the 95% by weight sulfur removal efficiency shall be conducted within 60 days of startup and at least once every twelve months thereafter. [District Rule 4320]

Section 5.8.1 states that the operator of any unit shall have the option of complying with either the applicable heat input, in lb/MMBtu, emission limits or the concentration, in ppmv, emission limits specified in Section 5.2. The emission limits selected to demonstrate compliance shall be specified in the source test proposal pursuant to Rule 1081 (Source Sampling). Therefore, the following condition will be listed on the ATCs:

- The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]

Section 5.8.2 states that all emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0. Therefore, the following condition will be listed on the ATCs:

- All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320]

Section 5.8.3 applies to units equipped with a Continuous Emissions Monitoring System (CEMS). The steam generators are not equipped with CEMS. Therefore, this section does not apply.

Section 5.8.4 states that for emissions monitoring pursuant to Sections 5.7.1 and 6.3.1 using a portable NO_x analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five readings evenly spaced out over the 15-consecutive-minute period. Therefore, the following previously listed permit condition will be on the ATCs:

- All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions

specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320]

Section 5.8.5 states that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following permit condition will be listed on the ATCs:

- For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320]

Section 6.1 Recordkeeping

Section 6.1 states that the records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO and EPA upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule.

The following condition will be added to the ATCs to ensure compliance:

- All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320]

Section 6.1.1 applies to units operating under the exemption of Section 4.2. The steam generators are not operating under the exemption of Section 4.2. Therefore, this section does not apply.

Section 6.1.2 applies to any unit that is subject to the requirements of Section 5.5. These steam generators are not subject to the requirements of Section 5.5. Therefore, this section does not apply.

Section 6.1.3 states that the operator of any unit subject to Section 5.5.1 or Section 6.3.1 shall maintain records to verify that the required tune-up and the required monitoring of the operational characteristics of the unit have been performed. These requirements are not required for units that follow an APCO approved Alternate Monitoring System. The steam generators follow an APCO approved Alternate Monitoring System. Therefore, the recordkeeping requirements of Section 6.1.3 do not apply.

Section 6.1.4 states that the operator performing start-up or shutdown of a unit shall keep records of the duration of each start-up or shutdown. The following condition will be listed on each ATC to ensure compliance:

- Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rules 2201, 4305, 4306, and 4320]

Section 6.1.5 applies only to units firing on liquid fuel during PUC-quality natural gas curtailment. These steam generators are not fired on liquid fuel. Therefore this section does not apply.

Section 6.2, Test Methods

Section 6.2 identifies the following test methods as District-approved source testing methods for the pollutants listed:

Pollutant	Units	Test Method Required
NO _x	ppmv	EPA Method 7E or ARB Method 100
NO _x	lb/MMBtu	EPA Method 19
CO	ppmv	EPA Method 10 or ARB Method 100
SO _x	ppmv	EPA Method 6C, EPA Method 8, or ARB Method 100
Stack Gas O ₂	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2
Stack Gas Moisture Content	%	EPA Method 4

Additionally, Section 6.2.8 states the SO_x emission control system efficiency shall be determined using the following:

$$\% \text{ Control Efficiency} = [(C_{\text{SO}_2, \text{inlet}} - C_{\text{SO}_2, \text{outlet}}) / C_{\text{SO}_2, \text{inlet}}] \times 100$$

Where:

$C_{\text{SO}_2, \text{inlet}}$ = concentration of SO_x (expressed as SO₂) at the inlet side of the SO_x emission control system, in lb/dscf

$C_{\text{SO}_2, \text{outlet}}$ = concentration of SO_x (expressed as SO₂) at the outlet side of the SO_x emission control system, in lb/dscf

The following conditions will be listed on the ATCs to ensure compliance:

- NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320]

- CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]
- Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]

The following condition will be added to ATCs S-1372-2-25, -4-21, -8-29, -127-21, and -317-11 to ensure compliance with the sulfur control efficiency requirements:

- Stack gas velocities shall be determined using EPA Method 2. [District Rules 4305, 4306, and 4320]
- The SO_x emission control system efficiency shall be determined using the following equation: Percent Control Efficiency = $[(\text{CSO}_2, \text{inlet} - \text{CSO}_2, \text{outlet}) / \text{CSO}_2, \text{inlet}] \times 100$, where "CSO₂, inlet" is equal to the concentration of SO_x (expressed as SO₂) at the inlet side of the SO_x emission control system (in lb/dscf) and "CSO₂, outlet" is equal to the concentration of SO_x (expressed as SO₂) at the outlet side of the SO_x emission control system (in lb/dscf). [District Rule 4320]

Section 6.3, Compliance Testing

Section 6.3.1 states that each unit subject to the requirements in Section 5.2 shall be source tested at least once every 12 months. Upon demonstrating compliance on two consecutive compliance source tests, the following source test may be deferred for up to 36 months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits specified in Section 5.2, the source testing frequency shall revert to at least once every 12 months.

The applicant has stated that these units will be source tested in December 2009, along with several other steam generators at the facility. Due to the facility's planned source test schedule, the steam generators in this project will be allowed to use the December 2009 source test to show initial compliance with the NO_x and CO emissions limits.

The following permit conditions will be listed on the ATCs as follows:

- Source testing to measure NO_x and CO emissions from this unit shall be conducted prior to initial start-up. [District Rules 2201, 4305, 4306, 4320]
- Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320]
- {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Section 6.3.2 states that in lieu of compliance with Section 6.3.1, compliance with the applicable emission limits in Section 5.2 shall be demonstrated by submittal of annual emissions test results to the District from a unit or units that represents a group of units. Units -20, -34, and -127 have existing representative testing conditions on the current PTOs. These conditions will be carried over to the new ATCs.

The following conditions will be added to ATCs -20-25, -29-28, -34-23, and -127-21:

- Annual test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NO_x and CO limits of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, and 4320, 6.3.2]
- The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2]
- All units in a group for which representative units are source tested to demonstrate compliance for NO_x and CO limits of this permit shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, and 4320, 6.3.2]
- All units in a group for which representative units are source tested to demonstrate compliance for NO_x and CO limits of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, and 4320, 6.3.2]
- The number of representative units source tested to demonstrate compliance for NO_x and CO limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, and 4320, 6.3.2]

Section 6.4 details the requirements of an emission control plan for units covered by Rule 4320. The proposed units will comply with the emission limits presented in Section 5.2, and with the alternate monitoring and source testing requirements. Therefore, the current application satisfies the requirements for an ECP, as presented in Section 6.4. No further discussion is required.

Section 7.0 identifies the dates by which the operator shall submit an application for an ATC and the date by which the owner shall demonstrate compliance with this rule.

The units will be in compliance with the emissions limits listed in Table 1, Section 5.2 of this rule, and periodic monitoring and source testing as required by District Rule 4320. Therefore, requirements of the compliance schedule, as listed in Section 7.0 of District Rule 4320, are satisfied. No further discussion is required.

District Rule 4405 Oxides of Nitrogen Emissions from Existing Steam Generators Used in Thermally Enhanced Oil Recovery – Central and Western Kern County Fields

This rule limits NO_x emissions from existing steam generators used in thermally enhanced oil recovery operations prior to August 22, 1986. The steam generators in this project are subject to a NO_x limit well below the 0.14 lb/MMBTU limit allowed by this rule for natural gas-fired units. Therefore, continued compliance is expected.

Rule 4406 Sulfur Compounds from Oil-Field Steam Generators – Kern County

This rule limits sulfur compound emissions from existing steam generators used in oil field operations prior to September 12, 1979. This rule limits sulfur compound emissions from existing steam generators used in oil field operations prior to September 12, 1979. The limit imposed by the rule is 0.11 lb S/MMBtu, either individually or on average basis for all of an operating steam generator subject to the rule requirements.

PXP has submitted a Rule 4406 Compliance Plan with the District which demonstrated compliance with the rule. This project results in no increase in permitted SO₂ or sulfur emissions, but rather a reduction in sulfur emissions and SO₂ emissions. Therefore, continued compliance this rule is expected.

District Rule 4801 Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO₂, on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation and the emission factors presented in Section VII, the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = \frac{n RT}{P}$$

With:

$$N = \text{moles SO}_2$$

T (Standard Temperature) = 60°F = 520°R

P (Standard Pressure) = 14.7 psi

R (Universal Gas Constant) = $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}$

To show compliance, a single calculation will be performed using the highest SOx emission factor among the modified steam generators from this project. Unit S-1372-317 has the highest SOx emission factor at 0.324 lb/MMBtu

$$\frac{0.324 \text{ lb} - \text{SOx}}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 224 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 224 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)} < /math>$$

Therefore, compliance with District Rule 4801 requirements is expected.

California Health & Safety Code 42301.6 (School Notice)

This facility is not located within 1,000 feet of a school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Issue Authorities to Construct S-1372-2-25, -4-21, -8-29, -20-26, -29-28, -34-25, -113-14, -127-21, -317-11, and -394-2 subject to the permit conditions on the attached draft Authorities to Construct in Appendix C.

X. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1372-2-25	3020-02-H	32.0 MMBtu/hr	\$953.00
S-1372-4-21	3020-02-H	25.2 MMBtu/hr	\$953.00
S-1372-8-29	3020-02-H	32 MMBtu/hr	\$953.00
S-1372-20-26	3020-02-H	62.5 MMBtu/hr	\$953.00
S-1372-29-28	3020-02-H	30.0 MMBtu/hr	\$953.00
S-1372-34-25	3020-02-H	62.5 MMBtu/hr	\$953.00
S-1372-113-14	3020-02-H	62.5 MMBtu/hr	\$953.00
S-1372-127-21	3020-02-H	62.5 MMBtu/hr	\$953.00
S-1372-317-11	3020-02-H	67.5 MMBtu/hr	\$953.00
S-1372-394-2	3020-02-H	85 MMBtu/hr	\$953.00

Appendices

- Appendix A: Current Base Documents
- Appendix B: QNEC
- Appendix C: Draft ATCs
- Appendix D: Title V Modification – Compliance Certification Form

Appendix A

Current Base Documents

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1372-2-26

EXPIRATION DATE: 05/31/2007

SECTION: 6 TOWNSHIP: 30S RANGE: 22E

EQUIPMENT DESCRIPTION:

32.0 MMBTU/HR NATURAL GAS/ TEOR GAS FIRED STEAM GENERATOR #5 (DIS #44826-70) WITH FGR AND O2 CONTROLLER (GAMBLE LEASE)

PERMIT UNIT REQUIREMENTS

1. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201] Federally Enforceable Through Title V Permit
2. This equipment is approved to be operated at the following locations: Sec. 06, T30S/R22E, Sec.'s 23 & 24, T31S/R22E; and Sec. 10, T31S/R22E. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Vapors from TEOR operation, permit # S-1372-100 may be incinerated in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Emission rates shall not exceed any of the following; PM10: 0.014 lb/MMBtu, SOx (as SO2): 0.939 lb/MMBtu, NOx (as NO2): 15 ppmv @ 3% O2 or 0.018 lb/MMBtu, VOC: 0.006 lb/MMBtu, or CO: 111 ppmv @ 3% O2. [District Rules 2201, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
5. Flare S-1372-100 shall only be used to incinerate TEOR vapors when one or more of steam generators S-1372-1, '2 or '4 are not in operation. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Total sulfur oxide (SOx as SO2) emissions shall not exceed 1,075.2 lb/day from steam generators S-1372-1, '2, '4, '127, '317, and flare '100. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Sulfur content of TEOR gas and fuel gas shall be demonstrated quarterly by detection tube sampling or other District approved methods. [District Rule 1081] Federally Enforceable Through Title V Permit
8. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
9. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. In-stack O2 monitors are acceptable for O2 measurement. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

Facility Name: PLAINS EXPLORATION & PRODUCTION COMPANY

Location: HEAVY OIL WESTERN STATIONARY SOURCE, CA

S-1372-2-26 : Nov 23 2009 9:38AM - SANDHUG

10. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
11. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
12. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
13. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
14. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
15. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
16. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
17. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
18. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
19. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
20. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] 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 demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
23. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
25. Permittee shall maintain records of volume of fuel gas burned and TEOR gas incinerated, fuel gas and TEOR gas sulfur content, and such records shall be retained on site for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070 and 2520, 3.2] Federally Enforceable Through Title V Permit
26. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
27. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
28. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
29. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
30. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
31. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2; and 4306, 6.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

33. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.3.2 and 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
34. Sulfur compound emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. Units allowed to utilize the averaging option are: S-1372-1, -2, -4, -5, -13, -16, -17, -18, -19, -20, -24, and -26. [Kern County Rule 424 and District Rules 2520, 9.3.2 and 4406] Federally Enforceable Through Title V Permit
35. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
37. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
38. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: Kern County Rule 424. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
39. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
40. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1372-4-22

EXPIRATION DATE: 05/31/2007

SECTION: 06 **TOWNSHIP:** 30S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

25.2 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #4 (DIS #44784-67) WITH NORTH AMERICAN MAGNA-FLAME 4211-25-LE LOW-NOX BURNER WITH FGR AND O2 CONTROLLER (GAMBLE LEASE)

PERMIT UNIT REQUIREMENTS

1. Vapors from TEOR operation, permit # S-1372-100 may be incinerated in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Sulfur content of TEOR gas and fuel gas shall be demonstrated quarterly by detection tube sampling or other District approved methods. [District Rule 1081 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
3. No emission reduction credit shall be granted for this steam generator while it is part of the approved 4405 alternate emission limit plan. [District Rule 4405] Federally Enforceable Through Title V Permit
4. Except during startup, emission rates shall not exceed any of the following; PM10: 0.014 lb/MMBtu, SOx (as SO2): 0.088 lb/MMBtu, NOx (as NO2): 15 ppmv @ 3% O2 or 0.018 lb/MMBtu, or CO: 50 ppmv @ 3% O2 or 0.037 lb/MMBtu. [District Rule 2201 and District Rules 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
5. Flare S-1372-100 shall only be used to incinerate TEOR vapors when one or more of steam generators S-1372-1, '2 or '4 are not in operation. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Total sulfur oxide (SOx as SO2) emissions shall not exceed 1075.2 lb/day from steam generators S-1372-1, '2, '4, '127, '317 and flare '100. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. In-stack O2 monitors are acceptable for O2 measurement. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
8. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

9. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
10. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
11. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
12. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
13. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
14. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
15. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
16. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
17. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
18. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
19. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
21. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

22. Permittee shall maintain records of volume of fuel gas burned and TEOR gas incinerated, fuel gas and TEOR gas sulfur content, and such records shall be retained on site for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record the specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
25. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
26. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
27. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
29. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.3.2 and 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
30. Sulfur compound emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 do not exceed the emissions that would result if each unit was operating in compliance with the specified limit. Units allowed to utilize the averaging option are listed in PTO S-1372-1. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
31. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

32. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
33. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: Kern County Rule 424. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
35. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
36. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1372-8-24

EXPIRATION DATE: 05/31/2007

SECTION: NW16 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

32 MMBTU/HR J.F. NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (#10 E&M, DIS# 44510-76) WITH NORTH AMERICAN LOW NOX BURNER, FGR, AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Approved locations for this equipment: Sec. 16, T31S/R22E (Bremer Lease) and SW/4 of Sec. 10, T31S/R22E (E&M Lease). [District NSR Rule] Federally Enforceable Through Title V Permit
2. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Emissions shall not exceed any of the following: PM10: 0.014 lb/MMBtu; NOx (as NO2): 15 ppmv @ 3% O2; VOC: 0.003 lb/MMBtu; or CO: 138 ppmv @ 3% O2. [District NSR Rule and District Rules 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
4. Total SOx (as SO2) emissions shall not exceed 1578.08 lb/day for the following steam generators: S-1372-8 (#10), S-1372-17 (#19); S-1372-18 (#28), S-1372-19 (#29), and S-1372-20 (#30). [District NSR Rule] Federally Enforceable Through Title V Permit
5. When burning TEOR gas, steam generators S-1372-10, -14, -30, -31, -32, -33, -34, and -318 shall be fired exclusively on PUC-quality natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
6. When burning TEOR gas, sulfur compound (SO2) emission limit compliance shall be demonstrated by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
7. When burning TEOR gas, compliance with casing gas sulfur compound emission limits shall be demonstrated by record keeping of TEOR gas flowrate and H2S concentration. [District Rule 1070] Federally Enforceable Through Title V Permit
8. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
9. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. In-stack O2 monitors are acceptable for O2 measurement. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

10. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
11. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
12. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
13. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
14. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
15. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
16. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
17. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
18. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
19. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
20. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

21. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record the specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. Permittee shall maintain records of volume of fuel gas burned and TEOR gas incinerated, fuel gas and TEOR gas sulfur content, and such records shall be retained on site for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
25. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
26. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
27. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
29. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
30. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.3.2 and 4801 and Kern County Rule 407] 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. Sulfur compound emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
34. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
35. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
36. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1372-20-24

EXPIRATION DATE: 05/31/2007

SECTION: 16 TOWNSHIP: 31S RANGE: 22E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (#30 DIS# 45005-80) EQUIPPED WITH A NORTH AMERICAN, MODEL MAGNA-FLAME G-LE, LOW NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM AND AN O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. If continuous operation oxygen analyzer/controller is utilized, excess O2 shall be maintained between 0.5 and 4.0%. If not utilized, excess air shall be maintained at no less than 15%. [District NSR Rule] Federally Enforceable Through Title V Permit
2. No less than 0.35 miles of roadway shall be paved and maintained in good repair. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Noncondensable vapors from TEOR operation, permit # S-1372-77, may be incinerated in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Steam generators S-1372-10, -14, -30, -31, -32, -33, -34, and -318 shall be fired exclusively on utility grade natural gas when this steam generator is gas-fired and incinerating TEOR vapors. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 2520, 9.3.2 and 4301, 5.2.2] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
7. Duration of start-up or shutdown shall not exceed 2 hours each per occurrence. During start-up or shutdown, the emission control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
8. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
9. Except during start-up and shutdown periods emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.0182 lb-NOx/MMBtu or 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District NSR Rule and District Rules 4301, 5.2, 4305, 5.1, 4306, 5.1 and 4351, 5.1] Federally Enforceable Through Title V Permit
10. During start-up and shutdown periods emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District NSR Rule] 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: PLAINS EXPLORATION & PRODUCTION COMPANY

Location: HEAVY OIL WESTERN STATIONARY SOURCE, CA

S-1372-20-24 : Nov 23 2009 9:36AM - SANDHUG

11. Emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 54.0 lb-NOx/day or 126.0 lb-CO/day. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed any of the following limits: 0.0637 lb-SOx/MMBtu, 0.064 lb-PM10/MMBtu, or 0.006 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Total casing gas sulfur oxide (SOx as SO2) emissions shall not exceed 1578.08 lb/day for the following steam generators: S-1372-8 (#10), S-1372-17 (#19); S-1372-18 (#28), S-1372-19 (#29), and S-1372-20 (#30). [District NSR Rule] Federally Enforceable Through Title V Permit
14. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
15. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1, 4306, 6.3.1 and 4351, 6.3.1] Federally Enforceable Through Title V Permit
16. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
17. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
18. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
19. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
20. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
21. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
22. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

24. If the NO_x and/or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
27. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
28. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
29. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
30. Sulfur compound (SO₂) emission limit compliance shall be demonstrated by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
31. Compliance with casing gas sulfur compound emission limits shall be demonstrated by record keeping of TEOR gas flowrate and H₂S concentration. [District Rule 1070] Federally Enforceable Through Title V Permit
32. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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33. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H₂S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2, 4305, 6.2, 4306, 6.2 and 4351, 6.2] Federally Enforceable Through Title V Permit
36. Permittee shall maintain records of duration of each start-up and shutdown per a period of five years and make such records readily available for District inspection upon request. [District Rule 4306, 6.1] Federally Enforceable Through Title V Permit
37. Permittee shall maintain daily records of volume of natural gas burned and vapor recovery system gas incinerated. [District NSR Rule] Federally Enforceable Through Title V Permit
38. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the vapor recovery gas incinerated in this unit. [District Rule 4406, 4.0]
39. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District Rule 4406, 4.0]
40. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
41. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
42. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
43. Annual test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NO_x and CO limits of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3.2] Federally Enforceable Through Title V Permit
44. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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45. All units in a group for which representative units are source tested to demonstrate compliance for NOx and CO limits of this permit shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3.2] Federally Enforceable Through Title V Permit
46. All units in a group for which representative units are source tested to demonstrate compliance for NOx and CO limits of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3.2] Federally Enforceable Through Title V Permit
47. The number of representative units source tested to demonstrate compliance for NOx and CO limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3.2] Federally Enforceable Through Title V Permit
48. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2520; 9.4.2, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

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



San Joaquin Valley
Air Pollution Control District

FILE

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1372-29-23

ISSUANCE DATE: 03/01/2005

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY
MAILING ADDRESS: ATTN. RICHARD F. GARCIA
1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: SE10 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 30.0 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR #23 (DIS #45223-80) WITH FGR AND O2 CONTROLLER (RULE 4305, GROUP II) APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: INSTALL NORTH AMERICAN MAGNA-FLAME G-LE LOW NOX BURNER FOR RULE 4306 COMPLIANCE AND LOWER NOX AND CO EMISSION LIMITS (REISSUE OF -29-21)

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4306 Emission Control Plan. [District Rule 4306, 6.4]
3. No less than 0.179 miles of roadway shall be paved and maintained in good repair. [District NSR Rule] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
6. This equipment is approved to be operated at the following locations: Section 8, T30S/R22E; and SE/4 Section 10, T31S/R22E. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 326-6900 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

DAVID L. CROW, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1372-29-23 : Mar 1 2005 4:29PM - BEARDEN : Joint Inspection NOT Required

Conditions for S-1372-29-23 (continued)

8. Sulfur content of natural gas shall not exceed 0.35 gr S/ 100 dscf. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District Rule 4406, 4.0]
10. If continuous operation oxygen analyzer/controller is utilized, excess O2 shall be maintained between 0.5 and 4.0%. If not utilized, excess air shall be maintained at no less than 15%. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22]
12. Duration of start-up or shutdown shall not exceed 2 hours each per occurrence. During start-up or shutdown, the emission control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3]
13. No emission reduction credit shall be granted for this steam generator until it is removed from the approved 4405 alternate emission limit plan. [District Rule 4405] Federally Enforceable Through Title V Permit
14. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]
15. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]
16. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
17. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]
18. Emissions from the natural gas-fired steam generator shall not exceed any of the following limits: 0.001 lb-SOx/MMBtu, 0.007 lb-PM10/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201]
19. Except during start-up and shutdown periods emissions from the natural gas-fired steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.0182 lb-NOx/MMBtu or 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rules 2201; 4301, 5.2; 4305, 5.1; 4306, 5.1 and 4351, 5.1]
20. Emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 25.9 lb-NOx/day or 59.0 lb-CO/day. [District Rule 2201]
21. During start-up and shutdown periods emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201]
22. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2]

CONDITIONS CONTINUE ON NEXT PAGE

23. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
24. Sulfur compound (SO₂) emission limit compliance shall be demonstrated by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
25. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201; 4305, 6.3.1; 4306, 6.3.1 and 4351, 6.3.1]
26. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1; 4306, 6.3.1 and 4351, 6.3.1]
27. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
29. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1]
31. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
32. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H₂S and mercaptans. [District Rules 1081; 4305, 6.2 and 4306, 6.2]
34. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H₂S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2; 4306, 6.2 and 4351, 6.2] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5]

CONDITIONS CONTINUE ON NEXT PAGE

37. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4]
38. If the NO_x and/or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4]
39. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4]
40. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
41. Permittee shall maintain records of duration of each start-up and shutdown for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306, 6.1]
42. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1]
43. Permittee shall maintain daily records of volume of natural gas burned. [District Rule 2201]
44. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1]
45. Annual test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NO_x and CO limits of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2 and 4351, 6.3.2]
46. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2 and 4351, 6.3.2]
47. All units in a group for which representative units are source tested to demonstrate compliance for NO_x and CO limits of this permit shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2 and 4351, 6.3.2]

CONDITIONS CONTINUE ON NEXT PAGE

48. All units in a group for which representative units are source tested to demonstrate compliance for NO_x and CO limits of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2 and 4351, 6.3.2]
49. The number of representative units source tested to demonstrate compliance for NO_x and CO limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2 and 4351, 6.3.2] Federally Enforceable Through Title V Permit

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1372-34-23

EXPIRATION DATE: 05/31/2007

SECTION: NW16 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/CASING GAS-FIRED STEAM GENERATOR (#37; DIS# 45237-82) WITH O2 CONTROLLER, LOW NOX BURNER, AND FGR APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

PERMIT UNIT REQUIREMENTS

1. No less than 0.5 miles of roadway shall be paved and maintained in good repair. [District NSR Rule] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
4. This permit unit is authorized to operate at the following locations: NW/4 Section 16, T31S, R22E (Bremer Fee Lease), NW/4 Section 23, T31S, R22E (Dome Fee Lease) and NE/4, Section 8, T30S, R22E. [District NSR Rule] Federally Enforceable Through Title V Permit
5. When located at NW/4 Section 23, T31S, R22E and NE/4, Section 8, T30S, R22E this unit shall be fired on PUC quality natural gas only. [District NSR Rule] Federally Enforceable Through Title V Permit
6. When located at NW/4 Section 16, T31S, R22E, compliance with gas fired sulfur compound (SO₂) emission limit shall be determined by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1070] Federally Enforceable Through Title V Permit
7. When located at NW/4 Section 16, T31S, R22E, compliance with SO_x (as SO₂) emission limits shall be demonstrated by record keeping of casing gas flowrate and H₂S concentration and multiplying H₂S lb/day x 1.88 to get SO₂ lb/day from stack after incineration. [District NSR Rule]
8. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the casing gas incinerated in this unit. [District Rule 4406, 4.0] Federally Enforceable Through Title V Permit
9. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District Rule 4406, 4.0] Federally Enforceable Through Title V Permit
10. If continuous operation oxygen analyzer/controller is utilized, excess O₂ shall be maintained between 0.5 and 4.0%. If not utilized, excess air shall be maintained at no less than 15%. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Steam generators S-1372-10, -14, -30, -31, -32, -33, -34, and -318 shall be fired exclusively on utility grade natural gas when steam generators S-1372-8, -17, -18, -19, and -20 are incinerating TEOR vapors. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
13. Duration of start-up or shutdown shall not exceed 2 hours each per occurrence. During start-up or shutdown, the emission control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
14. Emissions from the natural gas/casing gas-fired steam generator shall not exceed any of the following limits: 0.0653 lb-SO_x/MMBtu, 0.014 lb-PM₁₀/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the natural gas/casing gas-fired steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.0182 lb-NO_x/MMBtu or 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rules 2201; 4301, 5.2; 4305, 5.1; 4306, 5.1] Federally Enforceable Through Title V Permit
16. Emissions from the natural gas/casing gas-fired steam generator shall not exceed either of the following limits: 54.0 lb-NO_x/day or 126.0 lb-CO/day. [District NSR Rule] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the natural gas/casing gas-fired steam generator shall not exceed either of the following limits: 0.036 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
18. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
19. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
20. Sulfur compound (SO₂) emission limit compliance shall be demonstrated by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
21. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1; 4306, 6.3.1 and 4351, 6.3.1] Federally Enforceable Through Title V Permit
23. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
28. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 4305] Federally Enforceable Through Title V Permit
29. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
30. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
31. Compliance with casing gas sulfur compound emission limits shall be demonstrated by record keeping of casing gas flowrate and H2S concentration. [District Rule 1070] Federally Enforceable Through Title V Permit
32. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081; 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
33. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H2S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2; 4306, 6.2 and 4351, 6.2] Federally Enforceable Through Title V Permit
35. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
36. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

37. If the NOx and/or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
38. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
39. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
40. Permittee shall maintain records of duration of each start-up and shutdown per a period of five years and make such records readily available for District inspection upon request. [District Rule 4306, 6.1] Federally Enforceable Through Title V Permit
41. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NOx and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
42. Permittee shall maintain daily records of volume of natural gas burned and vapor recovery system gas incinerated. [District NSR Rule] Federally Enforceable Through Title V Permit
43. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
44. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
45. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
46. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
47. Annual test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx and CO limits of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2 and 4351, 6.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

48. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2 and 4351, 6.3.2] Federally Enforceable Through Title V Permit
49. All units in a group for which representative units are source tested to demonstrate compliance for NOx and CO limits of this permit shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2 and 4351, 6.3.2] Federally Enforceable Through Title V Permit
50. All units in a group for which representative units are source tested to demonstrate compliance for NOx and CO limits of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2 and 4351, 6.3.2] Federally Enforceable Through Title V Permit
51. The number of representative units source tested to demonstrate compliance for NOx and CO limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2 and 4351, 6.3.2] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1372-113-12

EXPIRATION DATE: 05/31/2007

SECTION: NW06 **TOWNSHIP:** 30S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR (#44) WITH NORTH AMERICAN GLE LOW NOX BURNER, O2 CONTROLLER, AND FGR

PERMIT UNIT REQUIREMENTS

1. Steam generator shall be equipped with operational fuel gas flowmeter. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA test methods. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Emission rates shall not exceed any of the following: PM10: 0.005 lb/MMBtu, SOx (as SO2): 0.00285 lb/MMBtu, NOx (as NO2): 15 ppmvd @ 3% O2 or 0.018 lb/MMBtu, VOC: 0.003 lb/MMBtu, or CO: 50 ppmvd @ 3% O2. [District Rule 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
4. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1, and 4306, 6.3.1] Federally Enforceable Through Title V Permit
5. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1, and 4306, 5.5.1] Federally Enforceable Through Title V Permit
6. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5, and 4306, 5.5.5] Federally Enforceable Through Title V Permit
7. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
8. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4, and 4306, 5.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

9. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4, and 4306, 5.4] Federally Enforceable Through Title V Permit
10. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4, and 4306, 5.4] Federally Enforceable Through Title V Permit
11. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
12. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2, and 4306, 6.2] Federally Enforceable Through Title V Permit
13. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2, and 4306, 6.2] Federally Enforceable Through Title V Permit
14. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2, and 4306, 6.2] Federally Enforceable Through Title V Permit
15. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
16. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
17. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
18. Permittee shall maintain records of volume of fuel gas burned and TEOR gas incinerated, fuel gas and TEOR gas sulfur content, and such records shall be retained on site for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
19. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
20. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] 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.

21. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
22. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
23. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
24. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
25. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
26. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2 and 407 (Kern)] Federally Enforceable Through Title V Permit
27. Sulfur compound emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
28. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
30. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of 40 CFR 60, Subpart Dc (except 60.44c(g) and (h) and 60.48c). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
31. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

32. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
34. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1372-127-22

EXPIRATION DATE: 05/31/2007

SECTION: 06 **TOWNSHIP:** 30S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #43 EQUIPPED WITH A NORTH AMERICAN, MODEL MAGNA-FLAME G-LE, LOW NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM O2 CONTROLLER, AND EXHAUST GAS SOX SCRUBBER W/ESP SHARED WITH S-1372-317 (MCKITTRICK FRONT LEASE)

PERMIT UNIT REQUIREMENTS

1. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
2. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
5. If continuous operation oxygen analyzer/controller is utilized, excess O2 shall be maintained between 0.5 and 4.0%. If not utilized, excess air shall be maintained at no less than 15%. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Exhaust from unit shall be directed only to SO2 scrubber/wet ESP authorized herein except when burning PUC quality natural gas exclusively. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Scrubber/wet ESP shall be in operation when combusting TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Vapors from TEOR operation, permit # S-1372-100 may be incinerated in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Except during start-up and shutdown periods, emissions from the natural gas/TEOR waste gas-fired steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.0182 lb-NOx/MMBtu; 0.324 lb-SOx/MMBtu; 0.008 lb-PM10/MMBtu; 0.003 lb-VOC/MMBtu; or 50 ppmvd CO @ 3% O2. [District NSR Rule and District Rules 4301, 5.2, 4305, 5.1, and 4306, 5.1] 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.

11. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
12. Duration of start-up or shutdown shall not exceed 2 hours each per occurrence. During start-up or shutdown, the emission control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
13. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Total sulfur oxide (SO_x as SO₂) emissions shall not exceed 1,075.2 lb/day from steam generators S-1372-1, '2, '4, '127, '317, and flare '100. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the natural gas/TEOR waste gas-fired steam generator, including startup periods, shall not exceed either of the following limits: 54.0 lb-NO_x/day or 126.0 lb-CO/day. [District Rule 2201] Federally Enforceable Through Title V Permit
16. PM₁₀ emissions from this unit shall not exceed 4,161 lbs-PM₁₀/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Scrubber/wet ESP control efficiency shall not be less than 95% by weight sulfur compounds. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Scrubber liquor pH shall be maintained within the range demonstrated to achieve compliance with SO₂ emissions limit and control efficiency performance, and shall be continuously monitored. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Scrubber mist eliminator shall be properly cleaned and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Scrubber recirculation liquor liquid to gas ratio shall be maintained at no less than that demonstrated to achieve compliance during source testing. [District Rule 2201] Federally Enforceable Through Title V Permit
21. When any unit connected to scrubber/wet ESP is burning TEOR gas, scrubber/wet ESP shall be operating and permittee shall demonstrate compliance with PM₁₀ and sulfur oxide emissions limit by stack source testing within 60 days of initial scrubbing date and annually thereafter unless no TEOR gas has been burned since the last scrubber performance source test. Sulfur removal efficiency of scrubber/wet ESP shall be demonstrated during initial stack source test and calculated with subsequent tests. Ongoing compliance with sulfur oxide emissions limit shall be by calculation using the scrubber liquid pH, the demonstrated sulfur removal efficiency, and the fuel gas sulfur content. Fuel gas sulfur content shall be obtained by sample analysis at least quarterly. [District Rule 2201] Federally Enforceable Through Title V Permit
22. When unit is operated without scrubber/wet ESP, permittee shall demonstrate compliance with the sulfur oxide emissions limit by analysis of the fuel gas sulfur content within 60 days of initiating operation without scrubber. Analyses, as approved by the APCO, provided by the gas supplier may be used to satisfy this requirement. [District Rule 2201] Federally Enforceable Through Title V Permit
23. When complying with PM₁₀ and SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Methods 5 or 201A, 6, 6B, 8, or ARB 100. When operating unscrubbed, a grab sample analysis by double GC performed in the laboratory and EPA Method 19 may be used to calculate SO_x emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every 36 months unless testing is required by scrubber operational mode change as noted above. Annual source testing shall resume if any test fails to show compliance. [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.

24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
25. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1, and 4306, 6.3.1] Federally Enforceable Through Title V Permit
26. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
28. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
29. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
30. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
31. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
32. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
33. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
34. If the NOx and/or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

35. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
36. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
37. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
38. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of the fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.3.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
39. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
40. Sulfur compound (SO₂) emission limit compliance shall be demonstrated by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
41. Compliance with TEOR waste gas sulfur compound emission limits shall be demonstrated by record keeping of TEOR gas flowrate and H₂S concentration. [District Rule 1070] Federally Enforceable Through Title V Permit
42. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

45. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2, 4305, 6.2, and 4306, 6.2] Federally Enforceable Through Title V Permit
46. Permittee shall maintain records of duration of each start-up and shutdown per a period of five years and make such records readily available for District inspection upon request. [District Rule 4306, 6.1] Federally Enforceable Through Title V Permit
47. Permittee shall maintain daily records of volume of natural gas burned and TEOR waste gas incinerated. [District Rule 2201] Federally Enforceable Through Title V Permit
48. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR waste gas incinerated in this unit. [District Rule 4406, 4.0] Federally Enforceable Through Title V Permit
49. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District Rule 4406, 4.0] Federally Enforceable Through Title V Permit
50. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 2520, 9.3.2 and 4301, 5.2.2] Federally Enforceable Through Title V Permit
51. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
53. The requirements of 40 CFR 60.40c do not apply to this source. The facility has stated this unit has not been reconstructed or modified after June 9, 1989. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
54. The requirements of SJVUAPCD Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
55. Annual test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx and CO limits of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
56. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
57. All units in a group for which representative units are source tested to demonstrate compliance for NOx and CO limits of this permit shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, and 6.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

58. All units in a group for which representative units are source tested to demonstrate compliance for NO_x and CO limits of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
59. The number of representative units source tested to demonstrate compliance for NO_x and CO limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
60. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2520, 9.4.2, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1372-317-12

EXPIRATION DATE: 05/31/2007

SECTION: 06 **TOWNSHIP:** 30S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

67.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR EQUIPPED WITH A NORTH AMERICAN, MODEL MAGNA-FLAME G-LE, LOW NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, AND EXHAUST GAS SOX SCRUBBER W/ESP SHARED WITH S-1372-127 (MCKITTRICK FRONT LEASE)

PERMIT UNIT REQUIREMENTS

1. Unit shall be fired only on PUC quality natural gas or TEOR waste gas. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Burner shall be equipped with operational TEOR gas volume flowmeter. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Vapors from TEOR operation, permit # S-1372-100 may be incinerated in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Exhaust from unit shall be directed only to SO2 scrubber/wet ESP listed on S-1372-127 except when burning PUC quality natural gas exclusively. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Scrubber/wet ESP listed on S-1372-127 shall be in operation when combusting TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
6. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
7. This steam generator shall be exclusively fired on PUC quality natural gas when steam generators S-1372-13, 16, and 24 are gas fired and incinerating TEOR waste gas. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
9. Duration of start-up or shutdown shall not exceed 2 hours each per occurrence. During start-up or shutdown, the emission control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
10. Except during start-up and shutdown periods, emissions from the natural gas/TEOR waste gas-fired steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.0182 lb-NOx/MMBtu; 0.324 lb-SOx/MMBtu; 0.008 lb-PM10/MMBtu; 0.039 lb-VOC/MMBtu; or 50 ppmvd CO @ 3% O2. [District NSR Rule and District Rules 4301, 5.2, 4305, 5.1, and 4306, 5.1] 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.

11. During start-up and shutdown periods, emissions from the natural gas/TEOR waste gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Emissions from the natural gas/TEOR waste gas-fired steam generator, including startup periods, shall not exceed either of the following limits: 58.3 lb-NO_x/day or 59.9 lb-CO/day. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Total sulfur oxide (SO_x as SO₂) emissions shall not exceed 1,075.2 lb/day from steam generators S-1372-1, '2, '4, '127, '317, and flare '100. [District Rule 2201] Federally Enforceable Through Title V Permit
14. PM₁₀ emissions from this unit shall not exceed 4,161 lbs-PM₁₀/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
15. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
16. If the NO_x and/or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
18. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
19. When any unit connected to scrubber/wet ESP is burning TEOR gas, scrubber/wet ESP shall be operating and permittee shall demonstrate compliance with PM₁₀ and sulfur oxide emissions limit by stack source testing within 60 days of initial scrubbing date and annually thereafter unless no TEOR gas has been burned since the last scrubber performance source test. Sulfur removal efficiency of scrubber/wet ESP shall be demonstrated during initial stack source test and calculated with subsequent tests. Ongoing compliance with sulfur oxide emissions limit shall be by calculation using the scrubber liquid pH, the demonstrated sulfur removal efficiency, and the fuel gas sulfur content. Fuel gas sulfur content shall be obtained by sample analysis at least quarterly. [District Rule 2201] Federally Enforceable Through Title V Permit
20. When unit is operated without scrubber/wet ESP, permittee shall demonstrate compliance with the sulfur oxide emissions limit by analysis of the fuel gas sulfur content within 60 days of initiating operation without scrubber. Analyses, as approved by the APCO, provided by the gas supplier may be used to satisfy this requirement. [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. When complying with PM10 and SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Methods 5 or 201A, 6, 6B, 8, or ARB 100. When operating unscrubbed, a grab sample analysis by double GC performed in the laboratory and EPA Method 19 may be used to calculate SOx emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every 36 months unless testing is required by scrubber operational mode change as noted above. Annual source testing shall resume if any test fails to show compliance. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1, and 4306, 6.3.1] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1, and 4306, 5.5.1] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District] Federally Enforceable Through Title V Permit
27. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 6.2, and 4306, 6.2] Federally Enforceable Through Title V Permit
28. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2, and 4306, 5.5.2] Federally Enforceable Through Title V Permit
29. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5, and 4306 5.5.5] Federally Enforceable Through Title V Permit
30. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record the specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] 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.

34. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annually fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculate emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.3.2 and 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
39. Sulfur compound emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. [District Rule 2520, 9.3.2 and Kern County Rule 424] Federally Enforceable Through Title V Permit
40. Sulfur compound (SO₂) emission limit compliance shall be demonstrated by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
41. Compliance with casing gas sulfur compound emission limits shall be demonstrated by record keeping of TEOR gas flowrate and H₂S concentration. [District Rule 1070] Federally Enforceable Through Title V Permit
42. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. Permittee shall maintain records of duration of each start-up and shutdown per a period of five years and make such records readily available for District inspection upon request. [District Rule 4306, 6.1] Federally Enforceable Through Title V Permit
44. Permittee shall maintain daily records of volume of natural gas burned and TEOR waste gas incinerated. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR waste gas incinerated in this unit. [District Rule 4406, 4.0] 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.

46. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District Rule 4406, 4.0] Federally Enforceable Through Title V Permit
47. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
48. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
50. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1372-394-0

ISSUANCE DATE: 06/30/2008

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY
MAILING ADDRESS: 1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: 16 TOWNSHIP: 31S RANGE: 22E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN GLE MODEL G ULTRA LOW NOX BURNER, FGR, AND O2 CONTROLLER


CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
6. The unit shall only be fired on PUC-regulated natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 326-6900 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO


DAVID WARNER, Director of Permit Services

S-1372-394-0; Jun 30 2008 9:34AM -- HARRIS : Joint Inspection NOT Required

7. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201, 4305, and 4306 and 40 CFR 60 Subpart Dc Section 60.48c (g)] Federally Enforceable Through Title V Permit
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 30 ppmvd CO @ 3% O2 or 0.022 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
9. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
10. Permittee shall submit notification to the District of the date of construction, anticipated startup, and actual startup. Notifications shall be postmarked no later than 30 days after construction and 15 days after actual startup. The notifications shall include the design heat input and identification of fuels for this permit unit. [40 CFR 60.48c(a)] Federally Enforceable Through Title V Permit
11. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
12. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
13. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
14. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
15. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
16. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
17. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
18. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
19. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
23. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
24. Permittee shall record monthly fuel consumption. [District Rules 4001 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
25. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 40 CFR 60.48c(i)] Federally Enforceable Through Title V Permit
26. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 558 lb, 2nd quarter - 558 lb, 3rd quarter - 559 lb, and fourth quarter - 559 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/06). [District Rule 2201] Federally Enforceable Through Title V Permit
27. ERC Certificate Number C-954-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Prior to operating equipment under this Authority to Construct, permittee shall surrender NO_x emission reduction credits for the following quantity of emissions: 1st quarter - 2,047 lb, 2nd quarter - 2,048 lb, 3rd quarter - 2,048 lb, and fourth quarter - 2,048 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/06). [District Rule 2201] Federally Enforceable Through Title V Permit
29. ERC Certificate Number S-2091-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM₁₀ emission reduction credits for the following quantity of emissions: 1st quarter - 1,414 lb, 2nd quarter - 1,415 lb, 3rd quarter - 1,415 lb, and fourth quarter - 1,415 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/06). [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

31. ERC Certificate Numbers C-908-4 and N-742-4 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of emissions: 1st quarter - 530 lb, 2nd quarter - 530 lb, 3rd quarter - 531 lb, and fourth quarter - 531 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/06). [District Rule 2201] Federally Enforceable Through Title V Permit
33. ERC Certificate Number N-775-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

Appendix B

QNEC

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.

PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

A. Quarterly Pre-Project Emissions (QPE1)

Quarterly PE1 (lb/qtr) = PE1 (lb/yr) ÷ 4 (qtr/yr)

For units with an SLC for SO_x, the quarterly SLC limit is used as the quarterly PE1, that is:

PE1 (lb/qtr) = SLC_{SO_x} (lb/yr) ÷ 4 (qtr/yr)

Quarterly PE1					
Permit Unit	NO _x (lb/qtr)	SO _x (lb/qtr)	PM ₁₀ (lb/qtr)	CO (lb/qtr)	VOC (lb/qtr)
S-1372-2-26	1,262	-	981	5,677	421
S-1372-4-22	994	-	773	2,009	331
S-1372-8-24	1,262	----	981	7,008	210
S-1372-20-24	4,928	----	8,760	11,498	821
S-1372-29-23	2,364	187	460	5,384	197
S-1372-34-23	4,928	8,938	1,916	11,498	411
S-1372-113-12	2,464	390	685	4,982	411
S-1372-127-22	4,928	-	1,040	11,498	411
S-1372-317-12	5,320	-	1,040	5,466	5,765
S-1372-394-0	2,048	531	1,415	4,095	559

- These units share an SLC of 392,448 lb-SO_x/yr. Thus, Quarterly PE1 = 98,112 lb-SO_x/qtr.

---- These units share an SLC of 575,999 lb-SO_x/yr. Thus, Quarterly PE1 = 144,000 lb-SO_x/qtr.

B. Quarterly Post-Project Emissions (QPE2)

Quarterly PE2 (lb/qtr) = PE2 (lb/yr) ÷ 4 (qtr/yr)

For units with an SLC for SO_x, the quarterly SLC limit is used as the quarterly PE2, that is:
 PE2 (lb/qtr) = SLC_{SO_x} (lb/yr) ÷ 4 (qtr/yr)

Quarterly PE2					
Permit Unit	NO _x (lb/qtr)	SO _x (lb/qtr)	PM ₁₀ (lb/qtr)	CO (lb/qtr)	VOC (lb/qtr)
S-1372-2-25	678	-	981	5,677	421
S-1372-4-21	534	-	773	2,009	331
S-1372-8-29	678	----	981	7,008	210
S-1372-20-26	1,323	----	8,760	4,983	822
S-1372-29-28	635	187	460	2,392	197
S-1372-34-25	1,323	8,938	1,917	4,983	411
S-1372-113-14	1,323	390	684	4,983	411
S-1372-127-21	2,008	-	1,040	4,983	411
S-1372-317-11	2,168	-	1,040	5,381	5,765
S-1372-394-2	1,582	531	1,415	4,095	559

- These units share an SLC of 392,448 lb-SO_x/yr. Thus, Quarterly PE2 = 98,112 lb-SO_x/qtr.

---- These units share an SLC of 575,999 lb-SO_x/yr. Thus, Quarterly PE2 = 144,000 lb-SO_x/qtr.

C. Quarterly Net Emissions Change (QNEC)

$$\text{QNEC (lb/qtr)} = \text{QPE2 (lb/qtr)} - \text{QPE1 (lb/qtr)}$$

QNEC					
Permit Unit	NO _x (lb/qtr)	SO _x (lb/qtr)	PM ₁₀ (lb/qtr)	CO (lb/qtr)	VOC (lb/qtr)
S-1372-2-25	-584	-	0	0	0
S-1372-4-21	-460	-	0	0	0
S-1372-8-29	-584	----	0	0	0
S-1372-20-26	-3,605	----	0	-6,515	0*
S-1372-29-28	-1,729	0	0	-2,992	0
S-1372-34-25	-3,605	0	0*	-6,515	0
S-1372-113-14	-1,141	0	0*	0*	0
S-1372-127-21	-2,920	-	0	-6,515	0
S-1372-317-11	-3,152	-	0	-85	0
S-1372-394-2	-466	0	0	0	0

- These units share an SLC of 392,448 lb-SO_x/yr that is remaining unchanged during this project. Thus, Quarterly PE1 and Quarterly PE2 = 98,112 lb-SO_x/qtr. Thus, the SO_x QNEC for these units is 0 lb/qtr.

---- These units share an SLC of 575,999 lb-SO_x/yr that is remaining unchanged during this project. Thus, Quarterly PE1 and Quarterly PE2 = 144,000 lb-SO_x/qtr. Thus, the SO_x QNEC for these units is 0 lb/qtr.

* The QNEC for these units was calculated to be 1 lb/qtr or -1 lb/qtr. However, no changes are proposed for these units. The 1 lb/qtr difference was calculated due to rounding errors when determining PE1 and PE2. Therefore, the QNEC will be shown as 0 lb/qtr for these units for the designated pollutant.

Appendix C

Draft Authorities to Construct

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1372-2-25

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY

MAILING ADDRESS: ATTN: KENNETH BORK
1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: 6 TOWNSHIP: 30S RANGE: 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 32.0 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR #5 (DIS #44826-70) WITH FGR AND O2 CONTROLLER (GAMBLE LEASE): LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 AND REDUCE SOX EMISSIONS BY 95% BY WEIGHT FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1372-2-25 : Nov 23 2009 9:37AM - SANDHUG : Joint Inspection NOT Required

6. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201] Federally Enforceable Through Title V Permit
7. This equipment is approved to be operated at the following locations: Sec. 06, T30S/R22E, Sec.'s 23 & 24, T31S/R22E; and Sec. 10, T31S/R22E. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Vapors from TEOR operation, permit # S-1372-100 may be incinerated in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.939 lb-SO_x/MMBtu, 0.014 lb-PM₁₀/MMBtu, 111 ppmvd CO @ 3% O₂ or 0.081 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.939 lb-SO_x/MMBtu, 0.014 lb-PM₁₀/MMBtu, 111 ppmvd CO @ 3% O₂ or 0.081 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Duration of startup and shutdown shall not exceed 2 hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. Flare S-1372-100 shall only be used to incinerate TEOR vapors when one or more of steam generators S-1372-1, '2 or '4 are not in operation. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Total sulfur oxide (SO_x as SO₂) emissions shall not exceed 1,075.2 lb/day from steam generators S-1372-1, '2, '4, '127, '317, and flare '100. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Sulfur content of TEOR gas and fuel gas shall be demonstrated quarterly by detection tube sampling or other District approved methods. [District Rule 1081] Federally Enforceable Through Title V Permit
16. All vapor recovery gas burned in this device shall first be treated by the sulfur removal system listed on S-1372-100 so that at least 95% by weight of the sulfur is removed. [District Rule 4320]
17. Compliance with the 95% by weight sulfur removal efficiency shall be conducted within 60 days of startup and at least once every twelve months thereafter. [District Rule 4320]
18. The SO_x emission control system efficiency shall be determined using the following equation: Percent Control Efficiency = $[(\text{CSO}_2, \text{inlet} - \text{CSO}_2, \text{outlet}) / \text{CSO}_2, \text{inlet}] \times 100$, where "CSO₂, inlet" is equal to the concentration of SO_x (expressed as SO₂) at the inlet side of the SO_x emission control system (in lb/dscf) and "CSO₂, outlet" is equal to the concentration of SO_x (expressed as SO₂) at the outlet side of the SO_x emission control system (in lb/dscf). [District Rule 4320]
19. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. In-stack O₂ monitors are acceptable for O₂ measurement. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing to measure NO_x and CO emissions from this unit shall be conducted prior to initial start-up. [District Rules 2201, 4305, 4306, 4320]
25. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Stack gas velocities shall be determined using EPA Method 2. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
35. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
37. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of volume of fuel gas burned and TEOR gas incinerated, fuel gas and TEOR gas sulfur content, and such records shall be retained on site for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070 and 2520, 3.2] Federally Enforceable Through Title V Permit
39. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. {521} Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
41. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
42. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2; 4306, 6.2; and 4320, 6.2] Federally Enforceable Through Title V Permit

46. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.3.2 and 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
47. Sulfur compound emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. Units allowed to utilize the averaging option are: S-1372-1, -2, -4, -5, -13, -16, -17, -18, -19, -20, -24, and -26. [Kern County Rule 424 and District Rules 2520, 9.3.2 and 4406] Federally Enforceable Through Title V Permit
48. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
49. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
50. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
51. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: Kern County Rule 424. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
53. {1677} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
54. {1678} This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1372-4-21

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY

MAILING ADDRESS: ATTN: KENNETH BORK
1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: 06 TOWNSHIP: 30S RANGE: 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 25.2 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #4 (DIS #44784-67) WITH NORTH AMERICAN MAGNA-FLAME 4211-25-LE LOW-NOX BURNER WITH FGR AND O2 CONTROLLER (GAMBLE LEASE); LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 AND REDUCE SOX EMISSIONS BY 95% BY WEIGHT FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1372-4-21 : Nov 23 2008 9:37AM - SANDHUG : Joint Inspection NOT Required

6. Vapors from TEOR operation, permit # S-1372-100 may be incinerated in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Sulfur content of TEOR gas and fuel gas shall be demonstrated quarterly by detection tube sampling or other District approved methods. [District Rule 1081 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. No emission reduction credit shall be granted for this steam generator while it is part of the approved 4405 alternate emission limit plan. [District Rule 4405] Federally Enforceable Through Title V Permit
9. Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NOx @ 3% O2 or 0.008 lb-NOx/MMBtu, 0.088 lb-SOx/MMBtu, 0.014 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.0364 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, 0.088 lb-SOx/MMBtu, 0.014 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.0364 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Duration of startup and shutdown shall not exceed 2 hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. Flare S-1372-100 shall only be used to incinerate TEOR vapors when one or more of steam generators S-1372-1, '2 or '4 are not in operation. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Total sulfur oxide (SOx as SO2) emissions shall not exceed 1075.0 lb/day from steam generators S-1372-1, '2, '4, '127, '317 and flare '100. [District Rule 2201] Federally Enforceable Through Title V Permit
15. All vapor recovery gas burned in this device shall first be treated by the sulfur removal system listed on S-1372-100 so that at least 95% by weight of the sulfur is removed. [District Rules 2201, 4301, 4320, 4406, and 4801] Federally Enforceable Through Title V Permit
16. Compliance with the 95% by weight sulfur removal efficiency shall be conducted within 60 days of startup and at least once every twelve months thereafter. [District Rule 4320]
17. The SOx emission control system efficiency shall be determined using the following equation: Percent Control Efficiency = $[(CSO_2, \text{inlet} - CSO_2, \text{outlet}) / CSO_2, \text{inlet}] \times 100$, where "CSO₂, inlet" is equal to the concentration of SOx (expressed as SO₂) at the inlet side of the SOx emission control system (in lb/dscf) and "CSO₂, outlet" is equal to the concentration of SOx (expressed as SO₂) at the outlet side of the SOx emission control system (in lb/dscf). [District Rule 4320]
18. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. In-stack O2 monitors are acceptable for O2 measurement. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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19. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, 4320] Federally Enforceable Through Title V Permit
21. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. Source testing to measure NO_x and CO emissions from this unit shall be conducted prior to initial start-up. [District Rules 2201, 4305, 4306, 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. Stack gas velocities shall be determined using EPA Method 2. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

32. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
35. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. Permittee shall maintain records of volume of fuel gas burned and TEOR gas incinerated, fuel gas and TEOR gas sulfur content, and such records shall be retained on site for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record the specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. {521} Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
40. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
41. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

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44. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.3.2 and 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
45. Sulfur compound emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 do not exceed the emissions that would result if each unit was operating in compliance with the specified limit. Units allowed to utilize the averaging option are listed in PTO S-1372-1. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
46. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
47. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
48. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
49. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
50. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: Kern County Rule 424. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
51. {1677} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. {1678} This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1372-8-29

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY

MAILING ADDRESS: ATTN: KENNETH BORK
1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: NW16 TOWNSHIP: 31S RANGE: 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 32 MMBTU/HR J.F. NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (#10 E&M, DIS# 44510-76) WITH NORTH AMERICAN LOW NOX BURNER, FGR, AND O2 CONTROLLER: LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 AND REDUCE SOX EMISSIONS BY 95% BY WEIGHT FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. Approved locations for this equipment: Sec. 16, T31S/R22E (Bremer Lease) and SW/4 of Sec. 10, T31S/R22E (E&M Lease). [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1372-8-29 : Nov 23 2009 9:37AM - SANOHUG : Joint Inspection NOT Required

7. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.014 lb-PM₁₀/MMBtu, 138 ppmvd CO @ 3% O₂ or 0.1 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
9. During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.014 lb-PM₁₀/MMBtu, 138 ppmvd CO @ 3% O₂ or 0.1 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Duration of startup and shutdown shall not exceed 2 hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rules 201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. Total SO_x (as SO₂) emissions shall not exceed 1578.08 lb/day for the following steam generators: S-1372-8 (#10), S-1372-17 (#19); S-1372-18 (#28), S-1372-19 (#29), and S-1372-20 (#30). [District NSR Rule] Federally Enforceable Through Title V Permit
13. When burning TEOR gas, steam generators S-1372-10, -14, -30, -31, -32, -33, -34, and -318 shall be fired exclusively on PUC-quality natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
14. When burning TEOR gas, sulfur compound (SO₂) emission limit compliance shall be demonstrated by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
15. When burning TEOR gas, compliance with casing gas sulfur compound emission limits shall be demonstrated by record keeping of TEOR gas flowrate and H₂S concentration. [District Rule 1070] Federally Enforceable Through Title V Permit
16. All vapor recovery gas burned in this device shall first be treated by the sulfur removal system listed on S-1372-74 so that at least 95% by weight of the sulfur is removed. [District Rules 2201, 4301, 4320, 4406, and 4801] Federally Enforceable Through Title V Permit
17. Compliance with the 95% by weight sulfur removal efficiency shall be conducted within 60 days of startup and at least once every twelve months thereafter. [District Rule 4320]
18. The SO_x emission control system efficiency shall be determined using the following equation: Percent Control Efficiency = [(CSO₂, inlet - CSO₂, outlet) / CSO₂, inlet] x 100, where "CSO₂, inlet" is equal to the concentration of SO_x (expressed as SO₂) at the inlet side of the SO_x emission control system (in lb/dscf) and "CSO₂, outlet" is equal to the concentration of SO_x (expressed as SO₂) at the outlet side of the SO_x emission control system (in lb/dscf). [District Rule 4320]
19. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. In-stack O₂ monitors are acceptable for O₂ measurement. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing to measure NO_x and CO emissions from this unit shall be conducted prior to initial start-up. [District Rules 2201, 4305, 4306, 4320] Federally Enforceable Through Title V Permit
25. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
29. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Stack gas velocities shall be determined using EPA Method 2. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

33. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record the specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of volume of fuel gas burned and TEOR gas incinerated, fuel gas and TEOR gas sulfur content, and such records shall be retained on site for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. {521} Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
40. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
41. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; 4306, 6.2.1; 4320, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

45. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.3.2 and 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
46. Sulfur compound emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
47. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
48. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
49. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320]
50. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
51. {1677} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. {1678} This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1372-20-26

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY
MAILING ADDRESS: ATTN: KENNETH BORK
1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: 16 TOWNSHIP: 31S RANGE: 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (#30 DIS# 45005-80) EQUIPPED WITH A NORTH AMERICAN, MODEL MAGNA-FLAME G-LE, LOW NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM AND AN O2 CONTROLLER: LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1372-20-26 : Nov 23 2009 9:37AM - SANDHUG : Joint Inspection NOT Required

6. If continuous operation oxygen analyzer/controller is utilized, excess O₂ shall be maintained between 0.5 and 4.0%. If not utilized, excess air shall be maintained at no less than 15%. [District NSR Rule] Federally Enforceable Through Title V Permit
7. No less than 0.35 miles of roadway shall be paved and maintained in good repair. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Noncondensable vapors from TEOR operation, permit # S-1372-77, may be incinerated in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Steam generators S-1372-10, -14, -30, -31, -32, -33, -34, and -318 shall be fired exclusively on utility grade natural gas when this steam generator is gas-fired and incinerating TEOR vapors. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 2520, 9.3.2 and 4301, 5.2.2] Federally Enforceable Through Title V Permit
11. {521} Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
12. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
13. Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.0637 lb-SO_x/MMBtu, 0.064 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.0637 lb-SO_x/MMBtu, 0.064 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. Duration of startup and shutdown shall not exceed 2 hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Total SO_x (as SO₂) emissions shall not exceed 1578.08 lb/day for the following steam generators: S-1372-8 (#10), S-1372-17 (#19); S-1372-18 (#28), S-1372-19 (#29), and S-1372-20 (#30). [District NSR Rule] Federally Enforceable Through Title V Permit
18. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4330. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Source testing to measure NO_x and CO emissions from this unit shall be conducted prior to initial start-up. [District Rules 2201, 4305, 4306, 4320] Federally Enforceable Through Title V Permit

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20. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, 4320, and 4351, 6.3.1] Federally Enforceable Through Title V Permit
21. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
22. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
24. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
25. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H₂S and mercaptans. [District Rules 1081, 4305, 6.2 4306, 6.2, and 4320, 6.2] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. If the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. {519} Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
33. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
34. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
35. Sulfur compound (SO₂) emission limit compliance shall be demonstrated by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
36. Compliance with casing gas sulfur compound emission limits shall be demonstrated by record keeping of TEOR gas flowrate and H₂S concentration. [District Rule 1070] Federally Enforceable Through Title V Permit
37. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H₂S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2, 4305, 6.2, 4306, 6.2 and 4351, 6.2] Federally Enforceable Through Title V Permit
41. Permittee shall maintain records of duration of each start-up and shutdown per a period of five years and make such records readily available for District inspection upon request. [District Rule 4306, 6.1] Federally Enforceable Through Title V Permit
42. Permittee shall maintain daily records of volume of natural gas burned and vapor recovery system gas incinerated. [District NSR Rule] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

43. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the vapor recovery gas incinerated in this unit. [District Rule 4406, 4.0]
44. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District Rule 4406, 4.0]
45. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
46. {1677} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
47. {1678} This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
48. Annual test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx and CO limits of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit
49. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit
50. All units in a group for which representative units are source tested to demonstrate compliance for NOx and CO limits of this permit shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit
51. All units in a group for which representative units are source tested to demonstrate compliance for NOx and CO limits of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit
52. The number of representative units source tested to demonstrate compliance for NOx and CO limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit
53. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2520, 9.4.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1372-29-28

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY
MAILING ADDRESS: ATTN: KENNETH BORK
1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: SE10 TOWNSHIP: 31S RANGE: 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 30.0 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR #23 (DIS #45223-80) WITH NORTH AMERICAN MAGNA-FLAME G-LE LOW NOX BURNER, FGR, AND O2 CONTROLLER: LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) S-1372-29-23 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
6. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services
S-1372-29-28 : Nov 23 2009 9:37AM - SANDHUG : Joint Inspection NOT Required

7. No less than 0.179 miles of roadway shall be paved and maintained in good repair. [District NSR Rule] Federally Enforceable Through Title V Permit
8. This equipment is approved to be operated at the following locations: Section 8, T30S/R22E; and SE/4 Section 10, T31S/R22E. [District NSR Rule] Federally Enforceable Through Title V Permit
9. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Sulfur content of natural gas shall not exceed 0.35 gr S/100 dscf. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District Rule 4406, 4.0]
12. If continuous operation oxygen analyzer/controller is utilized, excess O2 shall be maintained between 0.5 and 4.0%. If not utilized, excess air shall be maintained at no less than 15%. [District NSR Rule] Federally Enforceable Through Title V Permit
13. No emission reduction credit shall be granted for this steam generator until it is removed from the approved 4405 alternate emission limit plan. [District Rule 4405] Federally Enforceable Through Title V Permit
14. Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NOx @ 3% O2 or 0.008 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.007 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.007 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Duration of startup and shutdown shall not exceed 2 hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
18. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
20. Sulfur compound (SO2) emission limit compliance shall be demonstrated by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit

21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted prior to start-up. [District Rules 2201, 4305, 4306, 4320, and 4351, 6.3.1] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1; 4306, 6.3.1, 4320, 6.3.1, and 4351, 6.3.1] Federally Enforceable Through Title V Permit
23. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. {519} Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
28. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H₂S and mercaptans. [District Rules 1081; 4305, 6.2, 4306, 6.2, and 4320, 6.2] Federally Enforceable Through Title V Permit
30. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H₂S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
31. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2; 4306, 6.2 and 4351, 6.2] Federally Enforceable Through Title V Permit
32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

34. If the NO_x and/or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. {520} The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
37. Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. Permittee shall maintain daily records of volume of natural gas burned. [District Rule 2201] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, 4306, 6.1, and 4320, 6.1] Federally Enforceable Through Title V Permit
41. Annual test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NO_x and CO limits of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit
42. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit
43. All units in a group for which representative units are source tested to demonstrate compliance for NO_x and CO limits of this permit shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

44. All units in a group for which representative units are source tested to demonstrate compliance for NO_x and CO limits of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit
45. The number of representative units source tested to demonstrate compliance for NO_x and CO limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1372-34-25

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY
MAILING ADDRESS: ATTN: KENNETH BORK
1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: NW16 TOWNSHIP: 31S RANGE: 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/CASING GAS-FIRED STEAM GENERATOR (#37; DIS# 45237-82) WITH O2 CONTROLLER, LOW NOX BURNER, AND FGR APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. No less than 0.5 miles of roadway shall be paved and maintained in good repair. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

S-1372-34-25 : Nov 23 2009 10:40AM - SANDHUG : Joint Inspection NOT Required

6. This permit unit is authorized to operate at the following locations: NW/4 Section 16, T31S, R22E (Bremer Fee Lease), NW/4 Section 23, T31S, R22E (Dome Fee Lease) and NE/4, Section 8, T30S, R22E. [District NSR Rule] Federally Enforceable Through Title V Permit
7. When located at NW/4 Section 23, T31S, R22E and NE/4, Section 8, T30S, R22E this unit shall be fired on PUC quality natural gas only. [District NSR Rule] Federally Enforceable Through Title V Permit
8. When located at NW/4 Section 16, T31S, R22E, compliance with gas fired sulfur compound (SO₂) emission limit shall be determined by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1070] Federally Enforceable Through Title V Permit
9. When located at NW/4 Section 16, T31S, R22E, compliance with SO_x (as SO₂) emission limits shall be demonstrated by record keeping of casing gas flowrate and H₂S concentration and multiplying H₂S lb/day x 1.88 to get SO₂ lb/day from stack after incineration. [District NSR Rule]
10. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the casing gas incinerated in this unit. [District Rule 4406, 4.0] Federally Enforceable Through Title V Permit
11. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District Rule 4406, 4.0] Federally Enforceable Through Title V Permit
12. If continuous operation oxygen analyzer/controller is utilized, excess O₂ shall be maintained between 0.5 and 4.0%. If not utilized, excess air shall be maintained at no less than 15%. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Steam generators S-1372-10, -14, -30, -31, -32, -33, -34, and -318 shall be fired exclusively on utility grade natural gas when steam generators S-1372-8, -17, -18, -19, and -20 are incinerating TEOR vapors. [District NSR Rule] Federally Enforceable Through Title V Permit
14. Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.0653 lb-SO_x/MMBtu, 0.014 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.0653 lb-SO_x/MMBtu, 0.014 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
17. Duration of startup and shutdown shall not exceed 2 hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
19. {521} Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

20. Sulfur compound (SO₂) emission limit compliance shall be demonstrated by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
21. {525} When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
22. Source testing to measure NO_x and CO emissions from this unit shall be conducted prior to initial start-up. [District Rules 2201, 4305, 4306, 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1; 4306, 6.3.1, 4320, 6.3.1, and 4351, 6.3.1] Federally Enforceable Through Title V Permit
24. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
25. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO_x and CO source testing requirement. [District Rule 4305] Federally Enforceable Through Title V Permit
30. {519} Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
31. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
32. Compliance with casing gas sulfur compound emission limits shall be demonstrated by record keeping of casing gas flowrate and H₂S concentration. [District Rule 1070] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or Double GC for H₂S and mercaptans. [District Rules 1081, 4305, 6.2, 4306, 6.2, and 4320, 6.2] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

34. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H₂S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2; 4306, 6.2 and 4351, 6.2] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. If the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. {520} The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
41. Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
43. Permittee shall maintain daily records of volume of natural gas burned and vapor recovery system gas incinerated. [District NSR Rule] Federally Enforceable Through Title V Permit
44. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1, and 4320, 6.1] Federally Enforceable Through Title V Permit

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45. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
46. {1677} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
47. {1678} This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
48. Annual test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx and CO limits of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit
49. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit
50. All units in a group for which representative units are source tested to demonstrate compliance for NOx and CO limits of this permit shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit
51. All units in a group for which representative units are source tested to demonstrate compliance for NOx and CO limits of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit
52. The number of representative units source tested to demonstrate compliance for NOx and CO limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2; 4305, 6.3.2; 4306, 6.3.2, 4320, 6.3.2, and 4351, 6.3.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1372-113-14

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY

MAILING ADDRESS: ATTN: KENNETH BORK
1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: NW06 TOWNSHIP: 30S RANGE: 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR (#44) WITH NORTH AMERICAN GLE LOW NOX BURNER, O2 CONTROLLER, AND FGR: LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
6. Steam generator shall be equipped with operational fuel gas flowmeter. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1372-113-14 : Nov 23 2009 9:37AM -- SANDHUG : Joint Inspection NOT Required

7. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA test methods. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.005 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
9. During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.005 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Duration of startup and shutdown shall not exceed 2 hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. Source testing to measure NO_x and CO emissions from this unit shall be conducted prior to initial start-up. [District Rules 2201, 4305, 4306, 4320] Federally Enforceable Through Title V Permit
13. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 44305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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19. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, 4320] Federally Enforceable Through Title V Permit
23. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
25. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. Permittee shall maintain records of volume of fuel gas burned and TEOR gas incinerated, fuel gas and TEOR gas sulfur content, and such records shall be retained on site for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
28. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. {521} Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
30. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
31. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

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32. {525} When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
33. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
34. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
35. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2 and 407 (Kern)] Federally Enforceable Through Title V Permit
36. Sulfur compound emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
37. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
38. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
39. {565} Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of 40 CFR 60, Subpart Dc (except 60.44c(g) and (h) and 60.48c). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
40. {1670} This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
41. {1678} This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
42. {519} Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
43. {520} The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
44. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1372-127-21

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY

MAILING ADDRESS: ATTN: KENNETH BORK
1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: 06 TOWNSHIP: 30S RANGE: 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #43 EQUIPPED WITH A NORTH AMERICAN MODEL MAGNA-FLAME G-LE LOW NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, O2 CONTROLLER, AND EXHAUST GAS SOX SCRUBBER W/ESP SHARED WITH S-1372-317 (MCKITTRICK FRONT LEASE): LOWER NOX EMISSIONS TO 12 PPMV @ 3% O2 AND REDUCE SOX EMISSIONS BY 95% BY WEIGHT FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. {521} Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1372-127-21: Jan 4 2010 9:45AM - SANDHUG : Joint Inspection NOT Required

6. If continuous operation oxygen analyzer/controller is utilized, excess O₂ shall be maintained between 0.5 and 4.0%. If not utilized, excess air shall be maintained at no less than 15%. [District Rule 2201] Federally Enforceable Through Title V Permit
7. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of gas combusted in the unit shall be installed, utilized and maintained for each fuel line. [District Rules 2201 and 4320]
8. Exhaust from unit shall be directed only to SO₂ scrubber/wet ESP authorized herein except when burning PUC quality natural gas exclusively. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Scrubber/wet ESP shall be in operation when combusting TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Vapors from TEOR operation, permit # S-1372-100 may be incinerated in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu, 0.324 lb-SO_x/MMBtu, 0.008 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.324 lb-SO_x/MMBtu, 0.008 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306 and 4320] Federally Enforceable Through Title V Permit
14. Duration of startup and shutdown shall not exceed 2 hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Total sulfur oxide (SO_x as SO₂) emissions shall not exceed 1,075.2 lb/day from steam generators S-1372-1, '2, '4, '127, '317, and flare '100. [District Rule 2201] Federally Enforceable Through Title V Permit
17. PM₁₀ emissions from this unit shall not exceed 4,161 lb-PM₁₀/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
18. All vapor recovery gas burned in this device shall first be treated by the scrubber/wet ESP so at least 95% by weight of the sulfur is removed. [District Rules 2201, 4301, 4320, 4406, and 4801] Federally Enforceable Through Title V Permit
19. Compliance with the 95% by weight sulfur removal efficiency shall be conducted within 60 days of startup and at least once every twelve months thereafter. [District Rule 4320]
20. The SO_x emission control system efficiency shall be determined using the following equation: Percent Control Efficiency = [(CSO₂, inlet - CSO₂, outlet) / CSO₂, inlet] x 100, where "CSO₂, inlet" is equal to the concentration of SO_x (expressed as SO₂) at the inlet side of the SO_x emission control system (in lb/dscf) and "CSO₂, outlet" is equal to the concentration of SO_x (expressed as SO₂) at the outlet side of the SO_x emission control system (in lb/dscf). [District Rule 4320]

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21. The total gas fired in this unit, on a monthly average, shall be less than 50% PUC quality natural gas, by volume. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet and no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet. PUC quality natural gas also means high methane gas of at least 80% methane by volume. [District Rule 4320]
22. The permittee shall maintain monthly records of the volume of PUC quality natural gas and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is less than 50%. [District Rule 4320]
23. Scrubber/wet ESP control efficiency shall not be less than 95% by weight sulfur compounds. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Scrubber liquor pH shall be maintained within the range demonstrated to achieve compliance with SO₂ emissions limit and control efficiency performance, and shall be continuously monitored. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Scrubber mist eliminator shall be properly cleaned and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Scrubber recirculation liquor liquid to gas ratio shall be maintained at no less than that demonstrated to achieve compliance during source testing. [District Rule 2201] Federally Enforceable Through Title V Permit
27. When any unit connected to scrubber/wet ESP is burning TEOR gas, scrubber/wet ESP shall be operating and permittee shall demonstrate compliance with PM₁₀ and sulfur oxide emissions limit by stack source testing within 60 days of initial scrubbing date and annually thereafter unless no TEOR gas has been burned since the last scrubber performance source test. Sulfur removal efficiency of scrubber/wet ESP shall be demonstrated during initial stack source test and calculated with subsequent tests. Ongoing compliance with sulfur oxide emissions limit shall be by calculation using the scrubber liquid pH, the demonstrated sulfur removal efficiency, and the fuel gas sulfur content. Fuel gas sulfur content shall be obtained by sample analysis at least quarterly. [District Rule 2201] Federally Enforceable Through Title V Permit
28. When unit is operated without scrubber/wet ESP, permittee shall demonstrate compliance with the sulfur oxide emissions limit by analysis of the fuel gas sulfur content within 60 days of initiating operation without scrubber. Analyses, as approved by the APCO, provided by the gas supplier may be used to satisfy this requirement. [District Rule 2201] Federally Enforceable Through Title V Permit
29. When complying with PM₁₀ and SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Methods 5 or 201A, 6, 6B, 8, or ARB 100. When operating unscrubbed, a grab sample analysis by double GC performed in the laboratory and EPA Method 19 may be used to calculate SO_x emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every 36 months unless testing is required by scrubber operational mode change as noted above. Annual source testing shall resume if any test fails to show compliance. [District Rule 2201] Federally Enforceable Through Title V Permit
30. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Source testing to measure NO_x and CO emissions from this unit shall be conducted prior to initial start-up. [District Rules 2201, 4305, 4306, 4320] Federally Enforceable Through Title V Permit
32. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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33. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
34. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
36. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
37. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H₂S and mercaptans. [District Rules 1081, 4305, 6.2, 4306, 6.2, and 4320, 6.2] Federally Enforceable Through Title V Permit
38. Stack gas velocities shall be determined using EPA Method 2. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
41. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
43. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
44. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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45. {519} Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
46. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of the fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.3.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
47. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
48. Sulfur compound (SO₂) emission limit compliance shall be demonstrated by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
49. Compliance with TEOR waste gas sulfur compound emission limits shall be demonstrated by record keeping of TEOR gas flowrate and H₂S concentration. [District Rule 1070] Federally Enforceable Through Title V Permit
50. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
51. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
52. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
53. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2, 4305, 6.2, 4306, 6.2, and 4320, 6.2] Federally Enforceable Through Title V Permit
54. Permittee shall maintain daily records of volume of natural gas burned and TEOR waste gas incinerated. [District Rule 2201] Federally Enforceable Through Title V Permit
55. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR waste gas incinerated in this unit. [District Rule 4406, 4.0] Federally Enforceable Through Title V Permit
56. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District Rule 4406, 4.0] Federally Enforceable Through Title V Permit
57. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 2520, 9.3.2 and 4301, 5.2.2] Federally Enforceable Through Title V Permit

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58. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
59. {1670} This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
60. The requirements of 40 CFR 60.40c do not apply to this source. The facility has stated this unit has not been reconstructed or modified after June 9, 1989. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
61. {535} The requirements of SJVUAPCD Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
62. Annual test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx and CO limits of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, and 4320, 6.3.2] Federally Enforceable Through Title V Permit
63. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, and 4320, 6.3.2] Federally Enforceable Through Title V Permit
64. All units in a group for which representative units are source tested to demonstrate compliance for NOx and CO limits of this permit shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, and 4320, 6.3.2] Federally Enforceable Through Title V Permit
65. All units in a group for which representative units are source tested to demonstrate compliance for NOx and CO limits of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, and 4320, 6.3.2] Federally Enforceable Through Title V Permit
66. The number of representative units source tested to demonstrate compliance for NOx and CO limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, 4306, 6.3.2, and 4320, 6.3.2] Federally Enforceable Through Title V Permit
67. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2520, 9.4.2, 4305, 6.1, 4306, 6.1, and 4320, 6.1] Federally Enforceable Through Title V Permit
68. Permittee shall submit an Authority to Construct (ATC) application on or before January 1, 2013 to either be in compliance with the NOx emissions Staged Enhanced Final Limit for oilfield steam generators firing on less than 50%, by volume, PUC quality gas, or to redesignate the unit for compliance with Section 5.1.2 of District Rule 4320. [District Rule 4320]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1372-317-11

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY
MAILING ADDRESS: ATTN: KENNETH BORK
1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: 06 TOWNSHIP: 30S RANGE: 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 67.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR EQUIPPED WITH A NORTH AMERICAN MODEL MAGNA-FLAME G-LE LOW NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, AND EXHAUST GAS SOX SCRUBBER W/ESP SHARED WITH S-1372-127 (MCKITTRICK FRONT LEASE): LOWER NOX EMISSIONS TO 12 PPMV @ 3% O2 AND REDUCE SOX EMISSIONS BY 95% BY WEIGHT FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit

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YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1372-317-11: Jan 4 2010 8:45AM - SANDHUG : Joint Inspection NOT Required

6. Unit shall be fired only on PUC quality natural gas or TEOR waste gas. [District NSR Rule] Federally Enforceable Through Title V Permit
7. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of gas combusted in the unit shall be installed, utilized and maintained for each fuel line. [District Rules 2201 and 4320]
8. Vapors from TEOR operation, permit # S-1372-100 may be incinerated in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Exhaust from unit shall be directed only to SO₂ scrubber/wet ESP listed on S-1372-127 except when burning PUC quality natural gas exclusively. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Scrubber/wet ESP listed on S-1372-127 shall be in operation when combusting TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
11. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
12. This steam generator shall be exclusively fired on PUC quality natural gas when steam generators S-1372-13, 16, and 24 are gas fired and incinerating TEOR waste gas. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306 and 4320] Federally Enforceable Through Title V Permit
14. Duration of startup and shutdown shall not exceed 2 hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu, 0.324 lb-SOX/MMBtu, 0.008 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.039 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.324 lb-SOX/MMBtu, 0.008 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0364 lb-CO/MMBtu, or 0.039 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Total sulfur oxide (SO_x as SO₂) emissions shall not exceed 1,075.2 lb/day from steam generators S-1372-1, '2, '4, '127, '317, and flare '100. [District Rule 2201] Federally Enforceable Through Title V Permit
18. PM₁₀ emissions from this unit shall not exceed 4,161 lbs-PM₁₀/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
19. All vapor recovery gas burned in this device shall first be treated by the scrubber/wet ESP so at least 95% by weight of the sulfur is removed. [District Rules 2201, 4301, 4320, 4406, and 4801] Federally Enforceable Through Title V Permit
20. Compliance with the 95% by weight sulfur removal efficiency shall be conducted within 60 days of startup and at least once every twelve months thereafter. [District Rule 4320]
21. The SO_x emission control system efficiency shall be determined using the following equation: Percent Control Efficiency = $[(\text{CSO}_2, \text{inlet} - \text{CSO}_2, \text{outlet}) / \text{CSO}_2, \text{inlet}] \times 100$, where "CSO₂, inlet" is equal to the concentration of SO_x (expressed as SO₂) at the inlet side of the SO_x emission control system (in lb/dscf) and "CSO₂, outlet" is equal to the concentration of SO_x (expressed as SO₂) at the outlet side of the SO_x emission control system (in lb/dscf). [District Rule 4320]

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22. The total gas fired in this unit, on a monthly average, shall be less than 50% PUC quality natural gas, by volume. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet and no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet. PUC quality natural gas also means high methane gas of at least 80% methane by volume. [District Rule 4320]
23. The permittee shall maintain monthly records of the volume of PUC quality natural gas and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is less than 50%. [District Rule 4320]
24. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. In-stack O₂ monitors are acceptable for O₂ measurement. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. When any unit connected to scrubber/wet ESP is burning TEOR gas, scrubber/wet ESP shall be operating and permittee shall demonstrate compliance with PM₁₀ and sulfur oxide emissions limit by stack source testing within 60 days of initial scrubbing date and annually thereafter unless no TEOR gas has been burned since the last scrubber performance source test. Sulfur removal efficiency of scrubber/wet ESP shall be demonstrated during initial stack source test and calculated with subsequent tests. Ongoing compliance with sulfur oxide emissions limit shall be by calculation using the scrubber liquid pH, the demonstrated sulfur removal efficiency, and the fuel gas sulfur content. Fuel gas sulfur content shall be obtained by sample analysis at least quarterly. [District Rule 2201] Federally Enforceable Through Title V Permit
29. When unit is operated without scrubber/wet ESP, permittee shall demonstrate compliance with the sulfur oxide emissions limit by analysis of the fuel gas sulfur content within 60 days of initiating operation without scrubber. Analyses, as approved by the APCO, provided by the gas supplier may be used to satisfy this requirement. [District Rule 2201] Federally Enforceable Through Title V Permit

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30. When complying with PM10 and SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Methods 5 or 201A, 6, 6B, 8, or ARB 100. When operating unscrubbed, a grab sample analysis by double GC performed in the laboratory and EPA Method 19 may be used to calculate SOx emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every 36 months unless testing is required by scrubber operational mode change as noted above. Annual source testing shall resume if any test fails to show compliance. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Source testing to measure NOx and CO emissions from this unit shall be conducted prior to initial start-up. [District Rules 2201, 4305, 4306, 4320] Federally Enforceable Through Title V Permit
32. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
34. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
41. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record the specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. {521} Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

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44. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.3.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
45. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annually fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
46. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculate emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
47. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
48. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.3.2 and 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
49. Sulfur compound emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. [District Rule 2520, 9.3.2 and Kern County Rule 424] Federally Enforceable Through Title V Permit
50. Sulfur compound (SO₂) emission limit compliance shall be demonstrated by fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
51. Compliance with casing gas sulfur compound emission limits shall be demonstrated by record keeping of TEOR gas flowrate and H₂S concentration. [District Rule 1070] Federally Enforceable Through Title V Permit
52. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
53. Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
54. Permittee shall maintain daily records of volume of natural gas burned and TEOR waste gas incinerated. [District NSR Rule] Federally Enforceable Through Title V Permit
55. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR waste gas incinerated in this unit. [District Rule 4406, 4.0] Federally Enforceable Through Title V Permit
56. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District Rule 4406, 4.0] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

57. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
58. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
59. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
60. {1677} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
61. {1678} This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
62. Permittee shall submit an Authority to Construct (ATC) application on or before January 1, 2013 to either be in compliance with the NOx emissions Staged Enhanced Final Limit for oilfield steam generators firing on less than 50%, by volume, PUC quality gas, or to redesignate the unit for compliance with Section 5.1.2 of District Rule 4320. [District Rule 4320]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1372-394-2

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY
MAILING ADDRESS: ATTN: KENNETH BORK
1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: 16 TOWNSHIP: 31S RANGE: 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR (SG #68) WITH NORTH AMERICAN GLE MODEL G ULTRA LOW NOX BURNER, FGR, AND O2 CONTROLLER: LOWER NOX EMISSIONS TO 7 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) S-1372-394-0 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
5. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

S-1372-394-2: Nov 23 2009 9:37AM - SANDHUG : Joint Inspection NOT Required

7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
8. The unit shall only be fired on PUC-regulated natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
9. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201, 4305, and 4306 and 40 CFR 60 Subpart Dc Section 60.48c (g)] Federally Enforceable Through Title V Permit
10. Except during start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NOX @ 3% O2 or 0.008 lb-NOX/MMBtu, 0.00285 lb-SOX/MMBtu, 0.0076 lb-PM10/MMBtu, 30 ppmvd CO @ 3% O2 or 0.022 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. During start-up and shutdown, emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NOX @ 3% O2 or 0.011 lb-NOX/MMBtu, 0.00285 lb-SOX/MMBtu, 0.0076 lb-PM10/MMBtu, 30 ppmvd CO @ 3% O2 or 0.022 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. Duration of startup and shutdown shall not exceed 2 hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. Permittee shall submit notification to the District of the date of construction, anticipated startup, and actual startup. Notifications shall be postmarked no later than 30 days after construction and 15 days after actual startup. The notifications shall include the design heat input and identification of fuels for this permit unit. [40 CFR 60.48c(a)] Federally Enforceable Through Title V Permit
15. Source testing to measure NOx and CO emissions from this unit shall be conducted prior to initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
19. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Permittee shall record monthly fuel consumption. [District Rules 4001 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
29. Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c(i)] Federally Enforceable Through Title V Permit

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Appendix D

Title V Modification – Compliance Certification Form

San Joaquin Valley Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE
 MINOR PERMIT MODIFICATION AMENDMENT

COMPANY NAME: Plains Exploration & Production Company	FACILITY ID: S- 1372
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: Plains Exploration & Production Company	
3. Agent to the Owner: Steven P. Rusch	

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

- ^{RB} 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).
- ^{RB} 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.
- ^{RB} Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- ^{RB} Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

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



Signature of Responsible Official

12.19.09

Date

Steven P. Rusch

Name of Responsible Official (please print)

Vice President – EHS and Government Affairs

Title of Responsible Official (please print)