



DEC - 9 2009

Mr. Ken Bork
Plains Exploration and Production
1200 Discovery Drive, Suite 500
Bakersfield, CA 93309

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1372
Project # S1094288**

Dear Mr. Bork:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Plains Exploration and Production in Kern County, CA. The project is to replace steam generator burners, lower NOx emissions to 7 ppmv @ 3% O₂, and add sulfur limits and monitoring conditions 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. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

DW:MB/lis

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

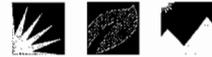
Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

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



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

DEC - 9 2009

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 # S1094288**

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for Plains Exploration and Production in Kern County, CA, which has been issued a Title V permit. Plains Exploration and Production is requesting that Certificates of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The project is to replace steam generator burners, lower NOx emissions to 7 ppmv @ 3% O2, and add sulfur limits and monitoring conditions 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-1372-10-23, '-13-26, '-14-26, '-17-30, '-18-26, '-24-28, '-30-26, '-32-25, '-33-26, '-318-26, '-319-17, '-355-11, '-356-11, '-372-4, '-374-5, '-378-5 and '-379-5 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. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW:MS/lis

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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

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



DEC - 9 2009

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 # S1094288

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Plains Exploration and Production in Kern County, CA. The project is to replace steam generator burners, lower NOx emissions to 7 ppmv @ 3% O₂, and add sulfur limits and monitoring conditions 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. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

DW:MB/lis

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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

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

Bakersfield Californian

**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 and Production for its heavy oil western stationary source in Kern County, California. The project is to replace steam generator burners, lower NOx emissions to 7 ppmv @ 3% O2, and add sulfur limits and monitoring conditions for Rule 4320 compliance.

The analysis of the regulatory basis for these proposed actions, Project #S1094288, 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 Application Review

Modify steam generator permits for Rule 4320 compliance

Facility Name: Plains Exploration & Production Company Date: Dec 1, 2009
Mailing Address: 1200 Discovery Drive, Ste 500 Engineer: Michael Buss
Bakersfield, CA 93309 Lead Engineer: Allan Phillips
Contact Person: Kenneth Bork, Environmental Advisor
Telephone: (661) 395-5458
Fax: (661) 395-5298, Email kbork@pxp.com
Application #: S-1372-10-23, '-13-26, '-14-26, '-17-30, '-18-26, '-24-28, '-30-26, '-32-25, '-33-26, '-318-6, '-319-17, '-355-11, '-356-11, '-372-4, '-374-5, '-378-5 and '-379-5
Project #: S-1094288
Deemed Complete: Sept 23, 2009

I. Proposal

Plains Exploration & Production Company (PXP) requests Authorities to Construct (ATCs) for the modification of seventeen (17) 62.5 MMBtu/hr gas-fired steam generators (SGs) for compliance with District Rule 4320. The Authorities to Construct will authorize the units to be retrofitted with ultra low NO_x burners to meet the 7 ppmvd @ 3% O₂ (equivalent to 0.008 lb/MMBtu) NO_x emission requirements of District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*. The ATCs will also include SO_x limits and monitoring conditions to meet Rule 4320 PM₁₀ requirements. One unit (S-1372-18) is also being modified to remove references to oil firing.

Conditions requiring the fuel gas meet Rule 4320 PM₁₀ requirements (95% sulfur removal from Thermally Enhanced Oil Recovery (TEOR) and Tank Vapor Recovery (TVR) gas) will be added to the ATCs. All TEOR and TVR gases will be scrubbed with sulfur scrubber(s) prior to being incinerated in the steam generators. The sulfur scrubbers serving the TEOR and TVR systems, are capable of removing at least 95% of the sulfur from the gas or meeting 5 grains sulfur/100 scf as required by Rule 4320 (TEORs S-1372-76, '-77, '-100, '-312, '-316 and '-387 and TVR '-388).

These modifications are solely to comply with District Rule 4320 requirements. Since there is a change to the method of operation of the steam generators, the proposed modifications are subject to District Rule 2201, *New and Modified Stationary Source*

Review Rule but exempt from BACT and offsets considerations. Applicant concedes this is a major modification and therefore the project is subject to a 30 public notice.

Disposition of Outstanding and Unexpired ATCs

There are outstanding unimplemented ATCs for steam generator S-1372-372. Steam generator ATC S-1372-372 has never been converted to a PTO. But the unit was installed and source tested. It is in the process of being converted into a permit via the Title V process.

See Appendix A for copies of the pre-project Permits (PTOs) and ATC S-1372-372.

PXP received their Title V Permit on June 30, 2002. This modification can be classified as a Title V significant 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 ATC(s) issued with this project.

II. Applicable Rules

- District Rule 2201 New and Modified Stationary Source Review Rule (9/21/06)
- District Rule 2520 Federally Mandated Operating Permits (6/21/01)
- District Rule 4001 New Source Performance Standards (4/14/99)
- District Rule 4101 Visible Emissions (2/17/05)
- District Rule 4102 Nuisance (12/17/92)
- District Rule 4201 Particulate Matter Concentration (12/17/92)
- District Rule 4301 Fuel Burning Equipment (12/17/92)
- District Rule 4305 Boilers, Steam Generators & Process Heaters – Phase 2 (10/16/08)
- District Rule 4306 Boilers, Steam Generators & Process Heaters – Phase 3 (3/17/05)
- District Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators & Process Heaters > 5.0 MMBtu/hr (10/16/08)
- District Rule 4351 Boilers, Steam Generators & Process Heaters – Phase 1 (8/21/03)
Not applicable – facility is located west of Highway 5
- District Rule 4405 NOx from Existing Oilfield Steam Generators (December 17, 1992)
- District Rule 4406 SOx from Oilfield Steam Generators (December 17, 1992)
- District 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

III. Project Location

The affected steam generators are located in PXP's Kern County heavy oil western (HOW) stationary source at the following locations¹:

Equipment locations						
Permit # S-1372	Device (Permittee designation)	Location			Lease/Field	Fuel
		Section	Township	Rge		
'-10	SG # 11	NW16	31S	22E	Bremer Fee	Nat/TEOR gas
'-13	SG # 16	NW23	31S	22E		Nat/TEOR gas
'-14	SG # 13	NW16	31S	22E	Bremer Fee	Nat/TEOR gas
'-17	SG # 19	SW22	32S	23E	Keene Williams/MWSS	Nat/TEOR ² gas
'-18	SG # 28	NW16	31S	22E	Bremer Fee	Oil/ ³ Nat/TEOR gas-fired
'-24	SG # 20	NW23	31S	22E	Hopkins/South Belridge	Nat/TEOR gas
'-30	SG # 33	NW16	31S	22E	Bremer Fee	Nat/TEOR gas
'-32	SG # 35	16 NW6	31S 30S	22E 22E	Bremer Fee McKittrick Front	Nat/TEOR gas
'-33	SG # 36	NW07	30S	22E		Nat/TEOR gas
'-318	SG # 48	NW10	29S	21E	Hopkins/South Belridge	Nat/TEOR gas
'-319	SG # 49	NW6 NW10	30S 29S	21E 21E	McKittrick Front Hopkins Lease	Nat/TEOR gas
'-355	SG # 52	SW6	30S	22E	Star Fee/Cymric	Natural gas
'-356	SG # 53	SW6	30S	22E	Star Fee/Cymric	Natural gas
'-372	SG # 64	NW3	31S	33E	Reardon/MWSS	Nat/TEOR/TVR. gas
ATC '-374	SG # 57	27 ⁴	28S	21E	E & M/MWSS	Natural gas
'-378	SG # 61	34	28S	21E	Various unspecified (Bremer)	Nat/Produced gas-fired
'-379	SG # 62	28	28S	21E	Various specified (Bremer)	Nat/Produced gas-fired

The District has verified that all of the affected equipment is not 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.

¹ Ken Bork (PXP) provided ¼ section locations in his email dated October 9, 2009.

² Current PTO identifies unit as being fired on natural or "Vapor recovery gas". However, it is clear from the conditions on the permit that they are only referring to collected TEOR vapors. Therefore the equipment description will be changed to reflect that the unit is burning natural/TEOR gas (same for PTO '-24).

³ The unit is never oil fired and never will be according to Ken Bork in email dated Oct 23, 2009. Oil firing will be removed with the issuance of ATC.

⁴ Applicant email says SW/4 Sec 10.T31S.R22E, however current PTO indicates location as Sec27.T28S.R21E.

IV. Process Description

Steam is utilized to enhance heavy oil recovery. Steam generators produce steam which is injected into the strata to reduce viscosity. Condensed water is extracted with the produced oil and routed to vapor controlled water/oil separators and tanks. Most of the steam generators in this project are authorized to burn TEOR gas from casing gas collection systems and one is also authorized to burn Tank Vapor Recovery (TVR) gas. Because Rule 4320 requires scrubbing of “waste gases”, it is necessary to identify the sources. The scrubbers, serving the vapor collection systems, must remove 95% of the sulfur prior to discharging the gas to the incinerating steam generator(s).

The steam generators are fired on gas from the following TEOR and TVR permit units:

Source of fuel gas incinerated in each steam generator								
Steam Generator	Fuel	TEOR						TVR
		'-76	'-77	'-100	'-312	'-316	'-387	'-388
S-1372-10	NG/TEOR		X					
S-1372-13	NG/TEOR ⁵	X				X*		
S-1372-14	NG/TEOR		X					
S-1372-17	NG/TEOR ⁶		X		X			
S-1372-18	NG/TEOR		X					
S-1372-24	NG/TEOR (ref footnote 5)	X				X*		
S-1372-30	NG/TEOR			X				
S-1372-32	NG/TEOR			X				
S-1372-33	NG/TEOR			X				
S-1372-318	NG/TEOR					X*		
S-1372-319	NG/TEOR					X*		
S-1372-355	NG							
S-1372-356	NG							
S-1372-372	NG/TEOR/TVR ⁷						X*	X
S-1372-374	Nat/Produced gas (1.1 grain S/100 scf)							
S-1372-378	Nat/Produced gas (1.1 grain S/100 scf)							
S-1372-379	Nat/Produced gas (1.1 grain S/100 scf)							

* The steam generator is not listed on the TEOR permit, but the TEOR was identified by applicant as being a source of gas to the steam generator.

⁵ TEOR vapors from S-1372-76 are piped to TEOR '316 where the combined gases are scrubbed with a sulfur scrubber prior to being piped to incinerating steam generator(s).

⁶ TEOR vapors from S-1372-77 are piped to TEOR permit '-312 where the combined gases are scrubbed with a sulfur scrubber prior to being piped to the incinerating steam generator.

⁷ The TVR vapors from S-1372-388 are piped to TEOR '-387 where the combined gases are scrubbed with a sulfur scrubber prior to being piped to the incinerating steam generator(s).

Proposed modifications:

The NOx requirements of Rule 4320 will be satisfied by installing ultra low burners on the steam generators capable of meeting 7 ppmv NOx @ 3% O₂.

The PM10 requirements of Rule 4320 will be met by requiring all non-PUC quality gas be scrubbed for 95% sulfur removal or to no more than 5 grains/100 scf prior to being incinerated in the steam generators. The sulfur scrubber(s) serving the TEOR and TVR systems will be required to scrub the gases for 95% sulfur removal prior to the vapors being incinerating the steam generator(s).

Conditions will be added to the natural/TEOR gas-fired steam generator permits to ensure compliance with the Rule 4320 sulfur control requirement (see Rule 4320 compliance section).

The units are designed to operate 24 hr/day, 7 day/week, and 365 day/yr.

V. Equipment Listing

Pre-Project Equipment Descriptions:

- S-1372-10-21 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (#11 BREMER, DIS# 44511-76) WITH LOW-NOX BURNER, FGR, AND O2 CONTROLLER
- S-1372-13-24 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (#16, DIS# 12667-79) EQUIPPED WITH A LOW-NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM AND AN O2 CONTROLLER
- S-1372-14-22 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (#13 BREMER, DIS# 44521-76) WITH PCL BURNER PLATE, O2 CONTROLLER, AND FGR
- S-1372-17-27 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED STEAM GENERATOR (#19 DIS# 45002-80) EQUIPPED WITH A LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM
- S-1372-18-24 62.5 MMBTU/HR OIL/NATURAL GAS/VAPOR RECOVERY GAS FIRED STEAM GENERATOR (#28 DIS# 45003-80) WITH FGR AND PCL BURNER PLATE
- S-1372-24-24 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED STEAM GENERATOR (#20 DIS# 45220-81) WITH O2 CONTROLLER, PCL BURNER PLATE, AND FGR

- S-1372-30-22 62.5 MMBTU/HR NATURAL GAS/CASING GAS FIRED STEAM GENERATOR (#33; DIS# 45233-82) WITH O2 CONTROLLER, LOW-NOX BURNER, AND FLUE GAS RECIRCULATION (FGR)
- S-1372-32-22 62.5 MMBTU/HR NATURAL GAS/CASING GAS FIRED STEAM GENERATOR (#35; DIS# 45235-82) EQUIPPED WITH A LOW NOX BURNER, FLUE GAS RECIRCULATION SYSTEM AND AN O2 CONTROLLER
- S-1372-33-25 62.5 MMBTU/HR NATURAL GAS/CASING GAS FIRED STEAM GENERATOR (#36; DIS# 45236-82) EQUIPPED WITH A LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND AN O2 CONTROLLER
- S-1372-318-5 67.5 MMBTU/HR NATURAL/TEOR GAS FIRED STEAM GENERATOR WITH FGR AND PCL BURNER PLATE (HOPKINS LEASE)
- S-1372-319-12 67.5 MMBTU/HR NATURAL/TEOR GAS FIRED STEAM GENERATOR WITH NORTH AMERICAN BURNER, PCL BURNER PLATE, AND FGR; OPERATIONS AT TWO LOCATIONS: MCKITTRICK FRONT (NW6, T30S R21E) AND HOPKINS LEASE (NW10, T29S R21E). STEAM GENERATOR #49
- S-1372-355-7 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR #52 DIS #22457-79 WITH PCL BURNER PLATE AND FGR
- S-1372-356-7 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR DIS #22468-79 WITH PCL BURNER PLATE, FGR, AND O2 CONTROLLER
- ATC S-1372-2⁸ 62.5 MMBTU/HR NATURAL GAS/TVC SYSTEM GAS-FIRED (TVC SYSTEM GAS ALLOWED AT REARDON LEASE ONLY) STEAM GENERATOR #64 WITH A NORTH AMERICAN G-LE MAGNA FLAME ULTRA LOW NOX BURNER, OXYGEN (O2) ANALYZER/CONTROLLER, AND FLUE GAS RECIRCULATION, OR A NORTH AMERICAN 4131 G BURNER, OXYGEN (O2) ANALYZER/CONTROLLER, FLUE GAS RECIRCULATION, AND PCL DIFFUSER PLATE
- S-1372-374-3 62.5 MMBTU/HR C.E. NATCO NATURAL GAS FIRED STEAM GENERATOR (#42 DIS# 21939-76) WITH A PCL BURNER PLATE
- S-1372-378-3 62.5 MMBTU/HR C.E. NATCO NATURAL GAS FIRED STEAM GENERATOR, WITH A PCL BURNER PLATE (#34 DIS# 19965-74), APPROVED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS

⁸ The 4131 G was installed and is in the process of being converted into a PTO. See email from Ken Bork dated October 23, 2009.

S-1372-379-3 62.5 MMBTU/HR C.E. NATCO NATURAL GAS FIRED STEAM GENERATOR (#37 DIS# 20623-76) WITH A PCL BURNER PLATE, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

Proposed Modifications:

S-1372-10-23 MODIFICATION OF 62.5 MMBTU/HR NATURAL/TEOR GAS FIRED STEAM GENERATOR #11 BREMER (DIS# 44511-76) WITH LOW-NOX BURNER, FGR, AND O2 CONTROLLER: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320, LOWER NOX EMISSIONS LIMIT TO 7 PPMV @ 3% O2, CLARIFY PERMIT S-1372-77 AS THE SOURCE OF TEOR GAS, AND ADD TEOR GAS SULFUR LIMITS AND MONITORING CONDITIONS FOR RULE 4320 COMPLIANCE

S-1372-13-26 MODIFICATION OF 62.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #16 (DIS# 12667-79) EQUIPPED WITH LOW-NOX BURNER, FLUE GAS RECIRCULATION AND O2 CONTROLLER: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320, LOWER NOX EMISSIONS LIMIT TO 7 PPMV @ 3% O2, CLARIFY PERMITS S-1372-76 AND '13-16 ARE THE SOURCES OF TEOR GAS, AND ADD TEOR GAS SULFUR LIMITS AND MONITORING CONDITIONS FOR RULE 4320 COMPLIANCE

S-1372-14-26 MODIFICATION OF 62.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #13 BREMER (DIS# 44521-76) WITH PCL BURNER PLATE, O2 CONTROLLER AND FGR: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320, LOWER NOX EMISSIONS LIMIT TO 7 PPMV @ 3% O2, CLARIFY PERMIT S-1372-77 AS THE SOURCE OF TEOR GAS, AND ADD TEOR GAS SULFUR LIMITS AND MONITORING CONDITIONS FOR RULE 4320 COMPLIANCE

S-1372-17-30 MODIFICATION OF 62.5 MMBTU/HR NATURAL/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR #19 (DIS# 45002-80) EQUIPPED WITH LOW-NOX BURNER AND FLUE GAS RECIRCULATION (FGR): REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320, LOWER NOX EMISSIONS LIMIT TO 7 PPMV @ 3% O2, CLARIFY PERMITS S-1372-77 AND '17-30 ARE THE SOURCES OF TEOR GAS, AND ADD TEOR GAS SULFUR LIMITS AND MONITORING CONDITIONS FOR RULE 4320 COMPLIANCE

- S-1372-18-26 MODIFICATION OF 62.5 MMBTU/HR OIL/NATURAL GAS/VAPOR RECOVERY GAS FIRED STEAM GENERATOR #28 (DIS# 45003-80) WITH FGR AND PCL BURNER PLATE: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320, LOWER NOX EMISSIONS LIMIT TO 7 PPMV @ 3% O₂, REMOVE OIL FIRING, CLARIFY PERMIT S-1372-77 AS THE SOURCE OF TEOR GAS, AND ADD TEOR GAS SULFUR LIMITS AND MONITORING CONDITIONS FOR RULE 4320 COMPLIANCE
- S-1372-24-28 MODIFICATION OF 62.5 MMBTU/HR NATURAL/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR #20 (DIS# 45220-81) WITH O₂ CONTROLLER, PCL BURNER PLATE, AND FGR: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320, LOWER NOX EMISSIONS LIMIT TO 7 PPMV @ 3% O₂, CLARIFY PERMITS S-1372-76 AND '316 AS THE SOURCES OF TEOR GAS, AND ADD TEOR GAS SULFUR LIMITS AND MONITORING CONDITIONS FOR RULE 4320 COMPLIANCE
- S-1372-30-26 MODIFICATION OF 62.5 MMBTU/HR NATURAL/CASING GAS-FIRED STEAM GENERATOR #33 (DIS# 45233-82) WITH O₂ CONTROLLER, LOW-NOX BURNER AND FLUE GAS RECIRCULATION (FGR): REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320, LOWER NOX EMISSIONS LIMIT TO 7 PPMV @ 3% O₂, CLARIFY PERMIT S-1372-100 AS THE SOURCE OF TEOR GAS, AND ADD TEOR GAS SULFUR LIMITS AND MONITORING CONDITIONS FOR RULE 4320 COMPLIANCE
- S-1372-32-25 MODIFICATION OF 62.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #35 (DIS# 45235-82) EQUIPPED WITH LOW NOX BURNER, FLUE GAS RECIRCULATION SYSTEM AND O₂ CONTROLLER: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320, LOWER NOX EMISSIONS LIMIT TO 7 PPMV @ 3% O₂, CLARIFY PERMIT S-1372-100 AS THE SOURCE OF TEOR GAS, AND ADD TEOR GAS SULFUR LIMITS AND MONITORING CONDITIONS FOR RULE 4320 COMPLIANCE
- S-1372-33-26 MODIFICATION OF 62.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #36 (DIS# 45236-82) EQUIPPED WITH LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND O₂ CONTROLLER: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320, LOWER NOX EMISSIONS LIMIT TO 7 PPMV @ 3% O₂, CLARIFY PERMIT S-1372-100 AS THE SOURCE OF TEOR GAS, AND

ADD TEOR GAS SULFUR LIMITS AND MONITORING CONDITIONS
FOR RULE 4320 COMPLIANCE

S-1372-318-9 MODIFICATION OF 67.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR WITH FGR AND PCL BURNER PLATE (HOPKINS LEASE): REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320, LOWER NOX EMISSIONS LIMIT TO 7 PPMV @ 3% O₂, CLARIFY PERMIT S-1372-316 AS THE SOURCE OF TEOR GAS, AND ADD TEOR GAS SULFUR LIMITS AND MONITORING CONDITIONS FOR RULE 4320 COMPLIANCE

S-1372-319-17 MODIFICATION OF 67.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR # 49 WITH NORTH AMERICAN BURNER, PCL BURNER PLATE AND FGR: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320, LOWER NOX EMISSIONS LIMIT TO 7 PPMV @ 3% O₂, CLARIFY PERMIT S-1372-316 AS THE SOURCE OF TEOR GAS, AND ADD TEOR GAS SULFUR LIMITS AND MONITORING CONDITIONS FOR RULE 4320 COMPLIANCE

PERMITTED FOR TWO LOCATIONS: MCKITTRICK FRONT (NW/4 SEC6.T30S.R21E.) AND HOPKINS LEASE (NW/4 SEC10.T29S.R21E.)

S-1372-355-11 MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR #52 (DIS #22457-79) WITH PCL BURNER PLATE AND FGR: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320 AND LOWER NOX EMISSIONS LIMIT TO 7 PPMV @ 3% O₂

S-1372-356-11 MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR DIS #22468-79 WITH PCL BURNER PLATE, FGR, AND O₂ CONTROLLER: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320 AND LOWER NOX EMISSIONS LIMIT TO 7 PPMV @ 3% O₂

S-1372-372-4⁹ MODIFICATION OF 62.5 MMBTU/HR NATURAL/TEOR/TVR GAS-FIRED (TVR SYSTEM GAS ALLOWED AT REARDON LEASE ONLY) STEAM GENERATOR # 64 WITH NORTH AMERICAN 4131 G LOW NOX BURNER, OXYGEN (O₂) ANALYZER/ CONTROLLER, FLUE GAS RECIRCULATION AND PCL DIFFUSER PLATE: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320, LOWER NOX

⁹ The burner that was actually installed on this unit (original ATC had identified two options) is a North American G-burner (Model 5131) according to an email from Ken Bork dated October 23, 2009)

EMISSIONS LIMIT TO 7 PPMV @ 3% O₂, CLARIFY PERMITS S-1372-387 AND S-1372-388 AS THE SOURCES OF TEOR/TVR GAS, AND ADD TEOR/TVR SULFUR LIMITS AND MONITORING CONDITIONS FOR RULE 4320 COMPLIANCE

- S-1372-374-5 MODIFICATION OF 62.5 MMBTU/HR C.E. NATCO NATURAL/PRODUCED GAS-FIRED STEAM GENERATOR #57 (DIS# 21939-76) WITH PCL BURNER PLATE: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320 AND LOWER NO_x EMISSIONS LIMIT TO 7 PPMV @ 3% O₂
- S-1372-378-5 MODIFICATION OF 62.5 MMBTU/HR C.E. NATCO NATURAL/PRODUCED GAS-FIRED STEAM GENERATOR #61 (DIS# 19965-74) WITH PCL BURNER PLATE, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320 AND LOWER NO_x EMISSIONS LIMIT TO 7 PPMV @ 3% O₂
- S-1372-379-5 MODIFICATION OF 62.5 MMBTU/HR C.E. NATCO NATURAL/PRODUCED GAS-FIRED STEAM GENERATOR #62 (DIS# 20623-76) WITH PCL BURNER PLATE, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: REPLACE BURNER WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) TO COMPLY WITH RULE 4320 AND LOWER NO_x EMISSIONS LIMIT TO 7 PPMV @ 3% O₂

Post-Project Equipment Descriptions:

- S-1372-10-23 62.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #11 BREMER (DIS# 44511-76) WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT), FGR, AND O₂ CONTROLLER. BREMER LEASE
- S-1372-13-26 62.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #16 (DIS# 12667-79) WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT), FGR, AND O₂ CONTROLLER. HOPKINS LEASE
- S-1372-14-26 62.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #13 BREMER (DIS# 44521-76) WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT), FGR AND O₂ CONTROLLER. BREMER LEASE
- S-1372-17-30 62.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #19 (DIS# 45002-80) WITH NORTH AMERICAN G-LE ULTRA LOW

NOX BURNER (OR EQUIVALENT), FGR, AND O2 CONTROLLER.
KEENE WILLIAMS LEASE

- S-1372-18-26 62.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #28 (DIS# 45003-80) WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) AND FGR. BREMER LEASE
- S-1372-24-28 62.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #20 (DIS# 45220-81) WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT), FGR AND O2 CONTROLLER. HOPKINS LEASE
- S-1372-30-26 62.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #33 (DIS# 45233-82) WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT), FGR, AND O2 CONTROLLER
- S-1372-32-25 62.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #35 (DIS# 45235-82) EQUIPPED WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT), FGR AND O2 CONTROLLER. VARIOUS LOCATIONS
- S-1372-33-26 62.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #36 (DIS# 45236-82) EQUIPPED WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT), FGR AND O2 CONTROLLER
- S-1372-318-9 67.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) AND FGR. HOPKINS LEASE
- S-1372-319-17 67.5 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR #49 WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) AND FGR
- PERMITTED FOR TWO LOCATIONS: MCKITTRICK FRONT (NW/4 SEC6.T30S.R21E.) AND HOPKINS LEASE (NW/4 SEC10.T29S.R21E.)
- S-1372-355-11 62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR #52 (DIS #22457-79) WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT) AND FGR. STAR FEE LEASE
- S-1372-356-11 62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR DIS #22468-79 WITH NORTH AMERICAN G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT), FGR AND O2 CONTROLLER. STAR FEE LEASE
- S-1372-372-4 62.5 MMBTU/HR NATURAL/TEOR/TVR GAS-FIRED STEAM GENERATOR #64 WITH NORTH AMERICAN G-LE ULTRA LOW NOX

BURNER (OR EQUIVALENT), OXYGEN (O₂) ANALYZER/
CONTROLLER AND FLUE GAS RECIRCULATION

S-1372-374-5 62.5 MMBTU/HR C.E. NATCO NATURAL/PRODUCED GAS-FIRED
STEAM GENERATOR #57 (DIS# 21939-76) WITH NORTH AMERICAN
G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT). E & M LEASE

S-1372-378-5 62.5 MMBTU/HR C.E. NATCO NATURAL/PRODUCED GAS-FIRED
STEAM GENERATOR #61 (DIS# 19965-74) WITH NORTH AMERICAN
G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT)

APPROVED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS

S-1372-379-5 62.5 MMBTU/HR C.E. NATCO NATURAL/PRODUCED GAS-FIRED
STEAM GENERATOR #62 (DIS# 20623-76) WITH NORTH AMERICAN
G-LE ULTRA LOW NOX BURNER (OR EQUIVALENT)

APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

VI. Emission Control Technology Evaluation

Emissions from natural gas-fired steam generators include NO_x, CO, VOC, PM₁₀, and SO_x.

NO_x is the major pollutant of concern when burning natural gas. NO_x formation is either due to thermal fixation of atmospheric nitrogen in the combustion air (thermal NO_x) or due to conversion of chemically bound nitrogen in the fuel (fuel NO_x). Due to the low fuel nitrogen content of natural gas, nearly all NO_x emissions are thermal NO_x. Formation of thermal NO_x is affected by four furnace zone factors: (1) nitrogen concentration, (2) oxygen concentration, (3) peak temperature, and (4) time of exposure at peak temperature.

Flue gas recirculation (FGR) reduces NO_x emissions by recirculating a percentage of the exhaust gas back into the windbox. This reduces the oxygen concentration in the air-fuel mixture and regulates the combustion process, lowering the combustion temperature. The lowered availability of oxygen in conjunction with lowered combustion temperature reduces the formation of NO_x.

The applicant is proposing to lower their NO_x emissions by installing ultra low-NO_x burners on the steam generators. The Manufacturer guarantees the proposed burners will successfully achieve the applicable Rule 4320 emission factor(s).

The PM₁₀ control requirements of Rule 4320 will be met by scrubbing the TEOR vapors used as fuel (using sulfur scrubbers listed on the TEOR permits) for a minimum of 95% sulfur control. The TEOR permits include sulfur scrubbers which scrub the TEOR vapors prior to being incinerated in the natural/TEOR gas-fired steam generators.

Conditions will be added to the natural/TEOR gas-fired steam generator permits to ensure compliance with the 95% sulfur control requirement.

VII. General Calculations

A. Assumptions

- The steam generators operate 24 hours/day, 7 days/week, and 52 weeks/year.
- Steam generators S-1372-10, '-13, '-14, '-17, '-18, '-24, '-30, '-32 and '-33 each have a maximum heat input rating of 62.5 MMBtu/hr and will continue to be fired on natural/TEOR gas.
- Steam generators S-1372-318 and 319 each have a maximum heat input rating of 67.5 MMBtu/hr according to their current operating permits and are fired on natural/TEOR gas. Permittee confirms this rating is correct and is not a typo.
- Steam generators S-1372-355 and '-356 each have a maximum heat input rating of 62.5 MMBtu/hr and will continue to be fired solely on natural gas.
- Steam generator S-1372-372 has a maximum heat input rating of 62.5 MMBtu/hr and will continue to be fired on natural/TEOR/TVR gas.
- Steam generators S-1372-374, '-378 and '-379 have a maximum heat input rating of 62.5 MMBtu/hr and will continue to be fired on natural/produced gas with a sulfur content no greater than 1.1 grains/100 scf.
- Natural gas HHV = 1000 Btu/scf (District practice) and F-factor = 8,578 dscf/MMBtu corrected to 60 degree F (40CFR60, Appendix B).
- SO_x and VOC emissions factors for the permits will not be changed with this project approval. They will remain the same as pre-project emission factors. However the TEOR and/or TVR gases used as fuel in the steam generators will be scrubbed for 95% sulfur control using the sulfur scrubbers included in the TEOR/TVR permits, as required by Rule 4320 for steam generators burning non PUC quality gas.
- Steam generators S-1372-374, '-378 and '-379 will continue to have startup/shutdown provisions. Post-project maximum NO_x daily emissions will be based on startup/shutdown emissions of 15 ppmv NO_x @ 3% O₂.

B. Emission Factors

Pre-project:

Pre-Project Emission Factors (EF1), taken from the pre-project permits to operate, are listed below:

Steam generator S-1372-10-21				
Natural/TEOR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NO _x	0.018	15		Pre-project PTO
SO _x			46.4	Pre-project PTO
PM ₁₀	0.014			Pre-project PTO
CO	0.1004	138		Pre-project PTO
VOC	0.0003			Pre-project PTO

Steam generator S-1372-13-24				
Natural/TEOR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NO _x	0.018	15		Pre-project PTO
SO _x			123.2	Pre-project PTO
PM ₁₀	0.014			Pre-project PTO
CO	0.1004	138		Pre-project PTO
VOC	0.003			Pre-project PTO

Steam generator S-1372-14-22				
Natural/TEOR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NO _x	0.018	15		Pre-project PTO
SO _x			46.4	Pre-project PTO
PM ₁₀	0.014			Pre-project PTO
CO	0.1004	138		Pre-project PTO
VOC	0.003			Pre-project PTO

Steam generator S-1372-17-27				
Natural/TEOR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NOx	0.018	15		Pre-project PTO
SOx			95.5	Pre-project PTO
PM ₁₀	0.048			Pre-project PTO
CO	0.3	400		Pre-project PTO
VOC	0.0006			Pre-project PTO

Steam generator S-1372-18-24				
Natural/TEOR-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NOx	0.018	15		Pre-project PTO
SOx			95.5	Pre-project PTO PAS emissions profile
PM ₁₀	0.064			Pre-project PTO
CO	0.1004	138		Pre-project PTO
VOC	0.006			Pre-project PTO

Steam generator S-1372-24-24				
Natural/TEOR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NOx	0.018	15		Pre-project PTO
SOx			123.4	Pre-project PTO
PM ₁₀	0.014			Pre-project PTO
CO	0.1004	138		Pre-project PTO
VOC	0.0004			Pre-project PTO

Steam generator S-1372-30-22				
Natural/TEOR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NOx	0.018	15		Pre-project PTO
SOx			97.9	Pre-project PTO
PM ₁₀	0.014			Pre-project PTO
CO	0.1004	138		Pre-project PTO
VOC	0.003			Pre-project PTO

Steam generator S-1372-32-22				
Natural/TEOR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NOx	0.018	15		Pre-project PTO
SOx			97.9	Pre-project PTO
PM ₁₀	0.014			Pre-project PTO
CO	0.1004	138		Pre-project PTO
VOC	0.003			Pre-project PTO

Steam generator S-1372-33-25				
Natural/TEOR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NOx	0.018	15		Pre-project PTO
SOx			97.9	Pre-project PTO
PM ₁₀	0.014			Pre-project PTO
CO	0.1004	138		Pre-project PTO
VOC	0.003			Pre-project PTO

Steam generator S-1372-318-5				
Natural/TEOR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NOx	0.018	15		Pre-project PTO
SOx			140.6	Pre-project PTO
PM ₁₀	0.014			Pre-project PTO
CO	0.1004	138		Pre-project PTO
VOC	0.039			Pre-project PTO

Steam generator S-1372-319-12				
Natural/TEOR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NOx	0.018	15		Pre-project PTO
SOx			140.6	Pre-project PTO
PM ₁₀	0.014			Pre-project PTO
CO	0.1004	138		Pre-project PTO
VOC	0.039			Pre-project PTO

Steam generator S-1372-355-7				
Natural gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NOx	0.018	15		Pre-project PTO
SOx		0.00285		Pre-project PTO
PM ₁₀	0.005			Pre-project PTO
CO	0.1004	138		Pre-project PTO
VOC	0.003			Pre-project PTO

Steam generator S-1372-356-7				
Natural gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NOx	0.018	15		Pre-project PTO
SOx		0.00285		Pre-project PTO
PM ₁₀	0.005			Pre-project PTO
CO	0.1004	138		Pre-project PTO
VOC	0.003			Pre-project PTO

Steam generator S-1372-372-2				
Natural/TEOR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	ppmv (3% O ₂)	lb/day	Source
NOx	0.017	14		Pre-project PTO
SOx	0.073			Pre-project PTO
PM ₁₀	0.005			Pre-project PTO
CO	0.102			Pre-project PTO
VOC	0.0055			Pre-project PTO

Steam generator S-1372-374-3				
Natural/TVR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	Ppmv	lb/day	Source
NOx	0.030	30	45.0 lb/day	Pre-project PTO (Has startup shutdown provisions)
	0.018	15	9,855 lb/yr	
SOx	0.003			Pre-project PTO
PM ₁₀	0.008			Pre-project PTO
CO		26	28.5 lb/day	Pre-project PTO
			10,403 lb/yr	
VOC	0.003			Pre-project PTO

Steam generator S-1372-378-3				
Natural/TVR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	Ppmv	lb/day	Source
NOx	0.030	30	45.0 lb/day	Pre-project PTO (Has startup shutdown provisions)
	0.018	15	9,855 lb/yr	
SOx	0.003			Pre-project PTO
PM ₁₀	0.008			Pre-project PTO
CO		26	28.5 lb/day	Pre-project PTO
			10,403 lb/yr	
VOC	0.003			Pre-project PTO

Steam generator S-1372-379-3				
Natural/TVR gas-fired emission factors (EF1)				
Pollutant	lb/MMBtu	Ppmv	lb/day	Source
NOx	0.030	30	45.0 lb/day	Pre-project PTO (Has startup shutdown provisions)
	0.018	15	9,855 lb/yr	
SOx	0.003			Pre-project PTO
PM ₁₀	0.008			Pre-project PTO
CO		26	28.5 lb/day	Pre-project PTO
			10,403 lb/yr	
VOC	0.003			Pre-project PTO

Post-Project Emission Factors (EF2)

NOx emissions:

For all units the daily and annual emissions of NOx are based on the following emissions factor:

NOx: 0.008 lb/MMBtu, 7 ppmv @3% O₂

For the three units with startup/shutdown provisions:

Steam generator S-1372-374-5				
Natural/TVR gas-fired emission factors (EF2)				
Pollutant	lb/MMBtu	ppmv	lb/day	Source
NOx	0.018	15	27.0 lb/day	Post-project PTO (Has startup/shutdown provisions)
	0.008	7	4,380 lb/yr	
SOx	0.003			Post -project PTO
PM ₁₀	0.008			Post -project PTO
CO		26	28.5 lb/day	Post -project PTO
			10,403 lb/yr	
VOC	0.003			Post -project PTO

Steam generator S-1372-378-5				
Natural/TVR gas-fired emission factors (EF2)				
Pollutant	lb/MMBtu	ppmv	lb/day	Source
NOx	0.018	15	27.0 lb/day	Post -project PTO (Has startup/shutdown provisions)
	0.008	7	4,380 lb/yr	
SOx	0.003			Post -project PTO
PM ₁₀	0.008			Post -project PTO
CO		26	28.5 lb/day	Post -project PTO
			10,403 lb/yr	
VOC	0.003			Post -project PTO

Steam generator S-1372-379-5				
Natural/TVR gas-fired emission factors (EF2)				
Pollutant	lb/MMBtu	Ppmv	lb/day	Source
NOx	0.018	15	27.0 lb/day	Post -project PTO (Has startup shutdown provisions)
	0.008	7	4,380 lb/yr	
SOx	0.003			Post -project PTO
PM ₁₀	0.008			Post -project PTO
CO		26	28.5 lb/day	Post -project PTO
			10,403 lb/yr	
VOC	0.003			Post -project PTO

SOx emissions:

Waste gas SOx emissions factors

The applicant has chosen to scrub all TEOR and TVR gas incinerated in the steam generators, for 95% sulfur control. Therefore, there will be no change in the emission factors or limits listed on the steam generators. However, the TEOR and TVR systems will have to meet 95% sulfur removal for gas piped to the incinerating steam generators (Prior to mixing the gas with PUC quality gas used as fuel).

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The PE1 for each pollutant is calculated with the following equation (using the emissions factors listed on the pre-project permits to operate):

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

PTO S-1372-10-21

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		62.5	24	46.4
PM ₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0003	62.5	24	0.5

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		62.5	8,760	16,936
PM ₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0003	62.5	8,760	164

PTO S-1372-13-24

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		62.5	24	123.2
PM ₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0030	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		62.5	8,760	44,968
PM ₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

PTO S-1372-14-22

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		62.5	24	46.4
PM ₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0030	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		62.5	8,760	33,763
PM ₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

PTO S-1372-17-27

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		62.5	24	95.5
PM ₁₀	0.0480	62.5	24	72.0
CO	0.3000	62.5	24	450.0
VOC	0.0006	62.5	24	0.9

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		62.5	8,760	34,858
PM ₁₀	0.0480	62.5	8,760	26,280
CO	0.3000	62.5	8,760	164,250
VOC	0.0006	62.5	8,760	329

PTO S-1372-18-24

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		62.5	24	95.5
PM₁₀	0.0640	62.5	24	96.0
CO	0.1004	62.5	24	150.6
VOC	0.0060	62.5	24	9.0

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		62.5	8,760	34,858
PM₁₀	0.0640	62.5	8,760	35,040
CO	0.1004	62.5	8,760	54,969
VOC	0.0060	62.5	8,760	3,285

PTO S-1372-24-24

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		62.5	24	123.4
PM₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0004	62.5	24	0.6

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		62.5	8,760	33,763
PM₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0004	62.5	8,760	219

PTO S-1372-30-22

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		62.5	24	97.9
PM ₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0030	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		62.5	8,760	35,734
PM ₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

PTO S-1372-32-22

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		62.5	24	97.9
PM ₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0030	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		62.5	8,760	35,734
PM ₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

PTO S-1372-33-25

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		62.5	24	97.9
PM₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0030	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		62.5	8,760	35,734
PM₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

PTO S-1372-318-5

Pollutant	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO_x	0.018	67.5	24	29.2
SO_x		67.5	24	140.6
PM₁₀	0.0140	67.5	24	22.7
CO	0.1004	67.5	24	162.6
VOC	0.0390	67.5	24	63.2

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO_x	0.018	67.5	8,760	10,643
SO_x		67.5	8,760	51,334
PM₁₀	0.0140	67.5	8,760	8,278
CO	0.1004	67.5	8,760	59,367
VOC	0.0390	67.5	8,760	23,061

PTO S-1372-319-12

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.018	67.5	24	29.2
SO _x		67.5	24	140.6
PM ₁₀	0.0140	67.5	24	22.7
CO	0.1004	67.5	24	162.6
VOC	0.0390	67.5	24	63.2

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.018	67.5	8,760	10,643
SO _x		67.5	8,760	51,334
PM ₁₀	0.0140	67.5	8,760	8,278
CO	0.1004	67.5	8,760	59,367
VOC	0.0390	67.5	8,760	23,061

PTO S-1372-355-7 (NG only)

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	0.0050	62.5	24	7.5
CO	0.1004	62.5	24	150.6
VOC	0.0030	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	0.0050	62.5	8,760	2,738
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

PTO S-1372-356-7 (NG only)

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	0.0050	62.5	24	7.5
CO	0.1004	62.5	24	150.6
VOC	0.0030	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	0.0050	62.5	8,760	2,738
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

ATC S-1372-372-2 (NG/TEOR/TVR gas-fired, and 14 ppmv NO_x limit)

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.017	62.5	24	25.5
SO _x	0.07300	62.5	24	109.5
PM ₁₀	0.0050	62.5	24	7.5
CO	0.1020	62.5	24	153.0
VOC	0.0055	62.5	24	8.3

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.017	62.5	8,760	9,308
SO _x	0.07300	62.5	8,760	39,968
PM ₁₀	0.0050	62.5	8,760	2,738
CO	0.1020	62.5	8,760	55,845
VOC	0.0055	62.5	8,760	3,011

ATC S-1372-374-3 (NG/Produced gas-fired)

Pollutant	Daily PE1 (Note: Has startup/shutdown provisions)			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.036	62.5	24	54.0
SO _x	0.00300	62.5	24	4.5
PM ₁₀	0.0080	62.5	24	12.0
CO		62.5	24	28.5
VOC	0.0030	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	0.00300	62.5	8,760	1,643
PM ₁₀	0.0080	62.5	8,760	4,380
CO		62.5	8,760	10,403
VOC	0.0030	62.5	8,760	1,643

ATC S-1372-378-3 (NG/Produced gas-fired)

Pollutant	Daily PE1 (Note: Has startup/shutdown provisions)			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.036	62.5	24	54.0
SO _x	0.00300	62.5	24	4.5
PM ₁₀	0.0080	62.5	24	12.0
CO		62.5	24	28.5
VOC	0.0030	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	0.00300	62.5	8,760	1,643
PM ₁₀	0.0080	62.5	8,760	4,380
CO		62.5	8,760	10,403
VOC	0.0030	62.5	8,760	1,643

ATC S-1372-379-3 (NG/Produced gas-fired)

Pollutant	Daily PE1 (Note: Has startup/shutdown provisions)			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.036	62.5	24	54.0
SO _x	0.00300	62.5	24	4.5
PM ₁₀	0.0080	62.5	24	12.0
CO		62.5	24	28.5
VOC	0.0030	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	0.00300	62.5	8,760	1,643
PM ₁₀	0.0080	62.5	8,760	4,380
CO		62.5	8,760	10,403
VOC	0.0030	62.5	8,760	1,643

2. Post-Project Potential to Emit (PE2)

The PE2 for each pollutant is calculated with the following equation:

- PE2 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day & hr/yr)
- **The only pollutant being changed is the NO_x emission factor, it is being lowered to 7 ppmvd @ 3% O₂ for Rule 4320 compliance (0.008 lb NO_x/MMBtu).**

ATC S-1372-10-23

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.008	62.5	24	12.0
SO _x		62.5	24	46.4
PM ₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0003	62.5	24	0.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	62.5	8,760	4,380
SO _x		62.5	8,760	16,936
PM ₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0003	62.5	8,760	164

ATC S-1372-13-26

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.008	62.5	24	12.0
SO _x		62.5	24	123.2
PM ₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0030	62.5	24	4.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	62.5	8,760	4,380
SO _x		62.5	8,760	44,968
PM ₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

ATC S-1372-14-26

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO_x	0.008	62.5	24	12.0
SO_x		62.5	24	46.4
PM₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0030	62.5	24	4.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO_x	0.008	62.5	8,760	4,380
SO_x		62.5	8,760	19,936
PM₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

ATC S-1372-17-30

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO_x	0.008	62.5	24	12.0
SO_x		62.5	24	95.5
PM₁₀	0.0480	62.5	24	72.0
CO	0.3000	62.5	24	450.0
VOC	0.0006	62.5	24	0.9

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO_x	0.008	62.5	8,760	4,380
SO_x		62.5	8,760	34,858
PM₁₀	0.0480	62.5	8,760	26,280
CO	0.3000	62.5	8,760	164,250
VOC	0.0006	62.5	8,760	329

ATC S-1372-18-26

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.008	62.5	24	12.0
SO _x		62.5	24	95.5
PM ₁₀	0.0640	62.5	24	96.0
CO	0.1004	62.5	24	150.6
VOC	0.0060	62.5	24	9.0

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	62.5	8,760	4,380
SO _x		62.5	8,760	34,858
PM ₁₀	0.0640	62.5	8,760	35,040
CO	0.1004	62.5	8,760	54,969
VOC	0.0060	62.5	8,760	3,285

ATC S-1372-24-28

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.008	62.5	24	12.0
SO _x		62.5	24	123.4
PM ₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0004	62.5	24	0.6

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	62.5	8,760	4,380
SO _x		62.5	8,760	45,041
PM ₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0004	62.5	8,760	219

ATC S-1372-30-26

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.008	62.5	24	12.0
SO _x		62.5	24	97.9
PM ₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0030	62.5	24	4.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	62.5	8,760	4,380
SO _x		62.5	8,760	35,734
PM ₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

ATC S-1372-32-25

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.008	62.5	24	12.0
SO _x		62.5	24	97.9
PM ₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0030	62.5	24	4.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	62.5	8,760	4,380
SO _x		62.5	8,760	35,734
PM ₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

ATC S-1372-33-26

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO_x	0.008	62.5	24	12.0
SO_x		62.5	24	97.9
PM₁₀	0.0140	62.5	24	21.0
CO	0.1004	62.5	24	150.6
VOC	0.0030	62.5	24	4.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO_x	0.008	62.5	8,760	4,380
SO_x		62.5	8,760	35,734
PM₁₀	0.0140	62.5	8,760	7,665
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

ATC S-1372-318-6

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO_x	0.008	67.5	24	13.0
SO_x		67.5	24	140.6
PM₁₀	0.0140	67.5	24	22.7
CO	0.1004	67.5	24	162.6
VOC	0.0390	67.5	24	63.2

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO_x	0.008	67.5	8,760	4,730
SO_x		67.5	8,760	51,334
PM₁₀	0.0140	67.5	8,760	8,278
CO	0.1004	67.5	8,760	59,367
VOC	0.0390	67.5	8,760	23,061

ATC S-1372-319-17

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.008	67.5	24	13.0
SO _x		67.5	24	140.6
PM ₁₀	0.0140	67.5	24	22.7
CO	0.1004	67.5	24	162.6
VOC	0.0390	67.5	24	63.2

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	67.5	8,760	4,730
SO _x		67.5	8,760	51,334
PM ₁₀	0.0140	67.5	8,760	8,278
CO	0.1004	67.5	8,760	59,367
VOC	0.0390	67.5	8,760	23,061

ATC S-1372-355-11

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.008	62.5	24	12.0
SO _x	0.00285	62.5	24	4.3
PM ₁₀	0.0050	62.5	24	7.5
CO	0.1004	62.5	24	150.6
VOC	0.0030	62.5	24	4.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	62.5	8,760	4,380
SO _x	0.00285	62.5	8,760	1,560
PM ₁₀	0.0050	62.5	8,760	2,738
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

ATC S-1372-356-11

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.008	62.5	24	12.0
SO _x	0.00285	62.5	24	4.3
PM ₁₀	0.0050	62.5	24	7.5
CO	0.1004	62.5	24	150.6
VOC	0.0030	62.5	24	4.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	62.5	8,760	4,380
SO _x	0.00285	62.5	8,760	1,560
PM ₁₀	0.0050	62.5	8,760	2,738
CO	0.1004	62.5	8,760	54,969
VOC	0.0030	62.5	8,760	1,643

ATC S-1372-372-4 (Natural + TVR gas-fired)

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.008	62.5	24	12.0
SO _x	0.07300	62.5	24	109.5
PM ₁₀	0.0050	62.5	24	7.5
CO	0.1020	62.5	24	153.0
VOC	0.0055	62.5	24	8.3

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	62.5	8,760	4,380
SO _x	0.07300	62.5	8,760	39,968
PM ₁₀	0.0050	62.5	8,760	2,738
CO	0.1020	62.5	8,760	55,845
VOC	0.0055	62.5	8,760	3,011

ATC S-1372-374-5 (Natural/Produced gas-fired)

Pollutant	Daily PE2 (Has startup/shutdown provisions)			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.018	62.5	24	27.0
SO _x	0.00300	62.5	24	4.5
PM ₁₀	0.0080	62.5	24	12.0
CO		62.5	24	28.5
VOC	0.0030	62.5	24	4.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	62.5	8,760	4,380
SO _x	0.00300	62.5	8,760	1,643
PM ₁₀	0.0080	62.5	8,760	4,380
CO		62.5	8,760	10,403
VOC	0.0030	62.5	8,760	1,643

ATC S-1372-378-5 (Natural/Produced gas-fired)

Pollutant	Daily PE2 (Has startup/shutdown provisions)			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.018	62.5	24	27.0
SO _x	0.00300	62.5	24	4.5
PM ₁₀	0.0080	62.5	24	12.0
CO		62.5	24	28.5
VOC	0.0030	62.5	24	4.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	62.5	8,760	4,380
SO _x	0.00300	62.5	8,760	1,643
PM ₁₀	0.0080	62.5	8,760	4,380
CO		62.5	8,760	10,403
VOC	0.0030	62.5	8,760	1,643

ATC S-1372-379-5 (Natural/Produced gas-fired)

Pollutant	Daily PE2 (Has startup/shutdown provisions)			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO_x	0.036	62.5	24	54.0
SO_x	0.00300	62.5	24	4.5
PM₁₀	0.0080	62.5	24	12.0
CO		62.5	24	28.5
VOC	0.0030	62.5	24	4.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO_x	0.008	62.5	8,760	4,380
SO_x	0.00300	62.5	8,760	1,643
PM₁₀	0.0080	62.5	8,760	4,380
CO		62.5	8,760	10,403
VOC	0.0030	62.5	8,760	1,643

The emissions profiles are included in Appendix B.

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.

Since there is not an increase in potential emissions for any pollutant as a result of this project, the facility is not becoming a new Major source, an offset threshold will not be surpassed, nor will an SSIPE public notice be triggered. Therefore, the SSPE1 will not be calculated at this time.

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.

Since there is not an increase in potential emissions for any pollutant as a result of this project, the facility is not becoming a new Major source, an offset threshold will not be surpassed, nor will an SSIPE public notice be triggered. Therefore, the SSPE2 will not be calculated at this time.

5. Major Source Determination

Pursuant to Section 3.24 of District Rule 2201, a Major Source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values. However, Section 3.24.2 states, "for the purposes of determining major source status, the SSPE2 shall not include 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 haven't been used on-site."

A Major Source Determination is necessary in order to:

- Identify new Major Sources and
- Aid BE determinations, for amount of offsets required calculations

Pursuant to Section 3.23 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).

PXP is a major source and will remain a major source after this project approval.

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

Section 3.23 of District Rule 2201 defines a Major Modification 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. Rather than establish baseline emissions for the units, the applicant is willing to concede that the project could possibly be a major modification for SO_x emissions (above baseline emissions) and therefore subject to a public notice.

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 "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, PAE cannot exceed BPE, therefore:

$$\text{PAE} \leq \text{BPE}, \text{ and}$$

$$\text{NEI} = \text{PAE} - \text{BPE} \leq 0$$

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

QNEC = PE2 - BE, where:

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

PE2 = Post Project Potential to Emit for each emissions unit.

BE = Baseline Emissions (per Rule 2201) for each emissions unit.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly BE can be calculated as follows:

NOx QNEC:

For the 62.5 MMBtu/hr steam generators lowering NOx from 15 to 7 ppmv (S-1372-10, 13, 14, 17, 18, 24, 30, 32, 33, 355, 356, 374, 378 and 379):

$$\begin{aligned} \text{QNEC} &= [\text{PE}_{2\text{annual}} - \text{PE}_{1\text{annual}}] \div 4 \text{ quarters/year} \\ &= [4,380 \text{ lb} - 9,855] \div 4 \text{ quarters/year} = -1,368.8 \rightarrow -1,369 \text{ lb-NOx/qtr} \end{aligned}$$

For the two 67.5 MMBtu/hr steam generators lowering NOx from 15 to 7 ppmv (S-1372-318 and 319):

$$\begin{aligned} \text{QNEC} &= [\text{PE}_{2\text{annual}} - \text{PE}_{1\text{annual}}] \div 4 \text{ quarters/year} \\ &= [4,730 \text{ lb} - 10,643] \div 4 \text{ quarters/year} = -1,478 \text{ lb-NOx/qtr} \end{aligned}$$

For 62.5 MMBtu/hr steam generator S-1372-372, lowering NOx from 14 to 7 ppmv:

$$\begin{aligned} \text{QNEC} &= [\text{PE}_{2\text{annual}} - \text{PE}_{1\text{annual}}] \div 4 \text{ quarters/year} \\ &= [4,380 \text{ lb} - 9,308] \div 4 \text{ quarters/year} = -1,232 \text{ lb-NOx/qtr} \end{aligned}$$

SOx QNEC: The QNEC for the subject emissions units is zero for SO₂.

VIII. Compliance

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.

- 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 are met, BACT is not triggered for any pollutant.

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

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 triggered for any pollutant.

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

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

b. Major Modification

As demonstrated in VII.C.7, this project constitutes 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 Potential to Emit greater than 100 pounds during any one day for any pollutant will trigger public noticing

requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant; therefore public noticing for PE > 100 lb/day purposes is not required.

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

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant.

There is no increase in permitted emissions as a result of this project. As a result, SSIPE 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.

Proposed Rule 2201 (DEL) Conditions:

S-1372-10-23

1. Emissions shall not exceed any of the following: PM10: 0.014 lb/MMBtu; NO_x (as NO₂): 0.008 lb/MMBtu or 7 ppmv @ 3% O₂; VOC: 0.0003 lb/MMBtu; or CO: 138 ppmv @ 3% O₂. [District NSR Rule and District Rules 4305, 4306 and 4320]
2. SO_x (as SO₂) emissions shall not exceed 46.4 lb/day. [District NSR Rule]

S-1372-13-26

1. SO_x (as SO₂) emissions shall not exceed 123.2 lb/day except as provided below in conditions 4 and 5. [District NSR Rule]
2. Steam generator S-1372-317 shall be exclusively fired on PUC quality natural gas when this steam generator is incinerating TEOR vapors. [District NSR Rule]
3. Total casing gas sulfur oxide (SO_x as SO₂) emissions shall not exceed 1193.52 lb/day for the following steam generators and standby flare: S-1372-13 (#16), S-1372-16 (#12), S-1372-24 (#20), and S-1372-76. [District NSR Rule]
4. Emissions shall not exceed any of the following: PM₁₀: 0.014 lb/MMBtu; NO_x (as NO₂): 0.008 lb/MMBtu or 7 ppmv @ 3% O₂; VOC: 0.003 lb/MMBtu; or CO: 138 ppmv @ 3% O₂. [District NSR Rule and District Rules 4305, 4306 and 4320]

S-1372-14-26

1. Emissions shall not exceed any of the following: PM₁₀: 0.014 lb/MMBtu; NO_x (as NO₂): 0.008 lb/MMBtu or 7 ppmv @ 3% O₂; VOC: 0.003 lb/MMBtu; or CO: 138 ppmv @ 3% O₂. [District NSR Rule and District Rules 4305, 4306 and 4320]
2. SO_x (as SO₂) emissions shall not exceed 46.4 lb/day. [District NSR Rule]
3. Steam generators S-1372-10, -14, -23, -30, -31, -32, -33, -34, and -318 shall be fired exclusively on PUC quality natural gas when steam generators S-1372-8, 17, 18, 19, 20 are incinerating TEOR vapors. [District NSR Rule]

S-1372-17-30

1. Emissions shall not exceed any of the following: PM₁₀: 0.048 lb/MMBtu; NO_x (as NO₂): 0.008 lb/MMBtu or 7 ppmvd @ 3% O₂; VOC: 0.0006 lb/MMBtu; or CO: 0.30 lb/MMBtu or 400 ppmvd @ 3% O₂. [District NSR Rule and District Rules 4305, 4306 and 4320]
2. SO_x (as SO₂) emissions shall not exceed 95.5 lb/day except as provided in the condition below. [District NSR Rule]
3. Total casing gas sulfur oxide (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]
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]

S-1372-18-26

2. Gas fired emission rates shall not exceed any of the following: PM10: 0.064 lb/MMBtu; NOx: 0.008 lb/MMBtu or 7 ppmv @ 3% O₂; VOC: 0.006 lb/MMBtu; and CO: 138 ppmv @ 3% O₂. [District NSR Rule and District Rules 4305, 4306 and 4320]
3. Total casing gas sulfur oxide (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]
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]

S-1372-24-28

1. Emissions shall not exceed PM10: 0.014 lb/MMBtu; SO_x (as SO₂): 123.4 lb/day; NO_x (as NO₂): 0.008 lb/MMBtu or 7 ppmv @ 3% O₂; VOC: 0.0004 lb/MMBtu; or CO: 138 ppmv @ 3% O₂. [District NSR Rule and District Rules 4305, 4306 and 4320]

S-1372-30-26

1. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 7 ppmv NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.014 lb-PM10/MMBtu, 138 ppmv CO @ 3% O₂, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320]
2. SO_x (as SO₂) emissions shall not exceed 97.9 lb/day except as provided below in condition #10. [District NSR Rule]
3. 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, 20 are incinerating TEOR vapors. [District NSR Rule]

S-1372-32-25

1. SO_x (as SO₂) emissions shall not exceed 97.9 lb/day except as provided below in condition #5. [District NSR Rule]
2. 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, 20 are incinerating TEOR vapors. [District NSR Rule]
3. Emissions shall not exceed any of the following: PM10: 0.014 lb/MMBtu; NO_x (as NO₂): 0.008 lb/MMBtu or 7 ppmv @ 3% O₂; VOC: 0.003 lb/MMBtu; or CO: 138 ppmv @ 3% O₂. [District NSR Rule and District Rules 4305, 4306 and 4320]

S-1372-33-26

1. When located at NW/4 Section 16, T31S, R22E, SO_x (as SO₂) emissions shall not exceed 97.9 lb/day except as provided below in condition #6. [District NSR Rule]
2. 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, 20 are incinerating TEOR vapors. [District NSR Rule]
3. Emissions shall not exceed any of the following: PM₁₀: 0.014 lb/MMBtu; NO_x (as NO₂): 0.008 lb/MMBtu or 7 ppmv @ 3% O₂; VOC: 0.003 lb/MMBtu; or CO: 138 ppmv @ 3% O₂. [District NSR Rule and District Rules 4305, 4302 and 4320]

S-1372-318-6

1. Emission rates shall not exceed any of the following: PM₁₀: 0.014 lb/MMBtu, NO_x: 0.008 lb/MM Btu or 7 ppmv @ 3% O₂, VOC: 0.039 lb/MMBtu, or CO: 138 ppmv @ 3% O₂. [District NSR Rule and District Rules 4305, 4306 and 4320]
2. SO_x emissions shall not exceed 140.6 lb/day. SO_x emissions limit shall be verified through records of quantity of TEOR fuel gas combusted and fuel gas sulfur concentration. [District NSR Rule]
3. Steam generators S-1372-10, -14, -23, -30, -31, -32, -33, -34, and -318 shall be fired exclusively on PUC quality natural gas when steam generators S-1372-8, 17, 18, 19, 20 are incinerating TEOR vapors. [District NSR Rule]

S-1372-319-17

1. Emission rates shall not exceed any of the following: PM₁₀: 0.014 lb/MMBtu, NO_x: 0.008 lb/MM Btu or 7 ppmv @ 3% O₂, VOC: 0.039 lb/MMBtu, or CO: 138 ppmv @ 3% O₂. [District NSR Rule and District Rules 4305, 4306 and 4320]
2. SO_x emissions shall not exceed 140.6 lb/day. SO_x emissions limit shall be verified through records of quantity of TEOR fuel gas combusted and fuel gas sulfur concentration. [District NSR Rule]

S-1372-355-11

1. Only natural gas shall be used as fuel. [District NSR Rule]
2. Emissions from this unit shall not exceed any of the following: PM₁₀: 0.005 lb/MMBtu, SO_x (as SO₂): 0.00285 lb/MMBtu, VOC: 0.003 lb/MMBtu, NO_x (as NO₂): 0.008 lb/MMBtu or 7 ppmv @ 3% O₂; or CO: 138 ppmv @ 3% O₂. [District NSR Rule and District Rules 4305, 4306 and 4320]

S-1372-356-11

1. Only PUC-quality natural gas shall be used as fuel. [District NSR Rule]
2. Emissions from this unit shall not exceed any of the following: PM10: 0.005 lb/MMBtu, SOx (as SO2): 0.00285 lb/MMBtu, VOC: 0.003 lb/MMBtu, NOx (as NO2): 7 ppmv @ 3% O2 or 0.008 lb-NOx/MMBtu; or CO: 138 ppmv @ 3% O2. [District NSR Rule and District Rules 4305, 4306 and 4320]

S-1372-372-4

1. When PUC quality natural gas fired, emission rates shall not exceed any of the following: 7 ppmv NOx @ 3% O2 or 0.008 lb-NOx/MMBtu, 0.001 lb-SOx/MMBtu, 0.005 lb-PM10/MMBtu, 0.102 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320]
2. When fired on a blend of PUC quality natural gas and scrubbed TVC (tank vapor control) gas, emission rates shall not exceed any of the following: 7 ppmv NOx @ 3% O2 or 0.008 lb-NOx/MMBtu, 0.0730 lb-SOx/MMBtu, 0.005 lb-PM10/MMBtu, 0.102 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320]
3. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emission rate shall not exceed 15 ppmvd @ 3% O2 or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
4. TVC system gas sulfur content shall be scrubbed to 95% control prior to the fuel inlet in the sulfur removing media system associated with S-1372-387, and shall be combusted only at W1/2 Section 3, Township 31S, Range 22E (Reardon Lease) [District Rule 2201]
5. Sulfur content of blended PUC quality and scrubbed TVC system gas combusted by the steam generator shall not exceed 1750 ppm H2S. The heating value of the TVC system gas shall not exceed 460 MMBtu/MMscf. [District Rule 2201]
6. The TVC system gas fuel rate to the steam generator shall not exceed 367 mcf/day as measured by a fuel flow meter. [District Rule 2201]

S-1372-374-5

1. Emission rates shall not exceed any of the following: 7 ppmv NOx @ 3% O2 or 0.008 lb-NOx/MMBtu, 0.003 lb-SOx/MMBtu, 0.008 lb-PM10/MMBtu, 26 ppmv CO @ 3% O2, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320]

2. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emission rate shall not exceed 15 ppmvd @ 3% O2 or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
3. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up 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 start-up and shutdown periods. [District Rules 4306 and 4320]
4. 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]
5. Emissions shall not exceed any of the following: NOx: 27.0 lb/day and 4,380 lb/year, CO: 28.5 lb/day and 10,403 lb/year. [District Rules 2201]

S-1372-378-5

1. Emission rates shall not exceed any of the following: 7 ppmv NOx @ 3% O2 or 0.008 lb-NOx/MMBtu, 0.003 lb-SOx/MMBtu, 0.008 lb-PM10/MMBtu, 26 ppmv CO @ 3% O2, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320]
2. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emission rate shall not exceed 15 ppmvd @ 3% O2 or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
3. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up 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 start-up and shutdown periods. [District Rules 4305, 4306 and 4320]
4. 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]

5. Emissions shall not exceed any of the following: NO_x: 54.0 lb/day and 4,380 lb/year, CO: 28.5 lb/day and 10,403 lb/year. [District Rules 2201]

S-1372-379-5

1. Emission rates shall not exceed any of the following: 7 ppmv NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.003 lb-SO_x/MMBtu, 0.008 lb-PM₁₀/MMBtu, 26 ppmv CO @ 3% O₂, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320]
2. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emission rate shall not exceed 15 ppmvd @ 3% O₂ or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
3. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up 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 start-up and shutdown periods. [District Rules 4305, 4306 and 4320]
4. 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]
5. Emissions shall not exceed any of the following: NO_x: 27.0 lb/day and 4,380 lb/year, CO: 28.5 lb/day and 10,403 lb/year. [District Rules 2201]

E. Compliance Assurance

1. Source Testing

The units are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase II*, and District Rule 4306, *Phase III* 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 will be discussed in Section VIII, *District Rules 4305, 4306 and 4320* of this evaluation.

2. Monitoring

As required by District Rules 4305, 4306 and 4320, *Boilers, Steam Generators and Process Heaters*, the units are subject to monitoring requirements. Monitoring requirements, in accordance with District Rules 4305, 4306 and 4320, will be discussed in Section VIII of this evaluation.

3. Record keeping

As required by District Rules 4305, 4306 and 4320, *Boilers, Steam Generators and Process Heaters*, these units are subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rules 4305, 4306 and 4320, will be discussed in Section VIII of this evaluation.

The following condition will be listed on the permits:

- 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]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

Rule 4001 - New Source Performance Standards (NSPS)

Subpart Dc applies to steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 100 million Btu per hour or less, but greater than or equal to 10 million Btu per hour. Subpart Dc has no emission requirements for gas-fired units. Therefore Subpart Dc does not apply.

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 Ringlemann 1 or equivalent to 20% opacity.

Gas-fired equipment typically operates without visible emissions

Compliance with District Rule 4101 is expected.

Rule 4102 - Nuisance

Section 4.0 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance is not expected as a result of these operations. 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.

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for the previous approval of these units, the project prioritization score was less than or equal to one. There is no increase in any toxic air contaminants proposed for any of these units. Therefore, no future analysis is required to determine the impact from this project and compliance with the District’s Risk Management Policy is expected.

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.

F-Factor for NG:	8,578 dscf/MMBtu at 60 °F
PM ₁₀ Emission Factor:	0.0076 lb-PM10/MMBtu
Percentage of PM as PM10 in Exhaust:	100%
Exhaust Oxygen (O ₂) Concentration:	3%
Excess Air Correction to F Factor =	$\frac{20.9}{(20.9 - 3)} = 1.17$

$$GL = \left(\frac{0.0076 \text{ lb - PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb - PM}} \right) / \left(\frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17 \right)$$

$$GL = 0.0053 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$$

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			
Pollutant	NO₂	Total PM	SO₂
ATC # S-1372-374.5 (lb/hr) Typical unit in this package	1.13	0.50	0.19
Rule Limit (lb/hr)	140	10	200

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 and 4306, Section 6.3.1, the steam generator is not required to tune since it follows a District approved Alternate Monitoring scheme 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

This rule limits NO_x and CO emissions from boilers, steam generators, and process heaters rated greater than 5 MMBtu/hr. The proposed units comply with the applicable provisions of this rule. Source testing, monitoring and recordkeeping requirements of Rule 4320 are equal to or more stringent than the requirements of this rule; therefore, compliance with Rule 4306 requirements will satisfy requirements of District Rule 4305.

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

This rule limits NO_x and CO emissions from boilers, steam generators, and process heaters rated greater than 5 MMBtu/hr. The units are subject to Rule 4320 which is equal to or more stringent than the requirements of this rule; therefore, compliance with Rule 4320 requirements will satisfy requirements of District Rule 4306. Compliance with District Rule 4306 is expected.

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. The proposed compliance option is to equip the steam generators each with a low NO_x burner that is capable of meeting a NO_x emission limit of 7 ppmv @ 3% O₂.

Section 5.1 NO_x Emission Limits

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.

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. On and after October 1, 2008, units shall not be operated in a manner to which exceeds a carbon dioxide (CO) emissions limit of 400 ppmv.

With a maximum heat input of >20.0 MMBtu/hr for the oilfield steam generators, the applicable emission limit category is listed in Section 5.2, Table 1, Category C2, from District Rule 4320:

Rule 4320 NO_x Emission Limits			
C. Oilfield Steam Generators	NO_x 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
	c) Final Limit 5 ppmv or 0.0062 lb/MMBtu	January 1, 2013	January 1, 2014

PXP is proposing NO_x emissions of 7 ppmv @ 3% O₂ (Category C2a). The steam generators associated with this project are all limited to 400 ppmv, or less, CO @ 3% O₂. Therefore, compliance with the rule emission requirements is expected.

Section 5.2.4 applies to units firing on a combination of gaseous and liquid fuels. PXP is not proposing to fire on liquid fuels.

Section 5.4 Particulate Matter Control Requirements

Section 5.4.1 states that to limit particulate matter emissions, an operator shall comply with one of the options listed in the following requirements:

- Section 5.4.1.1 provides option for the operator to comply with the rule by firing the unit exclusively on PUC-quality natural gas, commercial propane, butane, or LPG, or a combination of such gases.
- Section 5.4.1.1 On and after the applicable NO_x 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;
- Section 5.4.1.2 On and after the applicable NO_x 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
- Section 5.4.1.3 On and after the applicable NO_x 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.

The PXP units that utilize TEOR and TVR gas will scrub the gas for 95% sulfur control as allowed under option 4 (section 5.4.1.3) above. The other units have a sulfur content of no more than 5 grains/100 scf as allowed under option 3 (section 5.4.1.2). The following condition will be added to the permits which burn waste gas:

- Steam generator shall only receive TEOR/TVR gas from TEOR/TVR permits XXXX, and the sulfur content of the TEOR/TVR gas shall not exceed 5 grains sulfur/100 scf or shall be scrubbed for 95% sulfur removal (using the sulfur scrubber listed on PTO # XXXX) prior to being incinerated in this steam generator. [District Rule 4320]

Section 5.5 Low-Use Unit

This section discusses the requirements of low-use units. PXP is not requesting low-use status.

Section 5.6 Startup and Shutdown Provisions

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 in Sections 5.6.1 through 5.6.5. Three of the permit units have startup/shutdown provisions, which will remain on the permits, and meet the requirements of this section of the rule.

Section 5.7 Monitoring Provisions

Section 5.7.1 requires that permit units subject to District Rule 4320, 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 shall be conducted at least once per month (in which a source test is not performed) using a portable analyzer. The following conditions shall be retained in the ATCs to ensure compliance with the requirements of this 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. Measurement shall be made with the FGR system in the mode of operation (closed or open) in which it was used in the preceding 30 days. 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]

Section 5.7.6 requires monitoring SO_x emissions. PXP will comply with Section 5.4.1.1 as discussed above. The following condition will be placed on the permits which utilize waste gas-firing:

- Steam generator shall only receive TEOR/TVR gas from TEOR/TVR permits XXXX, and the sulfur content of the TEOR/TVR gas shall not exceed 5 grains sulfur/100 scf or shall be scrubbed for 95% sulfur removal (using the sulfur scrubber listed on PTO # XXXX) prior to being incinerated in this steam generator. [District Rule 4320]
- When complying with SO_x emission requirements by scrubbing TEOR/TVR gas(es) for 95% sulfur control, inlet and outlet sulfur concentrations of the sulfur scrubber shall be tested weekly. If compliance with the 95% control efficiency has been demonstrated for 8 consecutive weeks, then the control efficiency testing frequency shall be quarterly. If a quarterly test fails to show compliance, weekly testing shall resume. [District Rule 4320.5.7.6.2]
- When complying with SO_x emission limits (5 grains Sulfur/100 scf) 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 Rules 4320 and 2520, 9.3.2]

- 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. [District Rules 4320 and 2520, 9.3.2]
- 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 Rules 4320 and 2520, 9.3.2]

Section 5.8 Compliance Determination

Section 5.8.1 requires that the operator of any unit has the option of complying with either the applicable heat input (lb/MMBtu), emission limits or the concentration (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 as follows:

- The source 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 requires 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 permit condition will be listed on the ATCs as follows:

- 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 5.8.4 requires 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 (5) readings evenly spaced out over the 15-consecutive-minute period. Therefore, the following permit condition will be on the ATCs as follows:

- 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 requires 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 (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) 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 permit as follows:

- 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 requires 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.

PXP will keep records as required by the rule (monitoring and testing).

Section 6.2, Test Methods

Section 6.2 identifies test methods to be used when determining compliance with the rule. The following existing permit conditions will be retained on the ATCs:

- {109} 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]
- The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; and fuel gas sulfur content - ASTM D3246 or double GC for H₂S and mercaptans. [District Rules 4305, 4306 and 4320]

Section 6.3, Compliance Testing

Section 6.3.1 requires that each unit subject to the requirements in Section 5.2 shall be source tested at least once every 12 months for NO_x and CO, except if two consecutive annual source tests demonstrate compliance, source testing may be performed every 36 months. If such a source test demonstrates non-compliance, source testing shall revert to every 12 months. The following conditions will be included in the ATCs:

- Source testing to measure NO_x and CO emissions shall be conducted within 60 days of initial operation under this ATC. [District Rules 2201, 4305, 4306 and 4320]
- This unit shall be tested for compliance with the NO_x and CO emissions limits 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 6.3.1.1 specifies tune-up requirements. HPXP has proposed to use pre-approved Alternate Monitoring Scheme "A" using a portable analyzer. Therefore the tune-up requirements listed in Section 6.3.1.1 are not applicable. This section also requires, that during the 36-month source testing interval, the owner/operator shall monitor monthly the operational characteristics recommended by the unit manufacturer. Since the pre-approved alternate monitoring requires monthly monitoring of NO_x, CO and O₂ exhaust emission concentrations using a portable analyzer, the operational characteristics monitoring requirements is satisfied.

Section 6.4 Emission Control Plan (ECP)

Section 6.4 requires the operator of any unit to submit to APCO for approval an Emissions Control Plan no later than January 1, 2010. Compliance with this section of the rule is expected.

Section 7.0, Compliance Schedule

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 applicant's submittal complies with the requirements of the compliance schedule. Therefore, compliance with this requirement of the rule is expected.

Conclusion

Conditions will be incorporated into the ATCs in order to ensure compliance with each section of this rule, see attached draft ATCs. Therefore, compliance with District Rule 4320 requirements 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:

$$\begin{aligned} N &= \text{moles SO}_2 \\ T \text{ (Standard Temperature)} &= 60^\circ\text{F} = 520^\circ\text{R} \\ P \text{ (Standard Pressure)} &= 14.7 \text{ psi} \\ R \text{ (Universal Gas Constant)} &= \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \end{aligned}$$

$$\frac{0.00285 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 1.97 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 1.97 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirements is expected.

California Health & Safety Code 42301.6 (School Notice)

The emissions units are not located within 1000 feet of the outer boundary of any K-12 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:

5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] N
6. 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] N
7. Steam generator shall only receive TEOR and/or TVR gas from TEOR/TVR permits XXXXX and/or XXXX, and the sulfur content of the gas shall not exceed 5 grains sulfur/100 scf or shall be scrubbed for 95% sulfur removal (using the sulfur scrubber listed on TEOR and/or TVR permit) prior to being piped to this steam generator for incineration. [District Rule 4320]
8. When complying with SOx emissions requirements by scrubbing TEOR/TVR gas for 95% sulfur control, inlet and outlet sulfur concentrations of the sulfur scrubber shall be tested weekly. If compliance with the 95% control efficiency has been demonstrated for 8 consecutive weeks, then the control efficiency testing frequency shall be quarterly. If a quarterly test fails to show compliance, weekly testing shall resume. [District Rules 4320.5.7.6.2 and 2520]
9. When complying with SOx emissions limits (5 grains sulfur/100 scf) 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 emissions limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly test fails to show compliance, weekly testing shall resume. [District Rules 4320 and 2520, 9.3.2]

S-1372-18

Remove the following conditions from Permit S-1372-18 (which address oil-firing) as oil firing is being removed from the permit:

8. During natural gas curtailment, total cumulative hours of operation for burning **liquid fuel** shall not exceed 168 hours per calendar year, excluding equipment testing which shall not exceed 48 hours per year. [District Rule 4306] Y
9. The owner of any unit operated under the exemption of natural gas curtailment shall monitor and record for each unit the cumulative annual hours of operation on each **liquid fuel** during curtailment and testing. [District Rule 4306] Y
37. Source testing shall be performed using EPA Method 5 while firing on **residual oil** (including crude or topped crude) to demonstrate compliance with PM emission limits. Source testing shall be performed within 60 days of firing on **residual oil** unless such testing has been performed within the 12 month period prior to firing on said oil and the test results showed compliance with PM emission limits of this permit. [District Rule 2520, 9.3.2] Y

38. If the unit is fired on noncertified **liquid fuel** and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the **liquid fuel** being fired in the unit shall be determined using ASTM D 2880. [District Rule 2520, 9.3.2]

39. 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 240 or D 2382 **for liquid hydrocarbon fuels**. [District Rule 2520, 9.3.2; 4305, 6.2; and 4306, 6.2]] Y

40. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. For **residual oil** (including crude and topped crude) fired units, compliance may be demonstrated through supplier certification of nitrogen content and heating value or by weekly fuel testing for nitrogen content and heating value. Hourly emissions shall be calculated using the heating value, maximum rated unit capacity, and the following formula: $\text{lb NO}_2/1000 \text{ gal} = 20.54 + 104.39 (N)$, where N is the weight % nitrogen in the fuel. If compliance with the NOx emission limit is demonstrated through the fuel nitrogen content testing and compliance has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be bi-annually. If a bi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Y

41. If the unit is fired on noncertified **residual oil** (including crude and topped crude) and compliance with NOx emission limits is achieved through fuel nitrogen content testing, then the nitrogen content of the fuel being fired in the unit shall be determined using ASTM D3431. [District Rule 2520, 9.3.2] Y

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1372-10-23	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-13-26	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-14-26	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-17-30	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-18-26	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-24-28	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-30-26	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-32-25	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-33-26	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-318-6	3020-02-H	Greater than 15 MMBtu/hr (67.5 MMBtu/hr)	\$1030.00

S-1372-319-17	3020-02-H	Greater than 15 MMBtu/hr (67.5 MMBtu/hr)	\$1030.00
S-1372-355-11	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-356-11	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-372-4	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-374-5	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-378-5	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00
S-1372-379-5	3020-02-H	Greater than 15 MMBtu/hr (62.5 MMBtu/hr)	\$1030.00

Appendices

- A: Pre-project permits
- B: Emissions Profiles
- C: Draft ATCs

APPENDIX A

Pre-project permits

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1372-10-21

EXPIRATION DATE: 05/31/2007

SECTION: 16 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (#11 BREMER, DIS# 44511-76) WITH LOW-NOX BURNER, FGR, AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Emissions shall not exceed any of the following: PM10: 0.014 lb/MMBtu; NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2; VOC: 0.0003 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
2. SOx (as SO2) emissions shall not exceed 46.4 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Steam generators S-1372-10, -14, -23, -30, -31, -32, -33, -34, and -318 shall be fired exclusively on PUC quality natural gas when steam generators S-1372-8, 17, 18, 19, 20 are incinerating TEOR vapors. [District NSR Rule] Federally Enforceable Through Title V Permit
4. 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
5. 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
6. 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.

7. 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
8. 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
9. 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
10. 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
11. 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
12. 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
13. 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
14. 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
15. 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
16. 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
17. 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
18. 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
19. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

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
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, 9.3.2 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, 9.3.2] 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, 9.3.2] 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 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
25. 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
26. 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
27. 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
28. 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
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. 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

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

31. 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-1372-13-24

EXPIRATION DATE: 05/31/2007

SECTION: NW23 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (#16, DIS# 12667-79) EQUIPPED WITH A LOW-NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM AND AN O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. 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
2. 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
3. SO_x (as SO₂) emissions shall not exceed 123.2 lb/day except as provided below in conditions 4 and 5. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Steam generator S-1372-317 shall be exclusively fired on PUC quality natural gas when this steam generator is incinerating TEOR vapors. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Total casing gas sulfur oxide (SO_x as SO₂) emissions shall not exceed 1193.52 lb/day for the following steam generators and standby flare: S-1372-13 (#16), S-1372-16 (#12), S-1372-24 (#20), and S-1372-76. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Emissions shall not exceed any of the following: PM₁₀: 0.014 lb/MMBtu; NO_x (as NO₂): 0.018 lb/MMBtu or 15 ppmv @ 3% O₂; VOC: 0.003 lb/MMBtu; or CO: 138 ppmv @ 3% O₂. [District NSR Rule and District Rules 4305 and 4306] 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 and 4306] Federally Enforceable Through Title V Permit
8. 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 and 4306] Federally Enforceable Through Title V Permit
9. 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
10. 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
11. 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.

12. 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
13. 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 and 4305] Federally Enforceable Through Title V Permit
14. 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
15. 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
16. 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 and 4306] Federally Enforceable Through Title V Permit
17. 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
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 and 4306] Federally Enforceable Through Title V Permit
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 and 4306] 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 and 4306] Federally Enforceable Through Title V Permit
21. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

22. 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
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. Compliance with gas fired sulfur compound (SO₂) emission limit shall be determined by record keeping of TEOR gas flowrate and fuel gas sulfur analysis performed 60 days prior to permit anniversary date. [District Rule 1070] 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 Rule 1070] 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 3031, D 4084, D 3246 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, 9.3.2; 4305, 6.2.1; and 4351, 6.2.1] 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 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 listed in PTO S-1372-1. [Kern County Rule 424 and District Rule 2520, 9.4.2] 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.

31. 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
32. 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
33. 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
34. 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
35. 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
36. 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
37. 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
38. 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
39. 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-1372-14-22

EXPIRATION DATE: 05/31/2007

SECTION: 16 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (#13 BREMER, DIS# 44521-76) WITH PCL BURNER PLATE, O2 CONTROLLER, AND FGR

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. Emissions shall not exceed any of the following: PM10: 0.014 lb/MMBtu; NOx (as NO2): 0.018 lb/MMBtu or 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
3. SOx (as SO2) emissions shall not exceed 46.4 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Steam generators S-1372-10, -14, -23, -30, -31, -32, -33, -34, and -318 shall be fired exclusively on PUC quality natural gas when steam generators S-1372-8, 17, 18, 19, 20 are incinerating TEOR vapors. [District NSR Rule] Federally Enforceable Through Title V Permit
5. 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
6. 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
7. 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.

8. 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
9. 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
10. 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
11. 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
12. 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
13. 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
14. 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
15. 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
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 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
17. 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
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. 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.

20. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx and CO emissions 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 and CO emission 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
21. The following conditions must be met for representative unit(s) to be used to test 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
22. All units in a group for which representative units are source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
23. All units in a group for which representative units are source tested for NOx and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type 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
24. The number of representative units source tested for NOx and CO emissions 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
25. 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
26. 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
27. 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
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, 9.3.2] Federally Enforceable Through Title V Permit
29. 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, 9.3.2] 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.

30. 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 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
31. 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
32. 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
33. 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
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, 9.4.2] Federally Enforceable Through Title V Permit
35. 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
36. 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
37. 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-1372-17-27

EXPIRATION DATE: 05/31/2007

SECTION: SW22 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED STEAM GENERATOR (#19 DIS# 45002-80)
EQUIPPED WITH A LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM

PERMIT UNIT REQUIREMENTS

1. Steam generators S-1372-1 and -17 shall not be located simultaneously at any of the following locations: Sec. 22, T32S, R23E; NE/4 & SE/4 Sec. 21, T32S, R23E; NW/4 & NE/4 Sec. 27, T32S, R23E; and NE/4 Sec. 28, T32S, R23E. [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. This steam generator is authorized for incineration of non-condensable vapors from TEOR operation #S-1372-312. [District NSR Rule] Federally Enforceable Through Title V Permit
4. 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
5. The permittee shall maintain records of fuel type, quantity, permitted emission factors and emissions for each unit for each day of operation, in the format approved by the District. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, 0.048 lb-PM10/MMBtu, 400 ppmvd CO @ 3% O2 or 0.3 lb-CO/MMBtu, or 0.0006 lb-VOC/MMBtu. [District NSR Rule and District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
7. SOx (as SO2) emissions shall not exceed 95.54 lb/day except as provided in the condition below. [District NSR Rule] Federally Enforceable Through Title V Permit
8. 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
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. 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
11. Compliance with casing gas sulfur compound emission limits shall be demonstrated by record keeping of TEOR gas flowrate and H2S concentration. [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-1372-17-27 : Nov 13 2009 2:12PM - BUB55M

12. Source testing to measure 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 and 4306] Federally Enforceable Through Title V Permit
13. 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
14. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] 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 and 4306] Federally Enforceable Through Title V Permit
16. 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 and 4306] 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 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, pursuant to District Rule 1081 (Amended December 16, 1993). If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2520, 9.4.2, 4305 and 4306] Federally Enforceable Through Title V Permit
19. 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
20. 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
21. 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
22. 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, 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

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

23. 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
24. 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
25. 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
26. 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
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 3031, D 4084, D 3246 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 240 or D 238288 for liquid hydrocarbon fuels; ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2, 4305, 6.2.1 and 4306, 6.2.1] 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.

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 3.0% by weight for residual oil (including crude or topped crude); 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
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 listed in PTO S-1372-1. [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. For residual oil (including crude and topped crude) fired units, compliance may be demonstrated through supplier certification of nitrogen content and heating value or by weekly fuel testing for nitrogen content and heating value. Hourly emissions shall be calculated using the heating value, maximum rated unit capacity, and the following formula: $\text{lb NO}_2/1000 \text{ gal} = 20.54 + 104.39 (N)$, where N is the weight % nitrogen in the fuel. If compliance with the NOx emission limit is demonstrated through the fuel nitrogen content testing and compliance has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be bi-annually. If a bi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4301, 5.2.2] Federally Enforceable Through Title V Permit
36. 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
37. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
38. 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
39. 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
40. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

41. Annual test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx 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 emission 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 4305 and 4306] Federally Enforceable Through Title V Permit
42. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NOx 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, and 4306] Federally Enforceable Through Title V Permit
43. All units in a group for which representative units are source tested to demonstrate compliance for NOx 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, and 4306] Federally Enforceable Through Title V Permit
44. All units in a group for which representative units are source tested to demonstrate compliance for NOx 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 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, and 4306] Federally Enforceable Through Title V Permit
45. The number of representative units source tested to demonstrate compliance for NOx 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] 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-1372-18-24

EXPIRATION DATE: 05/31/2007

SECTION: 16 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR OIL/NATURAL GAS/VAPOR RECOVERY GAS FIRED STEAM GENERATOR (#28 DIS# 45003-80)
WITH FGR AND PCL BURNER PLATE

PERMIT UNIT REQUIREMENTS

1. 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
2. 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
3. Gas fired emission rates shall not exceed any of the following: PM10: 0.064 lb/MMbtu; VOC: 0.006 lb/MMBtu; NOx: 0.018 lb/MMBtu or 15 ppmv @ 3% O2 and 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 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
5. 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
6. 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. 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. During natural gas curtailment, total cumulative hours of operation for burning liquid fuel shall not exceed 168 hours per calendar year, excluding equipment testing which shall not exceed 48 hours per year. [District Rule 4306] Federally Enforceable Through Title V Permit
9. The owner of any unit operated under the exemption of natural gas curtailment shall monitor and record for each unit the cumulative annual hours of operation on each liquid fuel during curtailment and testing. [District Rule 4306] Federally Enforceable Through Title V Permit
10. 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-1372-18-24: Nov 13 2009 2:12PM - BUSSM

11. 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
12. 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
13. 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
14. 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
15. 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
16. 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
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. 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
19. 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
20. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

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. 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
23. 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
24. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx and CO emissions 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 and CO emission 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
25. The following conditions must be met for representative unit(s) to be used to test 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
26. All units in a group for which representative units are source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
27. All units in a group for which representative units are source tested for NOx and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type 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
28. The number of representative units source tested for NOx and CO emissions 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
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 the specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
30. 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
31. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

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
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 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
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 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
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 Rules 2520, 9.3.2 and 4801 and Kern County Rule 407] 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. 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 listed in PTO S-1372-1. [District Rule 2520, 9.3.2 and Kern County Rule 424] Federally Enforceable Through Title V Permit
37. Source testing shall be performed using EPA Method 5 while firing on residual oil (including crude or topped crude) to demonstrate compliance with PM emission limits. Source testing shall be performed within 60 days of firing on residual oil unless such testing has been performed within the 12 month period prior to firing on said oil and the test results showed compliance with PM emission limits of this permit. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. If the unit is fired on noncertified liquid fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the liquid fuel being fired in the unit shall be determined using ASTM D 2880. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. 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 240 or D 2382 for liquid hydrocarbon 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.

40. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO₂. For residual oil (including crude and topped crude) fired units, compliance may be demonstrated through supplier certification of nitrogen content and heating value or by weekly fuel testing for nitrogen content and heating value. Hourly emissions shall be calculated using the heating value, maximum rated unit capacity, and the following formula: $\text{lb NO}_2/1000 \text{ gal} = 20.54 + 104.39 (N)$, where N is the weight % nitrogen in the fuel. If compliance with the NOx emission limit is demonstrated through the fuel nitrogen content testing and compliance has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be bi-annually. If a bi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. If the unit is fired on noncertified residual oil (including crude and topped crude) and compliance with NOx emission limits is achieved through fuel nitrogen content testing, then the nitrogen content of the fuel being fired in the unit shall be determined using ASTM D3431. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. 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
43. 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
44. 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
45. 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-1372-24-24

EXPIRATION DATE: 05/31/2007

SECTION: NW23 TOWNSHIP: 31S RANGE: 22E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED STEAM GENERATOR (#20 DIS# 45220-81) WITH O2 CONTROLLER, PCL BURNER PLATE, AND FGR

PERMIT UNIT REQUIREMENTS

1. When located at NW section 10, T29S, R21E, this unit shall be fired on natural gas. The SO2 scrubber is not required at this location. [District Rule 2080] Federally Enforceable Through Title V Permit
2. 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
3. No less than 0.4 miles of roadway shall be paved and maintained in good repair. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Emissions shall not exceed PM10: 0.014 lb/MMBtu; SOx (as SO2): 123.4 lb/day; NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2; VOC: 0.0004 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
5. 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
6. 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
7. 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.

Facility Name: PLAINS EXPLORATION & PRODUCTION COMPANY

Location: HEAVY OIL WESTERN STATIONARY SOURCE, CA

S-1372-24-24: Nov 13 2009 2:12PM - BUSSM

8. 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
9. 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
10. 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
11. 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
12. 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
13. 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
14. 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
15. 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
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 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
17. 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
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. 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.

20. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions 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 and CO emission 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
21. The following conditions must be met for representative unit(s) to be used to test 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] Federally Enforceable Through Title V Permit
22. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
23. All units in a group for which representative units are source tested for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type 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
24. The number of representative units source tested for NO_x and CO emissions 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
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, 9.3.2] 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 the 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

30. 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 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
31. 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 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. 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
33. 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 listed in PTO S-1372-1. [District Rule 2520, 9.3.2 and Kern County Rule 424] Federally Enforceable Through Title V Permit
34. 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
35. 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
36. 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
37. 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
38. 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-1372-30-22

EXPIRATION DATE: 05/31/2007

SECTION: 16 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/CASING GAS FIRED STEAM GENERATOR (#33; DIS# 45233-82) WITH O2 CONTROLLER, LOW-NOX BURNER, AND FLUE GAS RECIRCULATION (FGR)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. This equipment is approved to be operated at the following locations: Section 16, T31S/R22E; and NW/4 Section 06, T30S/R22E. [District NSR Rule] Federally Enforceable Through Title V Permit
3. 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
4. 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
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
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]
7. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, 0.014 lb-PM10/MMBtu, 138 ppmvd CO @ 3% O2, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306]
8. SOx (as SO2) emissions shall not exceed 97.9 lb/day except as provided below in condition #10. [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 steam generators S-1372-8, 17, 18, 19, 20 are incinerating TEOR vapors. [District NSR Rule] Federally Enforceable Through Title V Permit
10. 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
11. Source testing to measure NOx and CO emissions shall be conducted not less than once every 12 months, except as provided below. [District Rule 4305] Federally Enforceable Through Title V Permit
12. Source testing to measure NOx and CO emissions shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rule 4305] 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-1372-30-22: Nov 13 2009 2:12PM - BUS6M

13. If permittee fails any compliance demonstration for NO_x or CO emission limits when testing not less than once every 36 months, compliance with NO_x and CO emission limits shall be demonstrated not less than once every 12 months. [District Rule 4305] Federally Enforceable Through Title V Permit
14. 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
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 source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]
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 and 4306]
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. 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 and 4306]
21. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306]
22. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306]
23. Compliance with casing gas sulfur compound emission limits shall be demonstrated by record keeping of casing gas flowrate and H₂S concentration. [District NSR Rule] Federally Enforceable Through Title V Permit
24. 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]
25. The stack concentration of NO_x (as NO₂), CO, and O₂ shall be measured at least on a monthly basis using District approved portable analyzers. [District Rule 4305] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of the date and time of NO_x, CO, and O₂ measurements, the measured NO₂ and CO concentrations corrected to 3% O₂, and the O₂ concentration. The records must also include a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4305] Federally Enforceable Through Title V Permit
27. If the NO_x or CO concentrations, as measured by the portable analyzer, exceed the allowable emissions rate, the permittee shall take corrective action within one hour after detection. If the portable analyzer readings continue to exceed the allowable emissions rate, the permittee shall notify the District immediately and conduct an emissions test within 60 days, utilizing District-approved test methods, to demonstrate compliance with the applicable limits. [District Rule 4305] 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.

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. 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]
30. 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
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. 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
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
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, 9.4.2 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 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
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 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
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 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
38. 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
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, 9.4.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

40. 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
41. 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
42. 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
43. 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
44. 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
45. Annual test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx 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 emission 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 4305, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit
46. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NOx 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, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
47. All units in a group for which representative units are source tested to demonstrate compliance for NOx 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, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
48. All units in a group for which representative units are source tested to demonstrate compliance for NOx 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, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
49. The number of representative units source tested to demonstrate compliance for NOx 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, 9.4.2] 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-1372-32-22

EXPIRATION DATE: 05/31/2007

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/CASING GAS FIRED STEAM GENERATOR (#35; DIS# 45235-82) EQUIPPED WITH A LOW NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM AND AN O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. This permit unit is authorized to operate at the following locations: Section 16, T31S, R22E (Bremer Fee Lease) and NW/4 Section 6, T30S, R22E (McKittrick Front 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. 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
4. SOx (as SO2) emissions shall not exceed 97.9 lb/day except as provided below in condition #5. [District NSR Rule] Federally Enforceable Through Title V Permit
5. 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, 20 are incinerating TEOR vapors. [District NSR Rule] Federally Enforceable Through Title V Permit
6. 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
7. 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
8. Emissions shall not exceed any of the following: PM10: 0.014 lb/MMBtu; NOx (as NO2): 0.018 lb/MMBtu or 15 ppmvd @ 3.00% O2; VOC: 0.003 lb/MMBtu; or CO: 138 ppmvd @ 3.00% O2. [District NSR Rule and District Rules 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. 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 and 4306] 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

6-1372-32-22: Nov 13 2009 2:12PM - BUBSM

11. 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
12. 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
13. 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
14. 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
15. 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 and 4305] Federally Enforceable Through Title V Permit
16. 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
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. 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
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. 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, 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
21. 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
22. 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 and 4306] 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.

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 Rule 1070] Federally Enforceable Through Title V Permit
24. 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
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 Rules 2520, 9.3.2 and 4301, 5.2.1] 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, 9.3.2 and County Rule 407 (Kern)] Federally Enforceable Through Title V Permit
27. 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
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, 9.3.2] Federally Enforceable Through Title V Permit
29. 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
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 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 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, 6.2.1, 4306, 6.2.1 and 4351, 6.2.1] Federally Enforceable Through Title V Permit
32. 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
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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

34. 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
35. 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
36. 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
37. 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
38. 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
39. 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
40. 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
41. 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-1372-33-25

EXPIRATION DATE: 05/31/2007

SECTION: 16 TOWNSHIP: 31S RANGE: 22E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/CASING GAS FIRED STEAM GENERATOR (#36; DIS# 45236-82) EQUIPPED WITH A LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND AN O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. This permit unit is authorized to operate at the following locations: NW/4 Section 16, T31S, R22E (Bremer Fee Lease) and SW/4 Section 06, T30S, R22E (McFront Lease). [District NSR Rule] Federally Enforceable Through Title V Permit
2. When located at SW/4 Section 06, T30S, R22E (McFront Lease), this unit shall be fired on PUC quality natural gas only. [District Rule 2080] Federally Enforceable Through Title V Permit
3. 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
4. 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
5. When located at NW/4 Section 16, T31S, R22E, SO_x (as SO₂) emissions shall not exceed 97.9 lb/day except as provided below in condition #6. [District NSR Rule] Federally Enforceable Through Title V Permit
6. 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, 20 are incinerating TEOR vapors. [District NSR Rule] Federally Enforceable Through Title V Permit
7. 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
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. Emissions shall not exceed any of the following: PM₁₀: 0.014 lb/MMBtu; NO_x (as NO₂): 0.018 lb/MMBtu or 15 ppmv @ 3 % O₂; VOC: 0.003 lb/MMBtu; or CO: 138 ppmv @ 3% O₂. [District NSR Rule and District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
10. 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

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

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 and 4306] 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 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
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. 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
15. 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
16. 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 and 4305] Federally Enforceable Through Title V Permit
17. 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
18. 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
19. 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 and 4306] Federally Enforceable Through Title V Permit
20. 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
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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

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 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
25. 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
26. 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
27. 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 Rule 407 (Kern)] 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, 9.3.2] Federally Enforceable Through Title V Permit
29. 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
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 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 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, 6.2.1, 4306, 6.2.1 and 4351, 6.2.1] Federally Enforceable Through Title V Permit
32. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

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. 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
35. 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
36. 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
37. 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
38. 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
39. 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
40. 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
41. 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-1372-318-5

EXPIRATION DATE: 05/31/2007

SECTION: 10 **TOWNSHIP:** 29S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

67.5 MMBTU/HR NATURAL/TEOR GAS FIRED STEAM GENERATOR WITH FGR AND PCL BURNER PLATE (HOPKINS LEASE)

PERMIT UNIT REQUIREMENTS

1. Unit shall be fired only on PUC quality natural gas or TEOR gas. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Burner shall be equipped with operational TEOR gas volume flowmeter. [District NSR Rule] Federally Enforceable Through Title V Permit
3. 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
4. Emission rates shall not exceed any of the following: PM10: 0.014 lb/MMBtu, NO_x: 0.018 lb/MM Btu or 15 ppmvd @ 3% O₂, VOC: 0.039 lb/MMBtu, or CO: 138 ppmvd @ 3% O₂. [District NSR Rule and District Rules 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
5. SO_x emissions shall not exceed 5.86 lb/hr. SO_x emissions limit shall be verified through records of quantity of TEOR fuel gas combusted and fuel gas sulfur concentration. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Steam generators S-1372-10, -14, -23, -30, -31, -32, -33, -34, and -318 shall be fired exclusively on PUC quality natural gas when steam generators S-1372-8, 17, 18, 19, 20 are incinerating TEOR vapors. [District NSR Rule] Federally Enforceable Through Title V Permit
7. 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, 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.

8. 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
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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

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. 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
20. 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
21. 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
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. 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
24. 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
25. 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
26. 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
27. 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
28. 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.

29. 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
30. 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
31. 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
32. 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
33. 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
34. 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
35. 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-1372-319-12

EXPIRATION DATE: 05/31/2007

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

EQUIPMENT DESCRIPTION:

67.5 MMBTU/HR NATURAL/TEOR GAS FIRED STEAM GENERATOR WITH NORTH AMERICAN BURNER, PCL BURNER PLATE, AND FGR; OPERATIONS AT TWO LOCATIONS: MCKITTRICK FRONT (NW6, T30S R21E) AND HOPKINS LEASE (NW10, T29S R21E). STEAM GENERATOR #49

PERMIT UNIT REQUIREMENTS

1. This unit may operate at the following locations: NW Section 6, T30S, R21E (McKittrick Front) and NW Section 10, T29S, R21E (Hopkins 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. Unit shall be fired only on PUC quality natural gas or TEOR gas. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Burner shall be equipped with operational TEOR gas volume flowmeter. [District NSR Rule] Federally Enforceable Through Title V Permit
5. 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
6. Emission rates shall not exceed any of the following: PM10: 0.014 lb/MMBtu, NOx: 0.018 lb/MM Btu or 15 ppmvd @ 3% O₂, VOC: 0.039 lb/MMBtu, or CO: 138 ppmvd @ 3% O₂. [District NSR Rule and District Rules 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
7. SO_x emissions shall not exceed 5.86 lb/hr. SO_x emissions limit shall be verified through records of quantity of TEOR fuel gas combusted and fuel gas sulfur concentration. [District NSR Rule] Federally Enforceable Through Title V Permit
8. 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, 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
Locallon: HEAVY OIL WESTERN STATIONARY SOURCE, CA
S-1372-319-12: Nov 13 2009 2:12PM - BUSSM

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 (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
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. 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
13. 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
14. 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
15. 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
16. 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
17. 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
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

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

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
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. 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
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 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
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

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

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. [District Rule 2520, 9.3.2 and Kern County Rule 424] Federally Enforceable Through Title V Permit
31. 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
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-1372-355-7

EXPIRATION DATE: 05/31/2007

SECTION: SW06 TOWNSHIP: 30S RANGE: 22E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR #52 DIS #22457-79 WITH PCL BURNER PLATE AND FGR

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. Only natural gas shall be used as fuel. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Emissions from this unit shall not exceed any of the following: PM10: 0.005 lb/MMBtu, SOx (as SO2): 0.00285 lb/MMBtu, VOC: 0.003 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @3% O2; 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. 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
5. 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
6. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

7. 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
8. 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
9. 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
10. 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
11. 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
12. 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
13. 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
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. 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
16. 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
17. 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
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 Rules 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
19. 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
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, 9.3.2 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, 9.3.2] 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 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
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 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
25. 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
26. 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
27. 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
28. 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
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 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
31. 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

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

8-1372-355-7; Nov 13 2009 2:12PM - BU88M

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

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