



DEC 16 2009

Mr. Larry Landis  
Chevron USA, Inc.  
P.O. Box 1392  
Bakersfield, CA 93302

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity  
Facility # C-311  
Project # C-1093025**

Dear Mr. Landis:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Chevron USA, Inc. Coalinga Oil Field, CA. Chevron proposes to modify steam generators by replacing fuel/air train components and/or reduce fuel sulfur limits as necessary for Rules 4306 and 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: KR/cm

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  
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**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
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DEC 16 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 # C-311**  
**Project # C-1093025**

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for Chevron USA, Inc. Coalinga Oil Field, CA, which has been issued a Title V permit. Chevron USA, Inc. is requesting that Certificates of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Chevron proposes to modify steam generators by replacing fuel/air train components and/or reduce fuel sulfur limits as necessary for Rules 4306 and 4320 compliance.

Enclosed is the engineering evaluation of this application, along with the current Title V permit, and proposed Authorities to Construct # C-311-19-14, '-19-15, '-20-17, '-21-8, '-22-15, '-23-13, '-25-7, '-27-14, '-27-15, '-28-17, '-30-17, '-36-18, '-37-22, '-38-22, '-39-20, '-40-19, '-41-16, '-42-17, '-42-18, '-43-15, '-43-16, '-45-14, '-45-15, '-46-12, '-46-13, '-47-6, '-47-7, '-48-7, '-48-8, '-49-7, '-49-8, '-50-7, '-50-8, '-51-12, '-51-13, '-52-15, '-52-16, '-53-16, '-53-17, '-55-15, '-55-16, '-55-17, '-56-14, '-56-15, '-56-16, '-76-14, '-76-15, '-84-15, '-84-16, '-114-6, '-114-7, '-117-6, '-117-7 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: KR/cm

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DEC 16 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 # C-311**  
**Project # C-1093025**

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Chevron USA, Inc. Coalinga Oil Field, CA. Chevron proposes to modify steam generators by replacing fuel/air train components and/or reduce fuel sulfur limits as necessary for Rules 4306 and 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: KR/cm

Enclosures

**Seyed Sadredin**  
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# San Joaquin Valley Air Pollution Control District Authority to Construct

## Modify Gas-Fired Steam Generators for Rules 4306 and 4320 Compliance

Facility Name: Chevron USA, Inc. Date: November 13, 2009  
Mailing Address: P.O. Box 1392 Engineer: Kris Rickards  
Bakersfield, CA 93302 Lead Engineer: Allan Phillips *AP SUPP ADE*  
Contact Person: Larry Landis DEC 10 2009  
Telephone: 661-654-7141  
Fax: 661-654-7606  
Application #(s): C-311-19-14, '-19-15, '-20-17, '-21-8, '-22-15, '-23-13, '-25-7, '-27-14,  
'-27-15, '-28-17, '-30-17, '-36-18, '-37-22, '-38-22, '-39-20, '-40-19,  
'-41-16, '-42-17, '-42-18, '-43-15, '-43-16, '-45-14, '-45-15, '-46-12,  
'-46-13, '-47-6, '-47-7, '-48-7, '-48-8, '-49-7, '-49-8, '-50-7, '-50-8, '-51-12,  
'-51-13, '-52-15, '-52-16, '-53-16, '-53-17, '-55-15, '-55-16, '-55-17,  
'-56-14, '-56-15, '-56-16, '-76-14, '-76-15, '-84-15, '-84-16, '-114-6,  
'-114-7, '-117-6, '-117-7  
Project #: C-1093025  
Deemed Complete: August 20, 2009

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### I. PROPOSAL

Chevron USA, Inc. (hereafter referred to as CUSA) is requesting Authorities to Construct (ATCs) for the modification of 32 natural-gas-fired steam generators located within the heavy oil western stationary source. In order to comply with District Rule 4320 requirements, the applicant proposes the following scenarios for the steam generators:

- Reduce the NO<sub>x</sub> limit to 7 or 9 ppmv (regular or staged schedule) for units firing on >50% PUC gas (Table 1.C.2 options a and b)
- Limit SO<sub>x</sub> to either PUC-quality or 5 gr-S/100 dscf (Section 5.4.1.1 or 5.4.1.2)
- Reduce SO<sub>2</sub> emissions by 95% or to 9 ppm using an emission control system (5.4.1.3)
- Designate the units compliant dormant

CUSA is requesting authorization for the installation of Low NO<sub>x</sub> burners on three steam generators. Two of these steam generators will be designated compliant dormant for Rule 4306 and ATCs for Rule 4320 compliance for all three units are requested.

CUSA has also requested modifications to allow for the installation of FGR piping on select units in order to attain the lower NO<sub>x</sub> limits.

CUSA intends to comply with the NO<sub>x</sub> requirements of Rule 4320 by paying annual emission fees as allowed in Rule 4320 section 5.1.2. The proposed ATCs are solely an optional form of compliance.

Chevron requests that CO and SO<sub>x</sub> emissions factors be revised to be consistent with emission factors for other permitted equipment at this location. CUSA requests a 50 ppmvd CO @ 3% O<sub>2</sub> factor (Rules 4306 and 4320 compliant) be used to replace the 0.035 lb/MMBtu (48.7 ppmv) limit listed on C-311-55 and 400 ppmv limit listed on '-56. CUSA requests that PUC gas-fired units SO<sub>x</sub> emission factors be made consistent with the District approved SO<sub>x</sub> factor of 0.00285 lb/MMBtu per APR 1720.

There will not be an increase in potential emissions of any pollutant as a result of this project. Modification of the NO<sub>x</sub> emission limits, limiting the sulfur, replacing the burners, and replacing or modifying the air fuel train components are proposed solely to comply with District Rules 4306 and 4320 requirements. Since there is a change to the method of operation of the steam generators these changes are modifications pursuant to District Rule 2201, *New and Modified Stationary Source Review Rule*.

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

Chevron USA, Inc. received their Title V Permit on September 30, 2001. This modification can be classified as a Title V minor modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Chevron USA, Inc. must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC(s) issued with this project.

There are no unimplemented ATCs for any units in this project (previous unimplemented ATCs authorizing the installation of Low NO<sub>x</sub> burners have expired and will be replaced with ATCs issued with this project).

## II. APPLICABLE RULES

- Rule 2201 New and Modified Stationary Source Review Rule (9/21/06)
- Rule 2520 Federally Mandated Operating Permits (6/21/01)
- Rule 4001 New Source Performance Standards (4/14/99)
- Rule 4101 Visible Emissions (2/17/05)
- Rule 4102 Nuisance (12/17/92)
- Rule 4201 Particulate Matter Concentration (12/17/92)
- Rule 4301 Fuel Burning Equipment (12/17/92)
- Rule 4304 Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters (10/19/95)
- Rule 4305 Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
- Rule 4306 Boilers, Steam Generators and Process Heaters – Phase III (10/16/08)
- Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
- Rule 4801 Sulfur Compounds (12/17/92)
- CH&SC 41700 Health Risk Assessment
- CH&SC 42301.6 School Notice
- Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)

California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

### III. PROJECT LOCATION

These units are located at the Coalinga Oilfield within CUSA's Fresno Heavy Oil Stationary Source; Township 20S, Range 14E. The equipment will not be located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

### IV. PROCESS DESCRIPTION

Chevron operates permitted equipment within their Fresno Heavy Oil Stationary Source, utilized for the thermally enhanced production of crude oil and natural gas. In thermally enhanced oil recovery (TEOR), natural gas is combusted in steam generators to produce steam for injection into heavy crude oil bearing strata via injection wells to reduce viscosity of the crude oil, thereby facilitating thermally enhanced oil production.

### V. EQUIPMENT LISTING

Pre-Project Equipment Description:

See Appendix A.

Proposed Modifications:

Facility	Unit	Mod.	Equipment Description
311	19	14	MODIFICATION OF 58.5 MMBTU/HR SG 13-03 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH NORTH AMERICAN GAS BURNER, MODEL 6131G-LO-NOX WITH FLUE GAS RECIRCULATION AND O2 CONTROLLER:INSTALL NORTH AMERICAN LOW-NOX BURNER, LIMIT NOX TO 9 PPM @ 3% O2, AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	19	15	MODIFICATION OF 58.5 MMBTU/HR SG 13-03 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH NORTH AMERICAN GAS BURNER, MODEL 6131G-LO-NOX WITH FLUE GAS RECIRCULATION AND O2 CONTROLLER: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	20	17	MODIFICATION OF 58.5 MMBTU/HR NATURAL GAS-FIRED STRUTHERS THERMOFLOOD SG 13-04 STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH OXYGEN CONTROLLER: INSTALL OPTIONAL USE FGR, LIMIT NOX TO 9 PPM @ 3% O2, AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

311	21	8	MODIFICATION OF 58.5 MMBTU/HR SG 13-5 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER: INSTALL OPTIONAL USE FGR, LIMIT NOX TO 9 PPM @ 3% O2, AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	22	15	MODIFICATION OF 58.5 MMBTU/HR SG 13-06 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH A NORTH AMERICAN GLE LOW NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, AND O2 CONTROLLER: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	23	13	MODIFICATION OF 58.5 MMBTU/HR SG 13-07 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION AND O2 CONTROLLER: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	25	7	MODIFICATION OF 58.5 MMBTU/HR SG 13-9 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	27	14	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-11, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE BURNER, EQUIPPED WITH FLUE GAS RECIRCULATION AND AN OXYGEN CONTROLLER: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE
311	27	15	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-11, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE BURNER, EQUIPPED WITH FLUE GAS RECIRCULATION AND AN OXYGEN CONTROLLER: LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE
311	28	17	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-12, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE BURNER, FLUE GAS RECIRCULATION (FGR), AND AN OXYGEN CONTROLLER: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

311	30	17	MODIFICATION OF 62.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-14, MODEL OH-50-ND-16XAM, NATURAL GAS FIRED, WITH A NORTH AMERICAN GLE BURNER, AN OXYGEN CONTROLLER, AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	36	18	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR (SG #25-15), MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, FLUE GAS RECIRCULATION SYSTEM AND AN OXYGEN CONTROLLER SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS FROM SECTIONS 25D AND 6C ONLY: LIMIT NOX TO 9 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE
311	37	22	MODIFICATION OF 62.5 MMBTU/HR STRUTHERS THERMOFLOOD MODEL OH-50-ND-16XAM STEAM GENERATOR (#25-16) WITH A NORTH AMERICAN MODEL GLE LOW NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS: LIMIT NOX TO 9 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE
311	38	22	MODIFICATION OF 58.5 MMBTU/HR SG 25-17 STRUTHERS THERMOFLOOD MODEL #OH-50-ND-16XAM NATURAL GAS/LPG/WC/TVC GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER AND FLUE GAS RECIRCULATION SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS (SG 25-17): LIMIT NOX TO 9 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE
311	39	20	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #25-18, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE BURNER AND FLUE GAS RECIRCULATION SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS: LIMIT NOX TO 9 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE



311	40	19	MODIFICATION OF 58.5 MMBTU/HR NATURAL GAS, LPG OR PROCESS GAS FIRED STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE BURNER, FLUE GAS RECIRCULATION SYSTEM, AN OXYGEN CONTROLLER, SERVED BY THE NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS (COMMON TO C-311-37) (SG-25-19): LIMIT NOX TO 9 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE
311	41	16	MODIFICATION OF 58.5 MMBTU/HR SG 25-20 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE BURNER AND FLUE GAS RECIRCULATION SYSTEM, SERVED BY THE NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS: LIMIT NOX TO 9 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE
311	42	17	MODIFICATION OF 58.5 MMBTU/HR SG 25-21 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	42	18	MODIFICATION OF 58.5 MMBTU/HR SG 25-21 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	43	15	MODIFICATION OF 58.5 MMBTU/HR SG 25-22 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16AXM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	43	16	MODIFICATION OF 58.5 MMBTU/HR SG 25-22 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16AXM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	45	14	MODIFICATION OF 58.5 MMBTU/HR SG 25-24 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16AXM, WITH A NORTH AMERICAN GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

311	45	15	MODIFICATION OF 58.5 MMBTU/HR SG 25-24 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16AXM, WITH A NORTH AMERICAN GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	46	12	MODIFICATION OF 58.5 MMBTU/HR SG 25-25 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	46	13	MODIFICATION OF 58.5 MMBTU/HR SG 25-25 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	47	6	MODIFICATION OF 58.5 MMBTU/HR SG 25-26 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16-XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, AND A FLUE GAS RECIRCULATION SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	47	7	MODIFICATION OF 58.5 MMBTU/HR SG 25-26 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16-XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, AND A FLUE GAS RECIRCULATION SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	48	7	MODIFICATION OF 58.5 MMBTU/HR SG 25-27 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, AND A FLUE GAS RECIRCULATION SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	48	8	MODIFICATION OF 58.5 MMBTU/HR SG 25-27 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, AND A FLUE GAS RECIRCULATION SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	49	7	MODIFICATION OF 58.5 MMBTU/HR SG 25-28 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-DN-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

311	49	8	MODIFICATION OF 58.5 MMBTU/HR SG 25-28 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-DN-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	50	7	MODIFICATION OF 58.5 MMBTU/HR SG 25-29 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-DN-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, AND A GAS RECIRCULATION SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	50	8	MODIFICATION OF 58.5 MMBTU/HR SG 25-29 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-DN-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, AND A GAS RECIRCULATION SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	51	12	MODIFICATION OF 58.5 MMBTU/HR SG 6-31 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE
311	51	13	MODIFICATION OF 58.5 MMBTU/HR SG 6-31 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION: LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE
311	52	15	MODIFICATION OF 58.5 MMBTU/HR SG STRUTHERS THERMOFLOOD STEAM GENERATOR #6-32, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE LOW-NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, AND AN OXYGEN CONTROLLER: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	52	16	MODIFICATION OF 58.5 MMBTU/HR SG STRUTHERS THERMOFLOOD STEAM GENERATOR #6-32, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE LOW-NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, AND AN OXYGEN CONTROLLER: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	53	16	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #6-33, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT), FLUE GAS RECIRCULATION SYSTEM, AND AN OXYGEN CONTROLLER: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

311	53	17	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #6-33, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT), FLUE GAS RECIRCULATION SYSTEM, AND AN OXYGEN CONTROLLER: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	55	15	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (#6-35) MODEL OH-50-ND-16XAM NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GAS BURNER MODEL 4131G AND FLUE GAS RECIRCULATION: RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER FOR RULE 4306 COMPLIANCE, ADD START-UP AND SHUT-DOWN PROVISIONS PER RULE 4306, AND REVISE ALTERNATE MONITORING CONDITIONS TO CONFORM TO DISTRICT POLICY SSP 1105
311	55	16	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (#6-35) MODEL OH-50-ND-16XAM NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	55	17	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (#6-35) MODEL OH-50-ND-16XAM NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	56	14	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (#6-36) MODEL OH-50-ND-16XAM NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN BURNER MODEL 4131G, AN OXYGEN CONTROLLER, AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER FOR RULE 4306 COMPLIANCE, ADD START-UP AND SHUT-DOWN PROVISIONS PER RULE 4306, AND REVISE ALTERNATE MONITORING CONDITIONS TO CONFORM TO DISTRICT POLICY SSP 1105
311	56	15	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #6-36, MODEL OH-50-ND-16XAM, NATURAL GAS FIRED, EQUIPPED WITH A NORTH AMERICAN BURNER, MODEL 4131G, AN OXYGEN CONTROLLER, AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

311	56	16	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #6-36, MODEL OH-50-ND-16XAM, NATURAL GAS FIRED, EQUIPPED WITH A NORTH AMERICAN BURNER, MODEL 4131G, AN OXYGEN CONTROLLER, AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	76	14	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (SG 6-38) MODEL OH-50-ND-16XAM NATURAL GAS/LPG/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM INCLUDING AN OXYGEN CONTROLLER: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	76	15	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (SG 6-38) MODEL OH-50-ND-16XAM NATURAL GAS/LPG/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM INCLUDING AN OXYGEN CONTROLLER: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	84	15	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (SG 6-37) MODEL OH50-ND-16XAM NATURAL GAS/LPG/TEOR GAS (COMMON TO C-311-37, SG 25-19) FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	84	16	MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (SG 6-37) MODEL OH50-ND-16XAM NATURAL GAS/LPG/TEOR GAS (COMMON TO C-311-37, SG 25-19) FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE
311	114	6	MODIFICATION OF 23 MMBTU/HR HOPPER STEAM GENERATOR, HSG-36, NATURAL GAS FIRED WITH A NORTH AMERICAN GLE LOW-NOX BURNER, DIS #21013-66: INSTALL OPTIONAL USE FGR, LIMIT NOX TO 7 PPM @ 3% O2, AND LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE
311	114	7	MODIFICATION OF 23 MMBTU/HR HOPPER STEAM GENERATOR, HSG-36, NATURAL GAS FIRED WITH A NORTH AMERICAN GLE LOW-NOX BURNER, DIS #21013-66: LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE

311	117	6	MODIFICATION OF 23 MMBTU/HR HOPPER STEAM GENERATOR, HSG-1, NATURAL GAS FIRED, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, DIS #5702-66: INSTALL OPTIONAL USE FGR, LIMIT NOX TO 7 PPM @ 3% O2, AND LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE
311	117	7	MODIFICATION OF 23 MMBTU/HR HOPPER STEAM GENERATOR, HSG-1, NATURAL GAS FIRED, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, DIS #5702-66: LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE

Post Project Equipment Description:

*For all units except those installing Low-NO<sub>x</sub> burners:*

PTO C-311-XX-XX: [DORMANT OR BLANK] [BASE DOCUMENT EQUIPMENT DESCRIPTION] [WITH FGR OR BLANK]

*For steam generators installing Low-NO<sub>x</sub> burners:*

ATC C-311-19-14: 58.5 MMBTU/HR SG 13-03 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH NORTH AMERICAN LOW-NOX BURNER WITH FLUE GAS RECIRCULATION AND O2 CONTROLLER

ATC C-311-55-15: 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (#6-35) MODEL OH-50-ND-16XAM NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN LOW-NOX BURNER BURNER AND FLUE GAS RECIRCULATION

ATC C-311-56-14: 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (#6-36) MODEL OH-50-ND-16XAM NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN LOW-NOX BURNER, AN OXYGEN CONTROLLER, AND FLUE GAS RECIRCULATION (FGR) SYSTEM

## VI. EMISSION CONTROL TECHNOLOGY EVALUATION

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

The use of flue gas re-circulation (FGR) can reduce nitrogen oxides (NO<sub>x</sub>) emissions by 60% to 70%. In an FGR system, a portion of the flue gas is re-circulated back to the inlet air. As



flue gas is composed mainly of nitrogen and the products of combustion, it is much lower in oxygen than the inlet air and contains virtually no combustible hydrocarbons to burn. Thus, flue gas is practically inert. The addition of an inert mass of gas to the combustion reaction serves to absorb heat without producing heat, thereby lowering the flame temperature. Since thermal NO<sub>x</sub> is formed by high flame temperatures, the lower flame temperatures produced by FGR serve to reduce thermal NO<sub>x</sub>.

CUSA is proposing to comply with Rule 4320 Table 1, Category C.2 for NO<sub>x</sub> (several configurations allowed by the rule) and is requesting separate ATCs to comply with the fee pay option, section 5.1.2, for NO<sub>x</sub>. To comply with the particulate control CUSA is proposing to limit the fuel sulfur content per section 5.4.1.1, 5.4.1.2, and 5.4.1.3 to either PUC quality gas, 5 gr-S/100 dscf, or operate an emission control system reducing SO<sub>2</sub> emissions by at least 95% or <9 ppmv respectively.

Units operated with a sulfur scrubber have already been found to be in compliance with Rule 4320. These same units are being evaluated in this project to provide CUSA with a lower NO<sub>x</sub> emissions limit to comply with Rule 4320.

## VII. GENERAL CALCULATIONS

### A. Assumptions

- The maximum operating schedule is 24 hours per day
- The units are fired on TEOR/natural gas and liquefied petroleum gas
- Natural Gas Heating Value: 1,000 Btu/scf (APR-1720)
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B)
- During start-up and shutdown periods the steam generators will have emissions no greater than 0.1 lb-NO<sub>x</sub>/MMBtu and 0.084 lb-CO/MMBtu (previously approved factors for these steam generators)
- The current daily emission limit for NO<sub>x</sub> will not decrease as the daily PE2 includes startup and shutdown emissions
- There will be no change in currently permitted, daily nor annual, potential to emit for CO, VOC, or PM<sub>10</sub> except for unit C-311-55 and '-56
- There will be no change in currently permitted daily or annual potential to emit for VOC or PM<sub>10</sub> for units C-311-55 and '-56
- The revised SO<sub>x</sub> emission factor for PUC quality gas of 0.00285 lb/MMBtu will not result in an emissions change (per APR-1720)
- The daily PE2 for CO is based on a combination of steady state and start-up/shutdown operations (as calculated in project S-1071077). The relative heat input for steady state operation and start-up/shutdown operation that corresponds to the 50.5 lb-NO<sub>x</sub>/day will be calculated using the following equations:

#### Equation 1:

$$\text{daily PE1}_{\text{NO}_x} = \text{daily PE2}_{\text{NO}_x} = \text{EF2}_{\text{steady state}} (\text{lb NO}_x/\text{MMBtu}) \times \text{Heat Input}_{\text{steady state}} (\text{MMBtu}/\text{day}) + \text{EF2}_{\text{start-up/shutdown}} (\text{lb NO}_x/\text{MMBtu}) \times \text{Heat Input}_{\text{start-up/shutdown}} (\text{MMBtu}/\text{day})$$

and,

Equation 2:

$$\text{Total Heat Input/day} = \text{Heat Input}_{\text{steady state}} + \text{Heat Input}_{\text{start-up/shutdown}}$$

$$1,404 \text{ MMBtu/day} = \text{Heat Input}_{\text{steady state}} + \text{Heat Input}_{\text{start-up/shutdown}}$$

Substituting equation 2 into equation 1:

$$50.5 \text{ lb-NO}_x/\text{day} = 0.018 \text{ lb-NO}_x/\text{MMBtu} \times (1,404 \text{ MMBtu/day} - \text{Heat Input}_{\text{start-up/shutdown}}) + 0.1 \text{ lb-NO}_x/\text{MMBtu} \times \text{Heat Input}_{\text{start-up/shutdown}}$$

$$\text{Heat Input}_{\text{start-up/shutdown}} = 307.6 \text{ MMBtu/day}$$

$$\text{Heat Input}_{\text{steady state}} = 1,096.4 \text{ MMBtu/day}$$

**B. Emission Factors**

***Pre-Project Emission Factors (EF1)***

Permit Unit	Pollutant	Pre-Project Emission Factor for NO <sub>x</sub> (EF1)		Source
C-311-19-14, '55-15, '56-14	NO <sub>x</sub>	0.036	30 ppmvd NO <sub>x</sub> (@ 3% O <sub>2</sub> )	Current Permit
All units in this project except those above	NO <sub>x</sub>	0.018 lb/MMBtu	15 ppmvd NO <sub>x</sub> (@ 3% O <sub>2</sub> )	Current Permit
All	SO <sub>x</sub>	See Section VII.C.1	See Section VII.C.1	Current Permit
C-311-55	CO	0.035 lb/MMBtu	48.7 ppmv	Current Permit
C-311-56	CO	0.291 lb/MMBtu	400 ppmv	Current Permit

***Post-Project Emission Factors (EF2)***

Permit Unit	Pollutant	Post-Project Emission Factor for NO <sub>x</sub> (EF2)		Source
C-311-27-14, '42-17, '43-15, '45-14, '46-12, '47-6, '48-7, '49-7, '50-7, '51-12, '52-15, '53-16, '55-16, '56-15, '114-6, '117-6	NO <sub>x</sub>	0.008 lb/MMBtu	7 ppmvd NO <sub>x</sub> (@ 3% O <sub>2</sub> )	Rule 4320 Table 1, Category C.2
C-311-19-14, '20-17, '21-8, '22-15, '23-13, '25-7, '28-17, '30-17, '36-18, '37-22, '38-22, '39-20, '40-19, '41-16, '76-14, '84-15	NO <sub>x</sub>	0.011 lb/MMBtu	9 ppmvd NO <sub>x</sub> (@ 3% O <sub>2</sub> )	Rule 4320 Table 1, Category C.2
C-311-19-15, '27-15, '42-18, '43-16, '45-15, '43-13, '47-7, '48-8, '49-8, '50-8, '21-13, '52-16, '53-17, '55-17, '56-16, '76-15, '84-16, '114-7, '117-7	NO <sub>x</sub>	0.018 lb/MMBtu	15 ppmvd NO <sub>x</sub> (@ 3% O <sub>2</sub> )	Rule 4320 Section 5.1.2 (fee option)
Units '55-15 and '56-14	NO <sub>x</sub>	0.018 lb/MMBtu	15 ppmvd NO <sub>x</sub> (@ 3% O <sub>2</sub> )	Rule 4306 Table 1, Category C



The SO<sub>x</sub> emission factor is calculated as follows for units opting to limit the sulfur concentration in the fuel to 5 gr-S/100 dscf:

$$\left( \frac{64 \text{ lb} - \text{SO}_x}{32 \text{ lb} - \text{S}} \right) \frac{5 \text{ gr} - \text{S}}{100 \text{ dscf}} \left( \frac{1 \text{ lb}}{7,000 \text{ gr}} \right) \frac{\text{dscf}}{1,000 \text{ Btu}} \left( \frac{10^6 \text{ Btu}}{\text{MMBtu}} \right) = 0.0143 \frac{\text{lb} - \text{SO}_x}{\text{MMBtu}}$$

The resulting SO<sub>x</sub> emission rate is 0.0143 lb/MMBtu. Units with an emission limit below 0.0143 lb-SO<sub>x</sub>/MMBtu will retain the lower SO<sub>x</sub> emission factor.

For units complying with section 5.4.1.3 of Rule 4320 (see table below) the exhaust emissions will be reduced by either 95% or to 9 ppmv corrected to 3.0% O<sub>2</sub> by the existing Neptune Airpol caustic scrubber. When the steam generators are not being fired on well casing or tank vapor recovery gas they will achieve the SO<sub>x</sub> requirement by burning PUC quality gas. Therefore, the worst case Post-Project SO<sub>x</sub> emissions from the steam generators (units connected to the scrubber) will be when non-PUC quality gas is burned (95% reduction in SO<sub>x</sub> or 9 ppmv-SO<sub>x</sub> will be achieved by the scrubber).

Permit Unit	Pollutant	Post-Project Emission Factor for SO <sub>x</sub> (EF2)		Source
C-311-27-14, '-27-15, '-114-6, '-114-7, '-117-6, '-117-7	SO <sub>x</sub>	0.00285 lb/MMBtu	PUC Quality Gas (4320 limits to 5 gr-S/100 dscf)	Rule 4320 Section 5.4.1.1
C-311-51-12, '-51-13	SO <sub>x</sub>	0.003 lb/MMBtu	PUC Quality Gas (4320 limits to 5 gr-S/100 dscf)	Rule 4320 Section 5.4.1.1
C-311-42-17, '-42-18, '43-15, '-43-16, '-45-14, '-45-15, '-46-12, '-46-13, '-47-6, '-47-7, '-48-7, '-48-8, '-49-7, '-49-8, '-50-7, '-50-8, '-5 2-15, '-52-16, '-53-16, '-53-17, '-55-16, '-55-17, '-56-15, '-56-16	SO <sub>x</sub>	0.0143 lb/MMBtu	PUC Quality Gas (4320 limits to 5 gr-S/100 dscf)	Rule 4320 Section 5.4.1.1
C-311-19, '-20, '-21, '-22, '-23, '-25, '-28, '-30, '-76, '-84	SO <sub>x</sub>	0.0143 lb/MMBtu	5 gr-S/100 dscf	Rule 4320 Section 5.4.1.2
C-311-36, '-37, '-38, '-39, '-40, '-41	SO <sub>x</sub>	0.052 <sup>1</sup>	PE <sub>1</sub> <sup>1</sup>	Rule 4320, Section 5.4.1.3
C-311-55-15, '-56-14	SO <sub>x</sub>	0.14 <sup>2</sup>	PE <sub>1</sub> <sup>2</sup>	Rule 4306
C-311-55, '-56	CO	0.037 lb/MMBtu	50 ppmv limit	Requested by CUSA

<sup>1</sup> SO<sub>x</sub> reduction is made through operation of caustic scrubber when non-PUC gas is incinerated

<sup>2</sup> These ATCs are requested for Rule 4306 compliance only and will retain the pre-project SO<sub>x</sub> emission factor

### C. Calculations

Since there is no change in emission rates and potential to emit for CO (except C-311-55 and '-56), VOC, and PM10 for all units, emissions for these pollutants are not calculated in this project.

#### 1. Pre-Project Potential to Emit (PE1)

The PE1 for each pollutant is calculated with the following equation (and summarized on the next table):

$$PE1 = EF1 \text{ (lb/MMBtu)} \times \text{Heat Input (MMBtu/day or year)}$$

Unit	EF <sub>PE1</sub> NO <sub>x</sub> (lb/MMBtu)	EF <sub>PE1</sub> SO <sub>x</sub> (lb/MMBtu)	Daily Fuel Limit (MMBtu/day)	PE1 Daily NO <sub>x</sub> (lb/day)	PE1 Daily SO <sub>x</sub> (lb/day)	Annual Fuel Limit (MMBtu/yr)	PE1 Annual NO <sub>x</sub> (lb/year)	PE1 Annual SO <sub>x</sub> (lb/year)
19-14	0.018	0.157	1,404	25.3	220.4	457,800	8,240	71,875
19-15	0.018	0.157	1,404	50.5	220.4	457,800	8,240	71,875
20-17	0.018	0.157	1,404	25.3	220.4	457,800	8,240	71,875
21-8	0.018	0.157	1,404	25.3	220.4	457,800	8,240	71,875
22-15	0.018	0.157	1,404	25.3	220.4	457,800	8,240	71,875
23-13	0.018	0.157	1,404	25.3	220.4	457,800	8,240	71,875
25-7	0.018	0.052	1,404	25.3	73.0	435,000	7,830	22,620
27-14	0.018	0.00285	1,404	25.3	4.0	435,000	7,830	1,240
27-15	0.018	0.00285	1,404	50.5	4.0	435,000	7,830	1,240
28-17	0.018	0.284	1,404	25.3	398.7	457,800	8,240	130,015
30-17	0.018	0.14	1,404	25.3	196.6	457,800	8,240	64,092
36-18	0.018	0.052	1,404	25.3	73.0	435,000	7,830	22,620
37-22	0.018	0.052	1,404	25.3	73.0	457,800	8,240	23,806
38-22	0.018	0.052	1,404	25.3	73.0	457,800	8,240	23,806
39-20	0.018	0.052	1,404	25.3	73.0	457,800	8,240	23,806
40-19	0.018	0.052	1,404	25.3	73.0	434,700	7,825	22,604
41-16	0.018	0.052	1,404	25.3	73.0	435,000	7,830	22,620
42-17	0.018	0.052	1,404	25.3	73.0	434,700	7,825	22,604
42-18	0.018	0.052	1,404	50.5	73.0	434,700	7,825	22,604
43-15	0.018	0.052	1,404	25.3	73.0	434,700	7,825	22,604
43-16	0.018	0.052	1,404	50.5	73.0	434,700	7,825	22,604
45-14	0.018	0.052	1,404	25.3	73.0	434,700	7,825	22,604
45-15	0.018	0.052	1,404	50.5	73.0	434,700	7,825	22,604
46-12	0.018	0.052	1,404	25.3	73.0	434,700	7,825	22,604
46-13	0.018	0.052	1,404	50.5	73.0	434,700	7,825	22,604
47-6	0.018	0.052	1,404	25.3	73.0	435,000	7,830	22,620
47-7	0.018	0.052	1,404	50.5	73.0	435,000	7,830	22,620
48-7	0.018	0.052	1,404	25.3	73.0	435,000	7,830	22,620
48-8	0.018	0.052	1,404	50.5	73.0	435,000	7,830	22,620
49-7	0.018	0.052	1,404	25.3	73.0	435,000	7,830	22,620
49-8	0.018	0.052	1,404	50.5	73.0	435,000	7,830	22,620
50-7	0.018	0.052	1,404	25.3	73.0	435,000	7,830	22,620

Unit	EF <sub>PE1</sub> NO <sub>x</sub> (lb/MMBtu)	EF <sub>PE1</sub> SO <sub>x</sub> (lb/MMBtu)	Daily Fuel Limit (MMBtu/day)	PE1 Daily NO <sub>x</sub> (lb/day)	PE1Daily SO <sub>x</sub> (lb/day)	Annual Fuel Limit (MMBtu/yr)	PE1Annual NO <sub>x</sub> (lb/year)	PE1Annual SO <sub>x</sub> (lb/year)
50-8	0.018	0.052	1,404	50.5	73.0	435,000	7,830	22,620
51-12	0.018	0.003	1,404	25.3	4.2	434,700	7,825	1,304
51-13	0.018	0.003	1,404	50.5	4.2	434,700	7,825	1,304
52-15	0.018	0.14	1,404	25.3	196.6	457,800	8,240	64,092
52-16	0.018	0.14	1,404	50.5	196.6	457,800	8,240	64,092
53-16	0.018	0.14	1,404	25.3	196.6	457,800	8,240	64,092
53-17	0.018	0.14	1,404	50.5	196.6	457,800	8,240	64,092
55-15	0.036	0.14	1,404	50.5	196.6	457,800	16,481	64,092
55-16	0.018	0.14	1,404	25.3	196.6	457,800	8,240	64,092
55-17	0.018	0.14	1,404	50.5	196.6	457,800	8,240	64,092
56-14	0.036	0.14	1,404	50.5	196.6	457,800	16,481	64,092
56-15	0.018	0.14	1,404	25.3	196.6	457,800	8,240	64,092
56-16	0.018	0.14	1,404	50.5	196.6	457,800	8,240	64,092
76-14	0.018	0.043	1,404	25.3	60.4	434,700	7,825	18,692
76-15	0.018	0.043	1,404	50.5	60.4	434,700	7,825	18,692
84-15	0.018	0.043	1,404	25.3	60.4	434,700	7,825	18,692
84-16	0.018	0.043	1,404	50.5	60.4	434,700	7,825	18,692
114-6	0.018	0.00285	526	9.5	1.5	192,000	3,456	547
114-7	0.018	0.00285	526	18.9	1.5	192,000	3,456	547
117-6	0.018	0.00285	526	9.5	1.5	192,000	3,456	547
117-7	0.018	0.00285	526	18.9	1.5	192,000	3,456	547

Unit	EF <sub>PE1</sub> CO (lb/MMBtu)	Daily Fuel Limit (MMBtu/day)	PE1 Daily CO (lb/day)	Annual Fuel Limit (MMBtu/yr)	PE1 Annual CO (lb/year)
55-15	0.035	1,404	64.2 <sup>3</sup>	457,800	16,023
56-14	0.291	1,404	408.6	457,800	133,220

## 2. Post-Project Potential to Emit (PE2)

The PE2 for each pollutant is calculated with the following equation (and summarized on the next table):

$$PE2 = EF_2 \text{ (lb/MMBtu)} \times \text{Heat Input (MMBtu/day or year)}$$

Unit	EF <sub>PE2</sub> NO <sub>x</sub> (lb/MMBtu)	EF <sub>PE2</sub> SO <sub>x</sub> (lb/MMBtu)	Daily Fuel Limit (MMBtu/day)	PE2 Daily NO <sub>x</sub> (lb/day)	PE2Daily SO <sub>x</sub> (lb/day)	Annual Fuel Limit (MMBtu/yr)	PE2Annual NO <sub>x</sub> (lb/year)	PE2Annual SO <sub>x</sub> (lb/year)
19-14	0.011	0.0143	1,404	25.3	20.1	457,800	5,036	6,547
19-15	0.018	0.0143	1,404	50.5	20.1	457,800	8,240	6,547
20-17	0.011	0.0143	1,404	25.3	20.1	457,800	5,036	6,547
21-8	0.011	0.0143	1,404	25.3	20.1	457,800	5,036	6,547
22-15	0.011	0.0143	1,404	25.3	20.1	457,800	5,036	6,547
23-13	0.011	0.0143	1,404	25.3	20.1	457,800	5,036	6,547

<sup>3</sup> Startup/shutdown EF<sub>1</sub> (307.6 MMBtu/day) + Steady state EF<sub>1</sub> (1,096.4 MMBtu/day)

Unit	EF <sub>PE2</sub> NO <sub>x</sub> (lb/MMBtu)	EF <sub>PE2</sub> SO <sub>x</sub> (lb/MMBtu)	Daily Fuel Limit (MMBtu/day)	PE2 Daily NO <sub>x</sub> (lb/day)	PE2Daily SO <sub>x</sub> (lb/day)	Annual Fuel Limit (MMBtu/yr)	PE2Annual NO <sub>x</sub> (lb/year)	PE2Annual SO <sub>x</sub> (lb/year)
25-7	0.011	0.0143	1,404	25.3	20.1	435,000	4,785	6,221
27-14	0.008	0.00285	1,404	25.3	4.0	435,000	3,480	1,240
27-15	0.018	0.00285	1,404	50.5	4.0	435,000	7,830	1,240
28-17	0.011	0.0143	1,404	25.3	20.1	457,800	5,036	6,547
30-17	0.011	0.0143	1,404	25.3	20.1	457,800	5,036	6,547
36-18	0.011	0.052 <sup>4</sup>	1,404	25.3	73.0	435,000	4,785	22,620
37-22	0.011	0.052 <sup>4</sup>	1,404	25.3	73.0	457,800	5,036	23,806
38-22	0.011	0.052 <sup>4</sup>	1,404	25.3	73.0	457,800	5,036	23,806
39-20	0.011	0.052 <sup>4</sup>	1,404	25.3	73.0	457,800	5,036	23,806
40-19	0.011	0.052 <sup>4</sup>	1,404	25.3	73.0	434,700	4,782	22,604
41-16	0.011	0.052 <sup>4</sup>	1,404	25.3	73.0	435,000	4,785	22,620
42-17	0.008	0.0143	1,404	25.3	20.1	434,700	3,478	6,216
42-18	0.018	0.0143	1,404	50.5	20.1	434,700	7,825	6,216
43-15	0.008	0.0143	1,404	25.3	20.1	434,700	3,478	6,216
43-16	0.018	0.0143	1,404	50.5	20.1	434,700	7,825	6,216
45-14	0.008	0.0143	1,404	25.3	20.1	434,700	3,478	6,216
45-15	0.018	0.0143	1,404	50.5	20.1	434,700	7,825	6,216
46-12	0.008	0.0143	1,404	25.3	20.1	434,700	3,478	6,216
46-13	0.018	0.0143	1,404	50.5	20.1	434,700	7,825	6,216
47-6	0.008	0.0143	1,404	25.3	20.1	435,000	3,480	6,221
47-7	0.018	0.0143	1,404	50.5	20.1	435,000	7,830	6,221
48-7	0.008	0.0143	1,404	25.3	20.1	435,000	3,480	6,221
48-8	0.018	0.0143	1,404	50.5	20.1	435,000	7,830	6,221
49-7	0.008	0.0143	1,404	25.3	20.1	435,000	3,480	6,221
49-8	0.018	0.0143	1,404	50.5	20.1	435,000	7,830	6,221
50-7	0.008	0.0143	1,404	25.3	20.1	435,000	3,480	6,221
50-8	0.018	0.0143	1,404	50.5	20.1	435,000	7,830	6,221
51-12	0.008	0.003	1,404	25.3	4.2	434,700	3,478	1,304
51-13	0.018	0.003	1,404	50.5	4.2	434,700	7,825	1,304
52-15	0.008	0.0143	1,404	25.3	20.1	457,800	3,662	6,547
52-16	0.018	0.0143	1,404	50.5	20.1	457,800	8,240	6,547
53-16	0.008	0.0143	1,404	25.3	20.1	457,800	3,662	6,547
53-17	0.018	0.0143	1,404	50.5	20.1	457,800	8,240	6,547
55-15	0.018	0.14 <sup>5</sup>	1,404	50.5	196.6	457,800	8,240	64,092
55-16	0.008	0.0143	1,404	25.3	20.1	457,800	3,662	6,547
55-17	0.018	0.0143	1,404	50.5	20.1	457,800	8,240	6,547
56-14	0.018	0.14 <sup>5</sup>	1,404	50.5	196.6	457,800	8,240	64,092
56-15	0.008	0.0143	1,404	25.3	20.1	457,800	3,662	6,547
56-16	0.018	0.0143	1,404	50.5	20.1	457,800	8,240	6,547
76-14	0.011	0.0143	1,404	25.3	20.1	434,700	4,782	6,216
76-15	0.018	0.0143	1,404	50.5	20.1	434,700	7,825	6,216
84-15	0.011	0.0143	1,404	25.3	20.1	434,700	4,782	6,216
84-16	0.018	0.0143	1,404	50.5	20.1	434,700	7,825	6,216
114-6	0.008	0.00285	526	9.5	1.5	192,000	1,536	547
114-7	0.018	0.00285	526	18.9	1.5	192,000	3,456	547

<sup>4</sup> SO<sub>x</sub> reductions are achieved by routing exhaust to AirPol caustic scrubber (condition added to permits requiring 95% reduction or 9 ppm concentration of SO<sub>x</sub>).

<sup>5</sup> These units are being evaluated for Rule 4306 compliance only (SO<sub>x</sub> reductions are not required for Rule 4306).

Unit	EF <sub>PE2</sub> NO <sub>x</sub> (lb/MMBtu)	EF <sub>PE2</sub> SO <sub>x</sub> (lb/MMBtu)	Daily Fuel Limit (MMBtu/day)	PE2 Daily NO <sub>x</sub> (lb/day)	PE2Daily SO <sub>x</sub> (lb/day)	Annual Fuel Limit (MMBtu/yr)	PE2Annual NO <sub>x</sub> (lb/year)	PE2Annual SO <sub>x</sub> (lb/year)
117-6	0.008	0.00285	526	9.5	1.5	192,000	1,536	547
117-7	0.018	0.00285	526	18.9	1.5	192,000	3,456	547

Unit	EF <sub>PE2</sub> CO (lb/MMBtu)	Daily Fuel Limit (MMBtu/day)	PE2 Daily CO (lb/day)	Annual Fuel Limit (MMBtu/yr)	PE2 Annual CO (lb/year)
55-15	0.037	1,404	66.4 <sup>6</sup>	457,800	16,939
56-14	0.037	1,404	66.4 <sup>4</sup>	457,800	16,939

### 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, or
- An offset threshold will be surpassed, or
- A Stationary Source Increase in Permitted Emissions (SSIPE) public notice is triggered

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

Facility emissions are already above the Offset and Major Source Thresholds for all pollutants. There is no increase in potential emissions for any of the units, for any pollutant in this project; therefore, SSPE1 calculations are not necessary.

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

SSPE2 calculations are necessary to aid the following determinations:

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

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

<sup>6</sup> Startup/shutdown EF<sub>2</sub> (307.6 MMBtu/day) + Steady state EF<sub>2</sub> (1,096.4 MMBtu/day)

Facility emissions are already above the Offset and Major Source Thresholds for all pollutants. There is no increase in potential emissions for any of the units, for any pollutant in this project. The potential to emit NO<sub>x</sub> and SO<sub>x</sub> will decrease in accordance with District Rules 4306 and 4320. Therefore, SSPE2 calculations are not necessary.

## **5. Major Source Determination**

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

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

## **6. Baseline Emissions (BE)**

The BE calculation (in lb/year) is performed on a pollutant-by-pollutant basis to determine the amount of offsets required, where necessary, when the SSPE1 is greater than the offset threshold. This project is exempt from offsets pursuant to Rule 2201, Section 4.6.8 as the modification is being made solely to comply with Rules 4306 and 4320. Therefore, BE calculations are not required.

## **7. Major Modification**

This facility is an existing major source for all air contaminants.

District Rule 2201 references the definition of major modification provided in 40 CFR 51.165 (v)(A) in effect on December 19, 2002, where major modification means 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.

Significant is defined under Part 51.165(x) as a net emissions increase in the potential of a source to emit any affected pollutant equal to or exceeding any applicable thresholds. For existing major sources in the San Joaquin Valley Air Basin, which is non-attainment for Ozone and PM10, a major modification occurs if the Net Emissions Increases (NEI) is equal to or greater than one or more of the following threshold values when calculated on actual to PE basis:



<b>Major Modification Thresholds (Existing Major Source)</b>			
Pollutant	Project PE (lb/year)	Threshold (lb/year)	Major Modification?
NO <sub>x</sub>	>50,000	50,000	Yes <sup>7</sup>
SO <sub>x</sub>	>80,000	80,000	Yes <sup>1</sup>
PM <sub>10</sub>	>30,000	30,000	Yes <sup>1</sup>
VOC	>50,000	50,000	Yes <sup>1</sup>

Therefore, this project is a major modification and public notice is required.

## 8. Federal Major Modification

Pursuant to Rule 2201 Section 3.17 to determine if a project is a Federal major modification, the calculation procedure in 40 CFR 51.165(a)(2)(ii) shall be used.

This calculation procedure states that if the sum of the differences between the projected actual emissions and the baseline actual emissions (for existing emission units) or the sum of the potentials to emit (for new emission units) is significant, i.e. greater than the values listed in Rule 2201 Table 3-1, the project is a Federal major modification.

For existing emission units where there is no increase in design capacity the projected actual emissions (PAE) are equal to the emission rate at which the unit is projected to emit in any one year selected by the operator within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity). This projection is made by the operator and must be based on all relevant information, e.g. expected business activity.

For emission units (other than electric utility steam generating units) the baseline actual emissions (BAE) are calculated based on any 24 month period selected by the operator within the previous 10 year period. These emissions must not include any non-compliant operation

In calculating the emission increase (PAE – BAE), the portion of the emissions after the project that the unit could have actually emitted (during the same period used to determine BAE) that are unrelated to the particular project and emissions due to increased product demand are excluded.

For rule compliance projects, the difference between the PAE and the BAE (excluding emissions that the unit could have emitted during the baseline period) for pollutants targeted by the subject rule will be a negative value.

Additionally, it can reasonably be concluded that the difference between the PAE and the BAE (excluding emissions that the unit could have emitted during the baseline period) for non-targeted pollutants will be zero as any increase in actual emissions (after the project) would be due to increases in business activity and not

<sup>7</sup> Due to the large number of affected units proposed by CUSA for Rule 4320 compliance, this project (considering that steam generators typically have actual emissions below their permitted emission levels) is presumed to cross one or more major modification thresholds.

due to the modification itself. Such emission increases are excluded when calculating the emission increase.

For the reasons stated above, this rule compliance project will not result in a significant emission increase and therefore is not a Federal major modification.

## VIII. COMPLIANCE

### District Rule 2201 New and Modified Stationary Source Review Rule

#### A. Best Available Control Technology (BACT)

##### 1. BACT Applicability

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

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

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

However, BACT shall not be required for the following:

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

4.2.3.1 There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;

4.2.3.2 There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;

4.2.3.3 There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and

4.2.3.4 The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO<sub>x</sub>, or 25 tons per year of VOC, or 15 tons per year of SO<sub>x</sub>, or 15 tons per year of PM<sub>10</sub>, or 50 tons per year of CO.

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



## **B. Offsets**

### **1. Offset Applicability**

The proposed modifications are solely for compliance with Rules 4306 and 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<sub>x</sub>, or 25 tons per year of VOC, or 15 tons per year of SO<sub>x</sub>, or 15 tons per year of PM-10, or 50 tons per year of CO.

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

### **2. Quantity of Offsets Required**

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

## **C. Public Notification**

### **1. Applicability**

Public noticing is required for:

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

**a. New Major Source**

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

**b. Major Modification**

As demonstrated in VII.C.7, this project 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 PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project; therefore public noticing is not required for this project for Potential to Emit exceeding the 100 lb/day limit.

**d. Offset Threshold**

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

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

**e. SSIPE > 20,000 lb/year**

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

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

**2. Public Notice Action**

As discussed above, public notice will be required for this project.

**D. Daily Emission Limits (DELs)**

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

The DELs for the unit is based on the use of natural gas and LPG as a fuel and will be stated in the form of emission factors as shown:

For all units except C-311-55-15 '-56-14:

- Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: X ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or X.XX lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or X.XX lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201]
- Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: XX.X lb-NO<sub>x</sub>/day, XXX lb-NO<sub>x</sub>/yr, XX.X lb-CO/day, and XXX lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320]

For all units except C-311-36, '-37, '-38, '-39, '-40, '-41:

- Emissions from the steam generator shall not exceed any of the following limits: [**0.0143 or current EF if lower**] lb-SO<sub>x</sub>/MMBtu, X.XXX lb-PM<sub>10</sub>/MMBtu, or X.XXX lb-VOC/MMBtu. [District Rules 2201 and 4320]

C-311-36, '-37, '-38, '-39, '-40, '-41: (scrubbed units)

- Whenever well casing vapors and/or tank vapor recovery gas are being burned in this unit, the SO<sub>2</sub> scrubber shall operate and shall reduce SO<sub>2</sub> emissions by 95% by weight, or shall limit exhaust SO<sub>2</sub> to less than or equal to 9 ppmv corrected to 3.0% oxygen. [District Rules 2201 and 4320]
- PUC quality gas shall be combusted in this unit whenever the scrubber is not being operated. [District Rules 2201 and 4320]
- Emissions from the steam generator shall not exceed any of the following limits: [**Current EF**] lb-SO<sub>x</sub>/MMBtu, X.XXX lb-PM<sub>10</sub>/MMBtu, or X.XXX lb-VOC/MMBtu. [District Rule 2201]

For all units:

- The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201]

## E. Compliance Assurance

### 1. Source Testing

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

## 2. Monitoring

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

The following condition will be included on the ATCs to ensure compliance:

- Permittee shall maintain records of higher heating value (hvh), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201]

## 3. Recordkeeping

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

For all units:

- Copies of all 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, fuel source, 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]

## 4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

### District Rule 2520 Federally Mandated Operating Permits

Chevron USA, Inc. has a Title V permit. The changes authorized by these ATCs constitute a minor modification of their Title V permit. As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment prior to operating with the proposed modifications and permit conditions will be listed as follows:

- {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201]
- {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520]

## **District Rule 4001 New Source Performance Standards**

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. 40 CFR Part 60, Subpart Dc applies to Small Industrial-Commercial-Industrial Steam Generators between 10 MMBtu/hr and 100 MMBtu/hr (post-6/9/89 construction, modification or, reconstruction)

40 CFR Part 60, Subpart A, section 14, defines the meaning of modification to which the standards are applicable. §60.14, paragraph (e)(5) states that the following will not be considered as a modification: *“the addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or replaced by a system which the Administrator determines to be less environmentally beneficial”.*

No newly constructed or reconstructed units are proposed in this project, nor is the unit being modified (as defined above). Since the permittee is retrofitting the unit with an equivalent size, or smaller, burner for compliance with District rules and regulations, the requirements of these sections do not apply to the unit.

## **District Rule 4101 Visible Emissions**

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

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

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

Therefore, compliance with District Rule 4101 requirements is expected.

## **District Rule 4102 Nuisance**

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

A permit condition will be listed on the permit 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.

Since the applicant is not proposing an increase in emissions with this project, a health risk assessment is not necessary and no further risk analysis is required.

**District Rule 4201 Particulate Matter Concentration**

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot. The worst case emissions unit will be used for this calculation (C-311-21-8 @ 0.08 lb-PM<sub>10</sub>/MMBtu).

F-Factor for NG: 8,578 dscf/MMBtu at 60 °F  
 PM10 Emission Factor: 0.0490 lb-PM10/MMBtu  
 Percentage of PM as PM10 in Exhaust: 100%  
 Exhaust Oxygen (O<sub>2</sub>) Concentration: 3%  
 Excess Air Correction to F Factor =  $\frac{20.9}{(20.9 - 3)} = 1.17$

$$GL = \left( \frac{0.08 \text{ lb-PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb-PM}} \right) / \left( \frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17 \right)$$

$GL = 0.06 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$

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

- Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3]

**District Rule 4301 Fuel Burning Equipment**

This rule specifies maximum emission rates in lb/hr for SO<sub>2</sub>, NO<sub>2</sub>, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

District Rule 4301 Limits (lb/hr)			
Pollutant	NO <sub>2</sub>	Total PM	SO <sub>2</sub>
Worst case pollutants	2.28 <sub>30 ppm</sub>	4.68 <sub>0.08 lb/MMBtu</sub>	8.19 <sub>0.14 lb/MMbtu</sub>
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 generators are not required to tune since it follows District approved Alternate Monitoring scheme A, where the applicable emission limits are periodically monitored. Therefore, the units are not subject to this rule.

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

These units are natural gas-fired with a maximum heat input of 62.5 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4305, the units are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2*.

In addition, these units are also subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*.

Since the emissions limits of District Rule 4306 and all other requirements are equivalent or more stringent than District Rule 4305 requirements, compliance with District Rule 4306 requirements will satisfy the requirements of District Rule 4305.

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

### **For all units except C-311-55-15 and '-56-14:**

These units are natural gas-fired with a maximum heat input of 58.5 - 62.5 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, these units are subject to District Rule 4306. In addition, these units are also subject to *District Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr.*

The subject units are currently in compliance 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, continued compliance is expected

### **For units C-311-55-15 and '-56-14:**

The units have a maximum heat input of 58.5 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, the unit is subject to District Rule 4306.

This discussion pertains to ATCs C-311-55-15 and '-56-14 only as ATCs C-311-55-16, '-55-17, '-56-15, and '-56-16 (limited by permit condition to be implemented concurrently with or after '-55-15 and '-56-14) are subject to District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr.*

## **Section 5.1, NO<sub>x</sub> and CO Emissions Limits**

Section 5.1.1 requires that except for units subject to Sections 5.2, NO<sub>x</sub> and carbon monoxide (CO) emissions shall not exceed the limits specified in the following table. All ppmv emission limits specified in this section are referenced at dry stack gas conditions and 3.00 percent by volume stack gas oxygen. Emission concentrations shall be corrected to 3.00 percent oxygen in accordance with Section 8.1.

With a maximum heat input of 58.5 MMBtu/hr, the applicable emission limit category is listed in Section 5.1.1, Table 1, Category C, from District Rule 4306.



Rule 4306 Emissions Limits				
Category	Operated on gaseous fuel		Operated on liquid fuel	
	NO <sub>x</sub> Limit	CO Limit	NO <sub>x</sub> Limit	CO Limit
C. Oilfield Steam Generators	15 ppmv or 0.018 lb/MMBtu	400 ppmv	40 ppmv or 0.052 lb/MMBtu	400 ppmv

For the units:

- the proposed NO<sub>x</sub> emission factor is 15 ppmvd @ 3% O<sub>2</sub> (0.018 lb/MMBtu), and
- the proposed CO emission factor is 50 ppmvd @ 3% O<sub>2</sub> (0.037 lb/MMBtu).

Therefore, compliance with Section 5.1 of District Rule 4306 is expected.

A permit condition listing the emissions limits will be listed on permit as shown in the preceding DEL section.

### Section 5.2, Low Use

The unit annual heat input will exceed the 9 billion Btu heat input per calendar year criteria limit addressed by this section. Since the unit is not subject to Section 5.2, the requirements of this section do not apply to the unit.

### Section 5.3, Startup and Shutdown Provisions

Section 5.3 states that on and after the full compliance schedule specified in Section 7.1, the applicable emission limits of Sections 5.1, 5.2.2 and 5.2.3 shall not apply during start-up or shutdown provided an operator complies with the requirements specified in Sections 5.3.1 through 5.3.4.

BPC has proposed to retain existing start-up and shutdown provisions for the steam generator. Therefore, the following conditions will be listed on the proposed permit to ensure compliance:

- 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, 5.5.6 and 4306, 5.3]
- Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22]



## Section 5.4, Monitoring Provisions

Section 5.4.2 requires that permit units subject to District Rule 4306, Section 5.1 emissions limits shall either install and maintain Continuous Emission Monitoring (CEM) equipment for NO<sub>x</sub>, CO and O<sub>2</sub>, or install and maintain APCO-approved alternate monitoring.

In order to satisfy the requirements of District Rule 4306, the applicant has proposed to use pre-approved alternate monitoring scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NO<sub>x</sub>, CO, and O<sub>2</sub> 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 will be incorporated into the permit in order to ensure compliance with the requirements of the proposed alternate monitoring plan:

- {2935} The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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]
- {2936} If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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]
- {2937} 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]
- {2938} The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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]

Since the unit is not subject to the requirements listed in Section 5.2.1 or 5.2.2, it is not subject to Section 5.4.3 requirements.

Since the unit is not subject to the requirements of category H (maximum annual heat input between 9 billion and 30 billion Btu/year) listed in Section 5.1.1, it is not subject to Section 5.4.4 requirements.

### **Section 5.5, Compliance Determination**

Section 5.5.1 requires that the operator of any unit shall have the option of complying with either the applicable heat input (lb/MMBtu) emission limits or the concentration (ppmv) emission limits specified in Section 5.1. 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 permit as follows:

- {2976} The source plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]

Section 5.5.2 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. 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 permit as follows:

- {2972} 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]

Section 5.5.4 requires that for emissions monitoring pursuant to Sections 5.4.2, 5.4.2.1, and 6.3.1 using a portable NO<sub>x</sub> 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 listed on the permit as follows:

- {2937} 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]

Section 5.5.5 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:

- {2980} 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]

### Section 6.1, Recordkeeping

Section 6.1 requires that the records required by Sections 6.1.1 through 6.1.3 shall be maintained for five calendar years and shall be made available to the APCO 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.

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

- {2983} 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, and 4306]

Section 6.1.2 requires that the operator of a unit subject to Section 5.2 shall record the amount of fuel use at least on a monthly basis. Since the unit is not subject to the requirements listed in Section 5.2, it is not subject to Section 6.1.2 requirements.

Section 6.1.3 requires that the operator of a unit subject to Section 5.2.1 or 6.3.1 shall maintain records to verify that the required tune-up and the required monitoring of the operational characteristics have been performed. The unit is not subject to Section 6.1.3. Therefore, the requirements of this section do not apply to the unit.

### Section 6.2, Test Methods

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

Pollutant	Units	Test Method Required
NO <sub>x</sub>	ppmv	EPA Method 7E or ARB Method 100
NO <sub>x</sub>	lb/MMBtu	EPA Method 19
CO	ppmv	EPA Method 10 or ARB Method 100
Stack Gas O <sub>2</sub>	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2
Stack Gas Moisture Content	%	EPA Method 4

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

- {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<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305 and 4306]

### **Section 6.3, Compliance Testing**

Section 6.3.1 requires that this unit be tested to determine compliance with the applicable requirements of section 5.1 and 5.2.3 not less than once every 12 months. Upon demonstrating compliance on two consecutive compliance source tests, the following source test may be deferred for up to thirty-six months.

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

- {3467} Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, and 4306]
- {3466} Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]
- {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

In addition, since the applicant has proposed to use pre-approved Alternate Monitoring Scheme "A" using a portable analyzer, the tune-up requirements listed in Section 6.3.1 is not applicable to the steam generator. Section 6.3.1 also requires that, during the 36-month source testing interval, the owner/operator shall monthly monitor the operational characteristics recommended by the unit manufacturer. Since the pre-approved Alternate Monitoring Scheme "A" using a portable analyzer requires monthly monitoring of NO<sub>x</sub>, CO, and O<sub>2</sub> exhaust emissions concentrations, operational characteristics monitoring requirement is satisfied, and no further discussion is required.

### **Section 7.0, Compliance Schedule**

Section 7.0 indicates that an operator with multiple units at a stationary source shall comply with this rule in accordance with the schedule specified in Table 2, Section 7.1 of District Rule 4306.

The unit will be in compliance with the emissions limits listed in table 1, Section 5.1 of this rule, and periodic monitoring and source testing as required by District Rule 4306. Therefore, requirements of the compliance schedule, as listed in Section 7.1 of District Rule 4306, are satisfied. No further discussion is required.

## Conclusion

Conditions will be incorporated into the permit in order to ensure compliance with each section of this rule, see attached draft permit(s). Therefore, compliance with District Rule 4306 requirements is expected.

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

#### **All units except C-311-55-15 and '-56-14 (Rule 4306 compliant units):**

This rule limits NO<sub>x</sub>, CO, SO<sub>2</sub> and PM<sub>10</sub> 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<sub>x</sub> emitted over the previous year.

The units in this project are all rated at greater than 5 MMBtu/hr heat input. Therefore this rule applies.

#### **Section 5.1 NO<sub>x</sub> 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<sub>x</sub> limit specified in Table 1 of this rule.

With a maximum heat input of 58.5 - 62.5 MMBtu/year for these steam generators the applicable emission limit category Section 5.2, Table 1, Category C.2 (units firing on >50% PUC quality gas) and C.3 (units firing on <50% PUC quality gas), from District Rule 4320 are as follows:

C. Oilfield Steam Generators			
1. Units with a total rated heat input > 5.0 MMBtu/hr to < 20.0 MMBtu/hr	a) Standard Schedule 9 ppmv or 0.011 lb/MMBtu: or	July 1, 2011	July 1, 2012
	b) Enhanced Schedule 6 ppmv or 0.007 lb/MMBtu	January 1, 2013	January 1, 2014
2. Units with a total rated heat input > 20.0 MMBtu/hr	a) Standard Schedule 7 ppmv or 0.008 lb/MMBtu: or	July 1, 2009	July 1, 2010
	b) Staged Enhanced Schedule Initial Limit 9 ppmv or 0.011 lb/MMBtu: and	July 1, 2011	July 1, 2012
	Final Limit 5 ppmv or 0.0062 lb/MMBtu	January 1, 2013	January 1, 2014
3. Units firing on less than 50%, by volume, PUC quality gas.	Staged Enhanced Schedule Initial Limit 12 ppmv or 0.014 lb/MMBtu: and	July 1, 2010	July 1, 2011
	Final Limit 9 ppmv or 0.011 lb/MMBtu	January 1, 2013	January 1, 2014

As shown above, the 7 and 9 ppmvd @ 3% O<sub>2</sub> NO<sub>x</sub> limit proposed for the steam generators, for both standard and staged schedules, in this project are consistent with one of the compliance options allowed by the rule.

## Section 5.4 Particulate Matter Control Requirements

5.4.1 To limit particulate matter emissions, an operator shall comply with one of the following requirements:

5.4.1.1 On and after the applicable NO<sub>x</sub> Compliance Deadline specified in Section 5.2 Table 1, operators shall fire units exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;

5.4.1.2 On and after the applicable NO<sub>x</sub> Compliance Deadline specified in Section 5.2 Table 1, operators shall limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet; or

5.4.1.3 On and after the applicable NO<sub>x</sub> Compliance Deadline specified in Section 5.2 Table 1, operators shall install and properly operate an emission control system that reduces SO<sub>2</sub> emissions by at least 95% by weight; or limit exhaust SO<sub>2</sub> to less than or equal to 9 ppmv corrected to 3.0% O<sub>2</sub>.

5.4.1.4 Notwithstanding the compliance deadlines indicated in Sections 5.4.1.1 through 5.4.1.3, refinery units, which require modification of refinery equipment to reduce sulfur emissions, shall be in compliance with the applicable requirement in Section 5.4.1 no later than July 1, 2013.

CUSA will address the particulate matter in the following manner (conditions previously proposed in the Rule 2201 compliance section VIII.D):

For all units except C-311-36, '-37, '-38, '-39, '-40, '-41:

- Emissions from the steam generator shall not exceed any of the following limits: **[0.0143 or current EF if lower] lb-SOx/MMBtu**, X.XXX lb-PM10/MMBtu, or X.XXX lb-VOC/MMBtu. [District Rules 2201 and 4320]

C-311-36, '-37, '-38, '-39, '-40, '-41: (scrubbed units)

- Whenever well casing vapors and/or tank vapor recovery gas are being burned in this unit, the SO<sub>2</sub> scrubber shall operate and shall reduce SO<sub>2</sub> emissions by 95% by weight, or shall limit exhaust SO<sub>2</sub> to less than or equal to 9 ppmv corrected to 3.0% oxygen. [District Rules 2201 and 4320]
- PUC quality gas shall be combusted in this unit whenever the scrubber is not being operated. [District Rules 2201 and 4320]
- Emissions from the steam generator shall not exceed any of the following limits: **[Current EF] lb-SOx/MMBtu**, X.XXX lb-PM10/MMBtu, or X.XXX lb-VOC/MMBtu. [District Rule 2201]

Compliance with section 5.4 is expected.

## **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.

CUSA has proposed to retain existing start-up and shutdown duration limits of 2 hours and 2 hours, respectively. Emissions during start-up and shutdown will not be subject to the emission limits in Sections 5.2 and 5.2.2. The following conditions will be listed on the ATCs:

- 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]
- Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320]



## Section 5.7 Monitoring Provisions

Section 5.7.1 requires that permit units subject to District Rule 4320, Section 5.2 shall both install and maintain an operational APCO approved Continuous Emission Monitoring System (CEMS) for NO<sub>x</sub>, CO and O<sub>2</sub>, or implement an APCO-approved alternate monitoring.

Consistent with current permit requirements, CUSA proposes to continue implementing Alternate Monitoring Scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NO<sub>x</sub>, CO, and O<sub>2</sub> 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 will be incorporated into the ATCs to ensure compliance with the requirements of the proposed alternate monitoring plan:

- {4063} The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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]
- {4064} If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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]
- {4065} 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]
- {4066} The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent by volume and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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 operators complying with Sections 5.4.1.1 or 5.4.1.2 to provide an annual fuel analysis to the District unless a more frequent sampling and reporting period is included in the Permit To Operate. Sulfur analysis shall be performed in accordance with the



test methods in Section 6.2 (all base documents contain conditions requiring at least annual fuel sulfur analysis).

All units except C-311-36, '-37, '-38, '-39, '-40, '-41:

- Operator shall provide an annual fuel analysis to the District. [District Rule 4320]

Operators complying with Section 5.4.1.3 are required to perform an annual source test for SO<sub>x</sub> emissions

C-311-36, '-37, '-38, '-39, '-40, '-41 (scrubbed units):

- Source testing to measure SO<sub>x</sub> emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. [District Rule 4320]

### **Section 5.8 Compliance Determination**

Section 5.8.1 requires that the operator of any unit shall have 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:

- {2976} The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]

Section 5.8.2 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. 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:

- {2972} 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. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [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<sub>x</sub> 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 previously listed permit condition will be on the ATCs as follows:

- {2937} 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:

- {2980} 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.

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

- {2983} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320]

### Section 6.2, Test Methods

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

Pollutant	Units	Test Method Required
NO <sub>x</sub>	ppmv	EPA Method 7E or ARB Method 100
NO <sub>x</sub>	lb/MMBtu	EPA Method 19
CO	ppmv	EPA Method 10 or ARB Method 100
Stack Gas O <sub>2</sub>	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2
Stack Gas Moisture Content	%	EPA Method 4

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

- {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<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320]

### **Section 6.3, Compliance Testing**

Section 6.3.1 requires that this unit be tested to determine compliance with the applicable requirements of section 5.1 and 5.2.3 not less than once every 12 months. Upon demonstrating compliance on two consecutive compliance source tests, the following source test may be deferred for up to thirty-six months.

The following permit conditions will be listed on the ATCs:

- Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320]
- Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320]
- The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

In addition, since the applicant has proposed to use pre-approved Alternate Monitoring Scheme "A" using a portable analyzer, the tune-up requirements listed in Section 6.3.1 are not applicable to these units. Section 6.3.1 also requires that, during the 36-month source testing interval, the owner/operator shall monthly monitor the operational characteristics recommended by the unit manufacturer. Since the pre-approved Alternate Monitoring Scheme "A" using a portable analyzer requires monthly monitoring of NO<sub>x</sub>, CO, and O<sub>2</sub> exhaust emissions concentrations, operational characteristics monitoring requirement is satisfied, and no further discussion is required.

The applicant currently uses representative testing for the steam generators involved with this project. Therefore, Section 6.3.2 applies to the units involved with this project. Section 6.3.2 allows that in lieu of compliance with Section 6.3.1, compliance with the applicable emission limits in Sections 5.1 or 5.2.3 shall be demonstrated by submittal of annual

emissions test results to the District from a unit or units that represents a group of units, provided:

- 1) All units in the group are initially source tested. The emissions from all test runs from units within the group are less than 90% of the permitted value, and the emissions do not vary greater than 25% from the average of all test runs; and
- 2) All units in a group are similar in terms of rated heat input, make and series, operational conditions, fuel used, and control method. No unit with a rated heat input greater than 100 MMBtu shall be considered as part of the group; and
- 3) The group is owned by a single owner and is located at a single stationary source; and
- 4) Selection of the representative unit(s) is approved by the APCO prior to testing; and
- 5) The number of representative units source tested shall be at least 30% of the total number of units in the group. The representative tests shall rotate each year so that within three years all units in the group have been tested at least once.
- 6) All units in the group shall have received the similar maintenance and tune-up procedures as the representative unit(s) as listed in the Permit to Operate. The operator shall submit to the APCO the specific maintenance procedures to be performed on each unit that will be included in the group for representative testing. Such maintenance procedures shall be specified in the Permit to Operate for units that are included in the group for representative testing. Any maintenance work on a unit which has no effect on emissions standards and which is not specified in the maintenance procedures shall be submitted to the APCO for approval before such unit can be included as part of the group for representative testing. Any unit that necessitates any maintenance work which has an effect on emission standards and is beyond the maintenance procedures identified in the Permit to Operate, shall not be included as part of the group for representative testing. The unit shall be source tested in accordance with the provisions of Section 6.3.1; and
- 7) Should any of the representative units exceed the required emission limits, each of the units in the group shall demonstrate compliance by emissions testing. Failure to complete emissions testing within 90 days of the failed test shall result in the untested units being in violation of this rule. After compliance with the requirements of Section 6.3.2.7 has been demonstrated, subsequent source testing shall be performed pursuant to Sections 6.3.1 or 6.3.2.

The following permit conditions will be listed on the ATCs:

- Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> 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<sub>x</sub> 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, 4305, 4306, and 4320]

- 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, 4305, 4306, and 4320]
- 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). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 4305, 4306, and 4320]
- All units in a group for which representative units are source tested to 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 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, 4305, 4306, and 4320]
- 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, 4305, 4306, and 4320]

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

### **Conclusion**

Conditions will be incorporated into the permit in order to ensure compliance with each section of this rule, see attached draft permits in Appendix C. 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 SO<sub>2</sub>, 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:

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

$$\frac{0.14 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 96.8 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 96.8 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirements is expected.

### California Health & Safety Code 42301.6 (School Notice)

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

### California Environmental Quality Act (CEQA)

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

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

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

**IX. RECOMMENDATION**

Compliance with all applicable rules and regulations is expected. Issue Authorities to Construct subject to the permit conditions on the attached draft Authorities to Construct in Appendix C.

**X. BILLING INFORMATION**

<b>Annual Permit Fees</b>			
<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>	<b>Annual Fee</b>
C-311-30, '-37	3020-02-H	62.5 MMBtu/hr	\$1,030.00
C-311-114, '-117	3020-02-H	23.0 MMBtu/hr	\$1,030.00
All other units	3020-02-H	58.5 MMBtu/hr	\$1,030.00

**Appendices**

- Appendix A: Current Base Documents
- Appendix B: Manufacturer's Guarantee
- Appendix C: Draft ATCs
- Appendix D: TVFORM-009

Appendix A  
Current Base Documents



# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-311-19-13

EXPIRATION DATE: 12/31/2005

SECTION: 13D TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

DORMANT 58.5 MMBTU/HR SG 13-03 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH NORTH AMERICAN GAS BURNER, MODEL 6131G-LO-NOX WITH FLUE GAS RECIRCULATION AND O2 CONTROLLER

## PERMIT UNIT REQUIREMENTS

1. No modification(s) to this unit shall be performed without an Authority to Construct for such modification(s), except for changes specified in conditions below. [District Rule 2010] Federally Enforceable Through Title V Permit
2. The fuel supply line shall be physically disconnected from this unit. [District Rule 4306] Federally Enforceable Through Title V Permit
3. This equipment shall not be operated for any reason until an Authority to Construct permit is issued approving all necessary retrofits required to comply with the applicable requirements of District Rule 4306 and all other applicable District regulations. [District Rule 4306] Federally Enforceable Through Title V Permit
4. This unit shall be fired on natural gas, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District NSR Rule]
5. Total gas consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District NSR Rule]
6. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the boiler. [District NSR Rule]
7. The flue gas recirculation system shall be operated whenever the generator is in use. [District NSR Rule]
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3]
9. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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]
10. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2]
11. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2]
12. NO<sub>x</sub> emissions shall not exceed 30 ppmvd @ 3% excess oxygen or 0.036 lb/MMBtu. [District Rule 2520, 9.3.2 and 4305]
13. CO emissions shall not exceed 50 ppmvd @ 3% excess oxygen or 0.037 lb/MMBtu. [District NSR Rule]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

14. Emissions shall not exceed any of the following limits: 0.157 lb-SO<sub>2</sub>/MMBtu, 0.022 lb-PM<sub>10</sub>/MMBtu, 0.003 lb-VOC/MMBtu. [District NSR Rule]
15. This unit, or a representative unit as approved by the District, shall be tested for compliance with NO<sub>x</sub> emissions limit not less than once every 12 months. After demonstrating compliance on two consecutive annual source tests, the unit shall be tested not less than once every 36 months. [District Rule 2520, 9.3.2 and 4305]
16. NO<sub>x</sub> and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.3.2]
17. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO<sub>x</sub> and CO. [District Rule 2520, 9.3.2]
18. 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]
19. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
20. NO<sub>x</sub> emissions (ppmv) shall be determined by EPA Method 7E or ARB Method 100; EPA Method 19 for NO<sub>x</sub> emissions rate (lb/MMBtu). [District Rule 2520, 9.3.2 and 4305]
21. CO emissions (ppmv) shall be determined by EPA Method 10 or ARB Method 100. [District Rule 2520, 9.3.2 and 4305]
22. Stack gas oxygen concentration shall be determined by EPA Method 3 or 3A, or CARB Method 100. [District Rule 2520, 9.3.2 and 4305]
23. Stack gas moisture content shall be determined using EPA Method 4. [District NSR Rule]
24. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081]
25. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
26. The stack concentration of NO<sub>x</sub> (as NO<sub>2</sub>), CO, and O<sub>2</sub> shall be measured at least on a monthly basis using District approved portable analyzers. Monitoring shall not be required if the unit is not in operation during any given month, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the steam generator unless monitoring has been performed within the last month. [District Rule 2520, 9.3.2 and 4305]
27. The permittee shall maintain records of the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, the measured NO<sub>2</sub> and CO concentrations corrected to 3% O<sub>2</sub>, and the O<sub>2</sub> concentration. The records must also include a description of any corrective action taken to maintain the emissions within the acceptable range and shall identify the months of non-operation for any unit to validate extended monitoring frequencies. [District Rule 2520, 9.3.2 and 4305]
28. If the NO<sub>x</sub> or CO concentrations, as measured by the portable analyzer, exceed the allowable emissions rate, the permittee shall notify the District and take corrective action within one(1) hour after detection. If portable analyzer readings continue to exceed the allowable emissions rate, the permittee shall conduct an emission test within 60 days, utilizing District-approved test methods, to demonstrate compliance with the applicable emissions limits. [District Rule 2520, 9.3.2 and 4305]
29. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 3 months prior to the date the stack concentration are measured and recorded. [District Rule 2520, 9.3.2 and 4305]
30. Concentration measurements shall not be taken until the sample acquisition probe has been exposed to the stack gas for at least 150% of the response time. Measurements shall be taken in triplicate. [District Rule 2520, 9.3.2 and 4305]
31. If water vapor is not removed prior to measurement, the absolute humidity in the gas stream must be determined so that the gas concentrations may be reported on a dry basis. [District Rule 2520, 9.3.2 and 4305]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

32. If water vapor creates an interference with the measurement of any component, then the water vapor must be removed from the gas stream prior to concentration measurements. [District Rule 2520, 9.3.2 and 4305]
33. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District NSR Rule]
34. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule]
35. 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 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or 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]
36. 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]
37. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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]
38. Annual test results to the District from unit(s) representing a group of units may be used to measure NOx 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 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. [District Rule 2520, 9.3.2, and 4305, 6.3.2]
39. The following conditions must be met for representative unit(s) to be used to test 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 and 4305, 6.3.2]
40. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2]
41. All units in a group for which representative units are source tested for NOx emissions for 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, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
42. The number of representative units source tested for NOx 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 Rule 2520, 9.3.2]
43. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081]
44. Permittee shall record daily total gas consumption. Records shall be made available for District inspection upon request. [District Rule 1070]

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PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

45. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2]
46. 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
47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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
48. 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

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

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# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** C-311-20-15

**EXPIRATION DATE:** 12/31/2005

**SECTION:** 13D **TOWNSHIP:** 20S **RANGE:** 14E

**EQUIPMENT DESCRIPTION:**

58.5 MMBTU/HR NATURAL GAS-FIRED STRUTHERS THERMOFLOOD SG 13-04 STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH OXYGEN CONTROLLER

## PERMIT UNIT REQUIREMENTS

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1. This unit shall be fired on PUC-quality natural gas, or a blend of PUC-quality natural gas and well casing and tank vapor recovery (TVR) gas. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Total gas consumption of this unit shall not exceed either of the following limits: 1,404 MMBtu/day or 457,800 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the boiler. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
5. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801] Federally Enforceable Through Title V Permit
6. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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
7. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
9. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

10. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
11. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Emissions from the steam generator shall not exceed any of the following limits: 0.157 lb-SOx/MMBtu, 0.004 lb-PM10/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NOx @ 3% O2, equivalent to 0.0182 lb-NOx/MMBtu or 50 ppmvd CO @ 3% O2, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
14. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. 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, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
16. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NOx/day, 8,332 lb-NOx/yr, 51.9 lb-CO/day, or 16,939 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The emission factor (EF) for SOx shall be determined and recorded on a monthly basis by using the following formula:  $EF = (A + B) \times 2.857 / \text{Total}$ , where: A = (the amount (in MMscf) of well casing gas consumed for the month X the sulfur content (in grain/100 scf) as posted in the most recent lab analysis); B = (the amount (in MMscf) of PUC grade natural gas consumed for the month X 0.21; and Total = (the total amount of well casing and PUC grade gas combined consumed (in MMscf) for the month). [District NSR Rule] Federally Enforceable Through Title V Permit
19. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 2520, 9.3.2, 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
20. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
21. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 2520, 9.3.2, 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1, and 4306, 6.3.1] Federally Enforceable Through Title V Permit
23. NOx, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District. [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.



24. 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 2520, 9.3.2, 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
25. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
26. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The source test plan shall indicate which test method shall be used to demonstrate compliance. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days after the source test. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
29. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
30. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
31. 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 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
32. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
33. Concentration measurements shall not be taken until the sample acquisition probe has been exposed to the stack gas for at least 150% of the response time. Measurements shall be taken in triplicate. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
34. If water vapor is not removed prior to measurement, the absolute humidity in the gas stream must be determined so that the gas concentrations may be reported on a dry basis. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
35. If water vapor creates an interference with the measurement of any component, then the water vapor must be removed from the gas stream prior to concentration measurements. [District Rule 2520, 9.3.2 and 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.



36. When calculating NOx or CO emission limits based on heat input (lb/MMBtu), fuel hhv shall be certified by third party supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
37. The well casing gas shall be sampled monthly from the gas line down stream from the point where the casing gas from all 4 casing collection systems is connected together and upstream from the point where the well casing gas is fed to the steam generators. The gas sample shall be analyzed by the laboratory for total sulfur and the results shall be given in grain/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
38. Permittee shall maintain monthly records of the total amount of well casing gas consumed by the entire bank of steam generators (in MMscf), along with the date and time of the measurement. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. Permittee shall maintain monthly records of the total amount of PUC grade gas consumed by the entire bank of steam generators (in MMscf), along with the date and time of the measurement. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. Permittee shall maintain records of daily total gas consumption. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. Permittee shall maintain records of all lab analyses. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
43. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
44. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. 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
46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 1081 (Amended December 16, 1993), 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
47. 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

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

# AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-21-6

ISSUANCE DATE: 05/16/2006

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14

## EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 13-5 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GAS AND OIL BURNER: REMOVE FUEL OIL FIRING CAPABILITY, LIMIT CO EMISSIONS TO 50 PPMVD @ 3% O<sub>2</sub> (0.037 LB-CO/MMBTU), AND RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O<sub>2</sub> (0.018 LB-NOX/MMBTU)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4306 Emission Control Plan. [District Rule 4306, 6.4] Federally Enforceable Through Title V Permit
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

C-311-21-6 : Sep 17 2009 11:33AM -- RICKARDK : Joint Inspection NOT Required

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5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall only be fired natural gas and/or well casing gas. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Total gas consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 457,800 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
13. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
15. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
16. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
17. Emissions from the steam generator shall not exceed any of the following limits: 0.157 lb-SO<sub>x</sub>/MMBtu, 0.08 lb-PM<sub>10</sub>/MMBtu, or 0.08 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
19. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 30 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.036 lb-NO<sub>x</sub>/MMBtu, 0.157 lb-SO<sub>x</sub>/MMBtu, 0.08 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu, or 0.08 lb-VOC/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
21. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 14,940 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, or 16,939 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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 each start-up and shutdown period. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
23. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
24. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected 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 4306, 5.3] Federally Enforceable Through Title V Permit
25. Source testing to measure natural gas-combustion NO<sub>x</sub> 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
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
29. 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
30. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
32. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

34. 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
35. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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
36. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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
37. 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
38. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
39. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. Permittee shall record daily natural gas and well casing gas consumption. [District NSR Rule] Federally Enforceable Through Title V Permit
41. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

# AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-22-13

ISSUANCE DATE: 01/02/2008

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 13-06 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH A NORTH AMERICAN GLE LOW NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, AND O2 CONTROLLER: REDESIGN CONVECTION/RADIANT SECTIONS

## CONDITIONS

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1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Authority to Construct (ATC) C-311-22-12 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
6. This unit shall be fired on natural gas and/or well casing gas. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

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DAVID WARNER, Director of Permit Services

C-311-22-13 : Sep 17 2009 11:01AM - RICKARDK : Joint Inspection NOT Required

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7. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
9. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
10. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
11. Total gas consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Emissions from the steam generator shall not exceed any of the following limits: 0.157 lb-SO<sub>x</sub>/MMBtu, 0.022 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
14. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 16,481 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, or 16,939 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
16. 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 each start-up and shutdown period. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
18. Source testing to measure natural gas-combustion NO<sub>x</sub> 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

CONDITIONS CONTINUE ON NEXT PAGE



19. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
20. 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
21. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 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
23. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
24. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
25. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of 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
29. 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
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
32. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. Permittee shall record daily natural gas and well casing gas consumption. [District NSR Rule] Federally Enforceable Through Title V Permit
34. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
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 compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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. 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

# AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-23-11

ISSUANCE DATE: 05/16/2006

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 13-07 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH A NORTH AMERICAN GAS BURNER, MODEL 6131G-CR-67.5 WITH FLUE GAS RECIRCULATION AND O2 CONTROLLER DESIGNATE AS DORMANT EMISSION UNIT (DEU): REMOVE REPRESENTATIVE TESTING CONDITIONS, LIMIT CO EMISSIONS TO 50 PPMVD @ 3% O2 (0.037 LB-CO/MMBTU), AND RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O2 (0.018 LB-NOX/MMBTU) (RENEWED ONE TIME - 05/16/08, JS)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4306 Emission Control Plan. [District Rule 4306, 6.4] Federally Enforceable Through Title V Permit
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

C-311-23-11: Sep 17 2009 11:01AM - RICKARDK : Joint Inspection NOT Required

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5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired on natural gas and/or well casing gas. [District Rule 2201] Federally Enforceable Through Title V Permit
12. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
14. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
15. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
16. Total gas consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Emissions from the steam generator shall not exceed any of the following limits: 0.157 lb-SO<sub>x</sub>/MMBtu, 0.022 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
19. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 30 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.036 lb-NO<sub>x</sub>/MMBtu, 0.157 lb-SO<sub>x</sub>/MMBtu, 0.022 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
21. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 16,481 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, or 16,939 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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 each start-up and shutdown period. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
23. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
24. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected 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 4306, 5.3] Federally Enforceable Through Title V Permit
25. Source testing to measure natural gas-combustion NO<sub>x</sub> 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
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
29. 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
30. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
32. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

34. 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
35. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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
36. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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
37. 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
38. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
39. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. Permittee shall record daily natural gas and well casing gas consumption. [District NSR Rule] Federally Enforceable Through Title V Permit
41. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
45. 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



# AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-25-5

ISSUANCE DATE: 05/16/2006

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 13-9 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN FLUE GAS RECIRCULATION SYSTEM: LIMIT CO EMISSIONS TO 50 PPMVD @ 3% O<sub>2</sub> (0.037 LB-CO/MMBTU), AND RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O<sub>2</sub> (0.018 LB-NOX/MMBTU)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4306 Emission Control Plan. [District Rule 4306, 6.4] Federally Enforceable Through Title V Permit
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO



5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
12. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
14. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
15. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
16. Natural gas consumption shall not exceed either of the following limits: 1,404 million MMBtu/day or 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. LPG consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.009 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
20. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2202] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 30 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.036 lb-NO<sub>x</sub>/MMBtu, 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu, or 0.009 lb-VOC/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
22. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 15,660 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, or 16,084 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
23. 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 each start-up and shutdown period. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
24. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
25. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected 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 4306, 5.3] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NO<sub>x</sub> 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
27. 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
28. 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
29. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
30. 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
31. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
32. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
33. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
34. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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
37. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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
38. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
39. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
40. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. Permittee shall record daily natural gas, propane, and well casing gas consumption. [District NSR Rule] Federally Enforceable Through Title V Permit
42. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
43. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-311-27-13

EXPIRATION DATE: 12/31/2005

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-11, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE BURNER, EQUIPPED WITH FLUE GAS RECIRCULATION AND AN OXYGEN CONTROLLER

## PERMIT UNIT REQUIREMENTS

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1. This unit shall be fired exclusively with natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Natural gas consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the boiler. [District NSR Rule] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
6. Duration of startup and shutdown shall not exceed two hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rule 4306, 5.3.1] Federally Enforceable Through Title V Permit
7. Startup is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
8. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. Emissions from this unit shall not exceed any of the following limits: 0.001 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Except during startup and shutdown, emissions from this unit shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu, or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District NSR Rule and District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
11. During startup and shutdown, emission rates from the unit shall not exceed any of the following limits: 5.85 lb-NO<sub>x</sub>/hr, 0.06 lb-SO<sub>x</sub>/hr, 0.29 lb-PM<sub>10</sub>/hr, 4.91 lb-CO/hr, or 0.18 lb-VOC/hr. [District NSR Rule] Federally Enforceable Through Title V Permit

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

12. 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 2520, 9.3.2, 4305 and 4306] 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 source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
15. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
16. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] 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, 5.5.2] Federally Enforceable Through Title V Permit
18. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
19. 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
20. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306, 6.2.2] Federally Enforceable Through Title V Permit
21. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306, 6.2.3] Federally Enforceable Through Title V Permit
22. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306, 6.2.4] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306, 5.4.2] Federally Enforceable Through Title V Permit
24. 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, 5.4.2] 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.

25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306, 5.5.4] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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, 6.1] Federally Enforceable Through Title V Permit
27. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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
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 semi-annually. If a semi-annual 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<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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<sub>x</sub> 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 the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2.1; 4306; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
32. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. Annual test results to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> 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<sub>x</sub> 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. [District Rules 2520, 9.3.2, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit

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



34. The following conditions must be met for representative unit(s) to be used to test 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
35. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are source tested for NOx emissions for 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
37. The number of representative units source tested for NOx 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 Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
39. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for natural gas used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
40. Copies of all 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, fuel source, 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
41. Records of daily natural gas fuel consumption shall be maintained and made available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
42. 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, and 4306] Federally Enforceable Through Title V Permit
43. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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. 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

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



# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** C-311-28-15

**EXPIRATION DATE:** 12/31/2005

**SECTION:** 13 **TOWNSHIP:** 20S **RANGE:** 14E

**EQUIPMENT DESCRIPTION:**

58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-12, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE BURNER, FLUE GAS RECIRCULATION (FGR), AND AN OXYGEN CONTROLLER

## PERMIT UNIT REQUIREMENTS

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1. This unit shall be fueled with natural gas or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Natural gas consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the boiler. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
5. Duration of startup and shutdown shall not exceed two hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rule 4306, 5.3.1] Federally Enforceable Through Title V Permit
6. Startup is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
7. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
8. Emissions from this unit shall not exceed any of the following limits: 0.284 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Except during startup and shutdown, emissions from this unit shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu, or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District NSR Rule and District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
10. During startup and shutdown, emission rates from the unit shall not exceed any of the following limits: 5.85 lb-NO<sub>x</sub>/hr, 16.61 lb-SO<sub>x</sub>/hr, 0.29 lb-PM<sub>10</sub>/hr, 4.91 lb-CO/hr, or 0.47 lb-VOC/hr. [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.

11. Source testing to measure natural gas-combustion NO<sub>x</sub> 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 2520, 9.3.2, 4305 and 4306] 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 source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
14. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
15. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
16. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] 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, 5.5.2] Federally Enforceable Through Title V Permit
18. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
19. 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
20. NO<sub>x</sub> 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, 6.2.2] Federally Enforceable Through Title V Permit
21. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306, 6.2.3] Federally Enforceable Through Title V Permit
22. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306, 6.2.4] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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, 5.4.2] 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.

24. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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, 5.4.2] Federally Enforceable Through Title V Permit
25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306, 5.5.4] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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, 6.1] Federally Enforceable Through Title V Permit
27. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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
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 semi-annually. If a semi-annual 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<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; 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<sub>x</sub> 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 the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule Rules 2520, 9.3.2; 4305, 6.2.1; 4306; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
32. Stack gas moisture content shall be determined using EPA Method 4. [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.

33. Annual test results to the District from unit(s) representing a group of units may be used to measure NOx 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 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. [District Rules 2520, 9.3.2, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
34. The following conditions must be met for representative unit(s) to be used to test 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
35. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are source tested for NOx emissions for 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
37. The number of representative units source tested for NOx 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 Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Copies of all 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, fuel source, 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
39. Permittee shall record daily natural gas consumption. Records shall be made available for District inspection upon request. [District Rules 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for natural gas used in this operation. [District NSR Rule] 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, 4305, and 4306] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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. 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

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

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** C-311-30-15

**EXPIRATION DATE:** 12/31/2005

**SECTION:** 13 **TOWNSHIP:** 20S **RANGE:** 14E

**EQUIPMENT DESCRIPTION:**

62.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-14, MODEL OH-50-ND-16XAM, NATURAL GAS FIRED, WITH A NORTH AMERICAN GLE BURNER, AN OXYGEN CONTROLLER, AND A FLUE GAS RECIRCULATION (FGR) SYSTEM

## PERMIT UNIT REQUIREMENTS

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1. This unit shall be fueled with natural gas or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District NSR Rule] Federally Enforceable Through Title V Permit
2. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Natural gas consumption shall not exceed 457,800 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the boiler. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
6. Duration of startup and shutdown shall not exceed two hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rule 4306, 5.3.1] Federally Enforceable Through Title V Permit
7. Startup is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
8. Emissions from this unit shall not exceed any of the following limits: 0.14 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu [District NSR Rule] Federally Enforceable Through Title V Permit
9. Except during startup and shutdown, emissions from this unit shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu, or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.37 lb-CO/MMBtu. [District NSR Rule and District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
10. During startup and shutdown, emission rates from the unit shall not exceed any of the following limits: 6.25 lb-NO<sub>x</sub>/hr, 8.75 lb-SO<sub>x</sub>/hr, 0.31 lb-PM<sub>10</sub>/hr, 5.25 lb-CO/hr, or 0.19 lb-VOC/hr. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 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.

12. Source testing to measure natural gas-combustion NO<sub>x</sub> 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 2520, 9.3.2, 4305 and 4306] 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 source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
15. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] 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, 5.5.2] Federally Enforceable Through Title V Permit
18. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
19. 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
20. NO<sub>x</sub> 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, 6.2.2] Federally Enforceable Through Title V Permit
21. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306, 6.2.3] Federally Enforceable Through Title V Permit
22. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306, 6.2.4] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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, 5.4.2] Federally Enforceable Through Title V Permit
24. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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, 5.4.2] 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.



25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306, 5.5.4] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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, 6.1] Federally Enforceable Through Title V Permit
27. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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
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 semi-annually. If a semi-annual 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<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
30. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.4.2; 4305, 6.2.1; 4306; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
32. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
33. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
34. Permittee shall maintain accurate annual records of natural gas use, and such records shall be made readily available. [District Rule 1070] Federally Enforceable Through Title V Permit
35. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for natural gas used in this operation. [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.



36. 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, and 4306] Federally Enforceable Through Title V Permit
37. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
38. 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

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

# AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-36-15

ISSUANCE DATE: 01/29/2007

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

MODIFICATION OF DORMANT 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR (SG #25-15), MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN 4131-G-LNX BURNER, FLUE GAS RECIRCULATION SYSTEM AND AN OXYGEN CONTROLLER SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS FROM SECTIONS 25D AND 6C ONLY; RETROFIT STEAM GENERATOR WITH A NORTH AMERICAN MODEL GLE LOW NOX BURNER TO ACHIEVE 15 PPMVD-NOX @ 3% O<sub>2</sub> (0.018 LB-NOX/MMBTU)

## CONDITIONS

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

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

7. Total LPG, casing gas, waste gas, and natural gas consumption shall not exceed 435,000 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
8. The permittee shall maintain and operate a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The caustic scrubber shall be operated to control SO<sub>x</sub> emissions when ever the steam generator is fueled with well casing and/or TVR gas. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Scrubber liquor pH shall be maintained between 6.5 and 8.0. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Tray packing flowrate shall be operated at 700 to 840 gallons/minute. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Quench flowrate shall be operated at 145 to 185 gallons/minute. [District NSR Rule] Federally Enforceable Through Title V Permit
13. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
14. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
15. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
16. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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
17. Except during start-up and shutdown periods, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu, 0.052 lb-SO<sub>x</sub>/MMBtu, 0.014 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu, or 0.0085 lb-VOC/MMBtu. [District Rules 2201, 4301, 4305, and 4306] Federally Enforceable Through Title V Permit
18. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. 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 Rule 2201] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 7,830 lb-NO<sub>x</sub>/year, 49.1 lb-CO/day, or 16,095 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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
23. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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
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] Federally Enforceable Through Title V Permit
25. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
27. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
28. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
29. 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
30. 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
31. 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

CONDITIONS CONTINUE ON NEXT PAGE

32. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
33. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
34. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
35. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
36. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (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
37. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
38. Permittee shall record natural gas, propane, casing gas, and waste gas consumption. [District Rule 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
39. Permittee shall measure and record the BTU content of the gas burned at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4801] Federally Enforceable Through Title V Permit
40. Permittee shall maintain with the permit a current listing of all TEOR and TVR systems providing vapor to this steam generator and shall make such listing readily available for District inspection upon request [District NSR Rule] Federally Enforceable Through Title V Permit
41. Permittee shall maintain daily records of volume of fuel gas burned, TEOR/TVR gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
42. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] Federally Enforceable Through Title V Permit
43. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
45. 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

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** C-311-37-20

**EXPIRATION DATE:** 12/31/2005

**SECTION:** 25 **TOWNSHIP:** 20S **RANGE:** 14E

**EQUIPMENT DESCRIPTION:**

62.5 MMBTU/HR STRUTHERS THERMOFLOOD MODEL OH-50-ND-16XAM STEAM GENERATOR (#25-16) WITH A NORTH AMERICAN MODEL GLE LOW NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS

## PERMIT UNIT REQUIREMENTS

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1. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District NSR Rule] Federally Enforceable Through Title V Permit
2. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
6. Total gas consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the boiler. [District NSR Rule] Federally Enforceable Through Title V Permit
8. The caustic scrubber shall be operated to control SOx emissions when ever the steam generator is fueled with well casing and/or TVR gas. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Scrubber liquor pH shall be maintained between 6.5 and 8.0. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Tray packing flowrate shall be operated at 700 to 840 gallons/minute. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Quench flowrate shall be operated at 145 to 185 gallons/minute. [District NSR Rule] Federally Enforceable Through Title V Permit
12. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [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.

13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
14. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
15. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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
16. Except during start-up and shutdown periods, emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu, 0.052 lb-SO<sub>x</sub>/MMBtu, 0.014 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rules 2201, 4301, 4305, and 4306] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. 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 Rule 2201] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
20. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 8,240 lb-NO<sub>x</sub>/year, 85.6 lb-CO/day, or 16,939 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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 NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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. 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
26. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
27. 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
28. 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
29. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
30. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
33. 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
34. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
35. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Waste gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
36. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

37. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
38. Permittee shall record daily total gas consumption. Records shall be retained for at least five years and made available for District inspection upon request. [District Rule 1070 and 2520, 9.5.2] Federally Enforceable Through Title V Permit
39. Daily records of the tray packing flowrate and the quench flowrate shall be maintained, retained on the premises for a period of at least five years, and made available for District inspection upon request. [District Rule 1070 and 2520, 9.5.2] Federally Enforceable Through Title V Permit
40. Permittee shall measure and record the BTU content of the gas burned at the time of NO<sub>x</sub> source testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4801] Federally Enforceable Through Title V Permit
41. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
42. Permittee shall maintain with the permit a current listing of all TEOR and TVR systems providing vapor to this steam generator and shall make such listing readily available for District inspection upon request [District NSR Rule] Federally Enforceable Through Title V Permit
43. Permittee shall maintain daily records of volume of fuel gas burned, TEOR/TVR gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
44. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] Federally Enforceable Through Title V Permit
45. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
47. 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

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

# AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-38-17

ISSUANCE DATE: 08/23/2005

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 25-17 STRUTHERS THERMOFLOOD MODEL #OH-50-ND-16XAM NATURAL GAS/LPG/WC/TVC GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN BURNER AND FLUE GAS RECIRCULATION SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS (SG 25-17): RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER (OR DISTRICT APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O<sub>2</sub> (0.0182 LB-NOX/MMBTU)

## CONDITIONS

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1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4306 Emission Control Plan. [District Rule 4306, 6.4] Federally Enforceable Through Title V Permit
3. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

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DAVID WARNER, Director of Permit Services  
C-311-38-17 : Sep 17 2009 11:01AM -- RICKARDK : Joint Inspection NOT Required

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726 • (559) 230-5900 • Fax (559) 230-6061

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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
7. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Total gas consumption of this unit shall not exceed either of the following limits: 1,404 MMBtu/day or 457,800 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
9. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the boiler. [District NSR Rule] Federally Enforceable Through Title V Permit
10. The caustic scrubber shall be operated to control SO<sub>x</sub> emissions when ever the steam generator is fueled with well casing and/or TVR gas. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Scrubber liquor pH shall be maintained between 6.5 and 8.0. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Tray packing flowrate shall be operated at 700 to 840 gallons/minute. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Quench flowrate shall be operated at 145 to 185 gallons/minute. [District NSR Rule] Federally Enforceable Through Title V Permit
14. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
15. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit
16. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
17. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
18. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
19. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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

CONDITIONS CONTINUE ON NEXT PAGE

20. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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
21. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
22. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
24. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
25. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 30 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.036 lb-NO<sub>x</sub>/MMBtu, 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
26. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 30 ppmvd @ 3% O<sub>2</sub>, equivalent to 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected 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 4306, 5.3] Federally Enforceable Through Title V Permit
27. 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, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
28. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
29. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 8,332 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, or 16,939 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 6.3.1, and 4306, 6.3.1] Federally Enforceable Through Title V Permit
31. Source testing to measure natural gas-combustion NO<sub>x</sub> 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
32. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2520, 9.3.2, 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

34. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
35. 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. The source test plan shall indicate which test method shall be used to demonstrate compliance. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The results of each source test shall be submitted to the District within 60 days after the source test. [District Rule 1081] Federally Enforceable Through Title V Permit
37. 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
38. NO<sub>x</sub> 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 2520, 9.3.2, 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
39. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100 [District Rules 2520, 9.3.2, 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
40. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 2520, 9.3.2, 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
41. Stack gas moisture content shall be determined using EPA Method 4. [District NSR Rule] Federally Enforceable Through Title V Permit
42. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
43. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
44. 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 Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
45. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
46. Concentration measurements shall not be taken until the sample acquisition probe has been exposed to the stack gas for at least 150% of the response time. Measurements shall be taken in triplicate. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

47. If water vapor is not removed prior to measurement, the absolute humidity in the gas stream must be determined so that the gas concentrations may be reported on a dry basis. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
48. If water vapor creates an interference with the measurement of any component, then the water vapor must be removed from the gas stream prior to concentration measurements. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
49. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Waste gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
50. Copies of all 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, fuel source, 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
51. Permittee shall maintain records of daily total gas consumption. [District Rule 1070 and 2520, 9.5.2] Federally Enforceable Through Title V Permit
52. Permittee shall maintain daily records of the tray packing flowrate and the quench flowrate. [District Rule 1070 and 2520, 9.5.2] Federally Enforceable Through Title V Permit
53. Permittee shall measure and record the BTU content of the gas burned at the time of NO<sub>x</sub> source testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4801] Federally Enforceable Through Title V Permit
54. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
55. Permittee shall maintain with the permit a current listing of all TEOR and TVR systems providing vapor to this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
56. Permittee shall maintain daily records of volume of fuel gas burned, TEOR/TVR gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
57. 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
58. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
59. 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





# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** C-311-39-18

**EXPIRATION DATE:** 12/31/2005

**SECTION:** 25 **TOWNSHIP:** 20S **RANGE:** 14E

## **EQUIPMENT DESCRIPTION:**

58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #25-18, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE BURNER AND FLUE GAS RECIRCULATION SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS

## **PERMIT UNIT REQUIREMENTS**

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1. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Total gas consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the boiler. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The caustic scrubber shall be operated to control SOx emissions when ever the steam generator is fueled with well casing and/or TVR gas. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Scrubber liquor pH shall be maintained between 6.5 and 8.0. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Tray packing flowrate shall be operated at 700 to 840 gallons/minute. [District NSR Rule] Federally Enforceable Through Title V Permit
7. Quench flowrate shall be operated at 145 to 185 gallons/minute. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, 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. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Emissions from this unit shall not exceed any of the following limits: 0.0520 lb-SOx/MMBtu, 0.045 lb-PM10/MMBtu, or 0.008 lb-VOC/MMBtu. [District NSR Rule]
11. Except during startup and shutdown, emissions from this unit shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, or 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District NSR Rule and District Rules 4305 and 4306]
12. During startup and shutdown, emission rates from the unit shall not exceed any of the following limits: 5.85 lb-NOx/hr, 3.04 lb-SOx/hr, 2.63 lb-PM10/hr, 4.91 lb-CO/hr, or 0.47 lb-VOC/hr. [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.

13. Duration of startup and shutdown shall not exceed two hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rule 4306, 5.3.1] Federally Enforceable Through Title V Permit
14. Startup is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
15. Source testing to measure natural gas-combustion NO<sub>x</sub> 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 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
16. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
17. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306, 5.5.1]
18. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
19. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
20. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
21. 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, 5.5.2] Federally Enforceable Through Title V Permit
22. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
24. NO<sub>x</sub> 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, 6.2.2] Federally Enforceable Through Title V Permit
25. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306, 6.2.3] Federally Enforceable Through Title V Permit
26. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306, 6.2.4] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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, 5.4.2] 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.

28. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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, 5.4.2] Federally Enforceable Through Title V Permit
29. 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, 5.5.4] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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, 6.1] Federally Enforceable Through Title V Permit
31. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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
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 semi-annually. If a semi-annual 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<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
35. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2.1; 4306; and 4351, 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.

36. Stack gas moisture content shall be determined using EPA Method 4. [District NSR Rule] Federally Enforceable Through Title V Permit
37. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Waste gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
38. Annual test results to the District from unit(s) representing a group of units may be used to measure NOx 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 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. [District Rules 2520, 9.3.2, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
39. The following conditions must be met for representative unit(s) to be used to test 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
40. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
41. All units in a group for which representative units are source tested for NOx emissions for 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
42. The number of representative units source tested for NOx 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 Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. Permittee shall record daily total gas consumption. [District Rules 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
45. Daily records of the tray packing flowrate and the quench flowrate shall be maintained, retained on the premises for a period of at least five years, and made available for District inspection upon request. [District Rules 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
46. Permittee shall measure and record the BTU content of the gas burned at the time of NOx source testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4801] Federally Enforceable Through Title V Permit
47. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
48. Permittee shall maintain with the permit a current listing of all TEOR and TVR systems providing vapor to this steam generator and shall make such listing readily available for District inspection upon request [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.

49. Permittee shall maintain daily records of volume of fuel gas burned, TEOR/TVR gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
50. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] Federally Enforceable Through Title V Permit
51. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. 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

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





# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-311-40-17

EXPIRATION DATE: 12/31/2005

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

58.5 MMBTU/HR NATURAL GAS, LPG OR PROCESS GAS FIRED STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE BURNER, FLUE GAS RECIRCULATION SYSTEM, AN OXYGEN CONTROLLER, SERVED BY THE NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS (COMMON TO C-311-37) (SG-25-19)

## PERMIT UNIT REQUIREMENTS

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1. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Fuel consumption shall not exceed 434,700 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
3. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
5. The caustic scrubber shall be operated to control SOx emissions when ever the steam generator is fueled with well casing and/or TVR gas. [District NSR Rule]
6. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
7. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. Emissions from this unit shall not exceed any of the following limits: 0.052 lb-SOx/MMBtu, 0.045 lb-PM10/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Except during startup and shutdown, emissions from this unit shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, or 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District NSR Rule and District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
10. During startup and shutdown, emission rates from the unit shall not exceed any of the following limits: 5.85 lb-NOx/hr, 3.04 lb-SOx/hr, 2.63 lb-PM10/hr, 4.91 lb-CO/hr, or 0.32 lb-VOC/hr. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Duration of startup and shutdown shall not exceed two hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rule 4306, 5.3.1] 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.

12. Startup is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
13. 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 2520, 9.3.2, 4305 and 4306] 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 source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
16. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] 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, 5.5.2] Federally Enforceable Through Title V Permit
18. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
19. 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
20. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306, 6.2.2] Federally Enforceable Through Title V Permit
21. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306, 6.2.3] Federally Enforceable Through Title V Permit
22. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306, 6.2.4] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306, 5.4.2] 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.

24. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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, 5.4.2] Federally Enforceable Through Title V Permit
25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306, 5.5.4] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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, 6.1] Federally Enforceable Through Title V Permit
27. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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
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 semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2 and District NSR Rule] Federally Enforceable Through Title V Permit
29. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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 and District NSR Rule] Federally Enforceable Through Title V Permit
30. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2.1; and 4351, 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.

32. Annual test results to the District from unit(s) representing a group of units may be used to measure NOx 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 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. [District Rules 2520, 9.3.2, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
33. The following conditions must be met for representative unit(s) to be used to test 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
34. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
35. All units in a group for which representative units are source tested for NOx emissions for 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
36. The number of representative units source tested for NOx 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 Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. Copies of all gas purchase contracts, supplier certifications, and test results (including fuel hhv) 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2 and District NSR Rule] Federally Enforceable Through Title V Permit
38. 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, and 4306] Federally Enforceable Through Title V Permit
39. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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
40. 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

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

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-311-41-14

EXPIRATION DATE: 12/31/2005

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

58.5 MMBTU/HR SG 25-20 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE BURNER AND FLUE GAS RECIRCULATION SYSTEM, SERVED BY THE NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS

## PERMIT UNIT REQUIREMENTS

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1. Total LPG, casing gas, waste gas, and natural gas consumption shall not exceed 435,000 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
2. The caustic scrubber shall be operated to control SOx emissions when ever the steam generator is fueled with well casing and/or TVR gas. [District NSR Rule]
3. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
5. Emissions from this unit shall not exceed any of the following limits: 0.052 lb-SOx/MMBtu, 0.044 lb-PM10/MMBtu, or 0.0085 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Except during startup and shutdown, emissions from this unit shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, or 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District NSR Rule and District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
7. During startup and shutdown, emission rates from the unit shall not exceed any of the following limits: 5.85 lb-NOx/hr, 3.04 lb-SOx/hr, 2.57 lb-PM10/hr, 4.91 lb-CO/hr, or 0.50 lb-VOC/hr. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Duration of startup and shutdown shall not exceed two hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rule 4306, 5.3.1] Federally Enforceable Through Title V Permit
9. Startup is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
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 2520, 9.3.2, 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. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District. [District Rule 2520, 9.3.2] 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 source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
14. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] 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 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 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
17. 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
18. NO<sub>x</sub> 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, 6.2.2] Federally Enforceable Through Title V Permit
19. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306, 6.2.3] Federally Enforceable Through Title V Permit
20. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306, 6.2.4] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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, 5.4.2] Federally Enforceable Through Title V Permit
22. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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, 5.4.2] Federally Enforceable Through Title V Permit
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, 5.5.5] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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



24. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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, 6.1] Federally Enforceable Through Title V Permit
25. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
26. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2 and District NSR Rule] Federally Enforceable Through Title V Permit
28. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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 and District NSR Rule] Federally Enforceable Through Title V Permit
29. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
30. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2.1; 4306; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
31. Annual test results to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> 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<sub>x</sub> 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. [District Rules 2520, 9.3.2, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
32. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
33. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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



34. All units in a group for which representative units are source tested for NOx emissions for 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, 4306, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
35. The number of representative units source tested for NOx 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 Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. Copies of all gas purchase contracts, supplier certifications, and test results (including fuel hhv) 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2 and District NSR Rule] Federally Enforceable Through Title V Permit
37. Permittee shall record natural gas, propane, casing gas and waste gas consumption. [District Rules 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Permittee shall measure and record the BTU content of the gas burned at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4801] Federally Enforceable Through Title V Permit
39. Permittee shall maintain with the permit a current listing of all TEOR and TVR systems providing vapor to this steam generator and shall make such listing readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
40. Permittee shall maintain daily records of volume of fuel gas burned, TEOR/TVR gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] 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, 4305, and 4306] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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. 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

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

# AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-42-14

ISSUANCE DATE: 01/02/2008

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 25-21 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM: REDESIGN CONVECTION/RADIANT SECTIONS

## CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
5. This unit shall be fired exclusively with natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
6. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Sayed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

C-311-42-14 : Sep 17 2009 11:02AM -- RICKARDK : Joint Inspection NOT Required

7. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
8. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
9. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
10. Natural gas or LPG consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
13. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 15,649 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, or 16,084 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
15. 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 each start-up and shutdown period. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
16. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
17. Source testing to measure natural gas-combustion NO<sub>x</sub> 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
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] Federally Enforceable Through Title V Permit
19. 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

CONDITIONS CONTINUE ON NEXT PAGE

20. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
21. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 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
22. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
23. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
24. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
25. 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
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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
28. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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
29. 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
30. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
31. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. Permittee shall record daily natural gas and propane consumption. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
34. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
37. 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

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-311-43-14

EXPIRATION DATE: 12/31/2005

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

58.5 MMBTU/HR SG 25-22 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16AXM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM

## PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
2. This unit shall be fired exclusively with natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
4. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
5. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or 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
6. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
7. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; and 4306, 6.2.1] Federally Enforceable Through Title V Permit
8. Natural gas or LPG consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

9. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
11. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 15,649 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, or 16084 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
13. 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 each start-up and shutdown period. [District Rules 4305, 6.1.5 and 4306, 6.1.4] Federally Enforceable Through Title V Permit
14. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
15. Source testing to measure natural gas-combustion NO<sub>x</sub> 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, 6.3.1] 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 and 4306, 5.5.2] 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, 5.5.1] Federally Enforceable Through Title V Permit
18. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
19. NO<sub>x</sub> 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, 6.2] Federally Enforceable Through Title V Permit
20. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306, 6.2] Federally Enforceable Through Title V Permit
21. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306, 6.2] Federally Enforceable Through Title V Permit
22. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306, 5.5.5] Federally Enforceable Through Title V Permit

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



23. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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, 5.4.2] Federally Enforceable Through Title V Permit
25. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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, 5.4.2] Federally Enforceable Through Title V Permit
26. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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, 5.4.2] Federally Enforceable Through Title V Permit
28. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
29. Permittee shall record daily natural gas and propane consumption. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
31. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
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. 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

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

DRAFT

# AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-45-13

ISSUANCE DATE: 01/02/2008

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 25-24 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16AXM, WITH A NORTH AMERICAN GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM: REDESIGN CONVECTION/RADIANT SECTIONS

## CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Authority to Construct (ATC) C-311-45-12 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201]
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
6. This unit shall be fired exclusively with natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

C-311-45-13 : Sep 17 2009 11:02AM - RICKARDK : Joint Inspection NOT Required

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7. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
9. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
10. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
11. Natural gas or LPG consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
14. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 15,649 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, or 16,084 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
16. 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 each start-up and shutdown period. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
18. Source testing to measure natural gas-combustion NO<sub>x</sub> 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

CONDITIONS CONTINUE ON NEXT PAGE

19. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
20. 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
21. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 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
23. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
24. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
25. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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
29. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
32. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. Permittee shall record daily natural gas and propane consumption. [District NSR Rule] Federally Enforceable Through Title V Permit
34. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
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 compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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. 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

INSPECTION

ISSUANCE DATE: 05/16/2006

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

**SECTION:** 25 **TOWNSHIP:** 20S **RANGE:** 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-25 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN 4131-G-LNX BURNER WITH FLUE GAS RECIRCULATION DESIGNATE AS DORMANT EMISSION UNIT (DEU): REMOVE REPRESENTATIVE TESTING CONDITIONS, LIMIT CO EMISSIONS TO 50 PPMVD @ 3% O<sub>2</sub> (0.037 LB-CO/MMBTU), AND RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O<sub>2</sub> (0.018 LB-NOX/MMBTU) (RENEWED ONE TIME - 05/16/08, JS)

## CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4306 Emission Control Plan. [District Rule 4306, 6.4] Federally Enforceable Through Title V Permit
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively with natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit



- INSPECTION WORKSHEET
12. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
  13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
  14. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
  15. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
  16. Natural gas or LPG consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
  17. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
  18. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
  19. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
  20. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.018 lb-NO<sub>x</sub>/MMBtu, 0.052 lb-SO<sub>2</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
  21. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 15,649 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, or 16,084 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
  22. 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 each start-up and shutdown period. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
  23. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit



- INSPECTION WORKSHEET
24. 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 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected 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 4306, 5.3] Federally Enforceable Through Title V Permit
  25. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  28. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
  29. 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
  30. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  31. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  32. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  34. 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
  35. The permittee shall monitor and record the stack concentration of NOx, CO, and O<sub>2</sub> 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
  36. If either the NOx or CO concentrations corrected to 3% O<sub>2</sub>, 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

- INSPECTION  
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37. 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
  38. 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
  39. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
  40. Permittee shall record daily natural gas and propane consumption. [District NSR Rule] Federally Enforceable Through Title V Permit
  41. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
  42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
  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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
  45. 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

**INSPECTION**  
ISSUANCE DATE: 05/16/2006  
**WORKSHEET**

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

**SECTION:** 25 **TOWNSHIP:** 20S **RANGE:** 14E

**EQUIPMENT DESCRIPTION:**

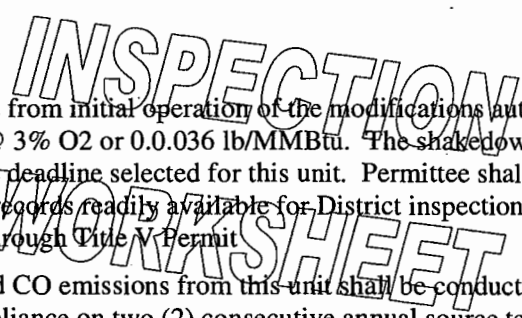
MODIFICATION OF 58.5 MMBTU/HR SG 25-26 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16-XAM, WITH A NORTH AMERICAN BURNER, MODEL 4131-G-LNX, AND A FLUE GAS RECIRCULATION SYSTEM: LIMIT CO EMISSIONS TO 50 PPMVD @ 3% O2 (0.037 LB-CO/MMBTU) AND RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O2 (0.018 LB-NOX/MMBTU) (RENEWED ONE TIME - 05/16/08, JS)

## CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4306 Emission Control Plan. [District Rule 4306, 6.4] Federally Enforceable Through Title V Permit
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 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
11. This unit shall be fired exclusively with natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit

INSPECTION  
WORKSHEET

12. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
14. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
15. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
16. Natural gas consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. LPG consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
20. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
21. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.018 lb-NO<sub>x</sub>/MMBtu, 0.052 lb-SO<sub>2</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
22. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 15,660 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, or 16,095 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
23. 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 each start-up and shutdown period. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
24. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit



25. 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 30 ppmvd @ 3% O2 or 0.0036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected 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 4306, 5.3] Federally Enforceable Through Title V Permit
26. 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
27. 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
28. 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
29. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
30. 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
31. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
32. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
33. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
34. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The 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
37. 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

- INSPECTION WORKSHEET**
38. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  39. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
  40. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
  41. Permittee shall record daily natural gas and propane consumption. [District NSR Rule] Federally Enforceable Through Title V Permit
  42. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
  43. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit



**INSPECTION**  
ISSUANCE DATE: 05/16/2006

**WORKSHEET**

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
 BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL PRODUCTION  
 FRESNO COUNTY, CA

**SECTION:** 25 **TOWNSHIP:** 20S **RANGE:** 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-27 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN BURNER, MODEL 4131, AND A FLUE GAS RECIRCULATION SYSTEM: LIMIT CO EMISSIONS TO 50 PPMVD @ 3% O2 (0.037 LB-CO/MMBTU) AND RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O2 (0.018 LB-NOX/MMBTU) (RENEWED ONE TIME - 05/16/08, JS)

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4306 Emission Control Plan. [District Rule 4306, 6.4] Federally Enforceable Through Title V Permit
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 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
11. This unit shall be fired exclusively with natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit



INSPECTION WORKSHEET

12. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
14. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
15. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
16. Natural gas consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. LPG consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
20. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
21. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.018 lb-NO<sub>x</sub>/MMBtu, 0.052 lb-SO<sub>2</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
22. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 15,660 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, or 16,095 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
23. 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 each start-up and shutdown period. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
24. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit

- INSPECTION WORKSHEET
25. 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 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected 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 4306, 5.3] Federally Enforceable Through Title V Permit
  26. 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
  27. 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
  28. 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
  29. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
  30. 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
  31. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  32. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  33. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  34. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
  36. The permittee shall monitor and record the stack concentration of NOx, CO, and O<sub>2</sub> 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
  37. If either the NOx or CO concentrations corrected to 3% O<sub>2</sub>, 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

- INSPECTION WORKSHEET**
38. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  39. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
  40. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
  41. Permittee shall record daily natural gas and propane consumption. [District NSR Rule] Federally Enforceable Through Title V Permit
  42. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
  43. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

# AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-49-6

ISSUANCE DATE: 06/07/2007

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 25-28 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-DN-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: REDESIGN CONVECTION/RADIANT SECTIONS

## CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Authority to Construct (ATC) C-0311-49-5 shall be implemented concurrently, or prior to the modification authorized by this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
6. This unit shall be fired exclusively with natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services  
C-311-49-6 : Sep 17 2009 11:02AM - RICKARDK : Joint Inspection NOT Required

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726 • (559) 230-5900 • Fax (559) 230-6061

7. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
9. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
10. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
11. Natural gas consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. LPG consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
15. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 15,660 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, or 16,095 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
17. 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 each start-up and shutdown period. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
18. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
19. Source testing to measure natural gas-combustion NO<sub>x</sub> 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

CONDITIONS CONTINUE ON NEXT PAGE

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 and 4306] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
24. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
25. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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
29. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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

CONDITIONS CONTINUE ON NEXT PAGE

32. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. Permittee shall record daily natural gas and propane consumption. [District NSR Rule] Federally Enforceable Through Title V Permit
34. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit



# AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-50-5

ISSUANCE DATE: 05/16/2006

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 25-29 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-DN-16XAM, WITH A NORTH AMERICAN BURNER, MODEL 4131-G-LNX, AND A GAS RECIRCULATION SYSTEM: LIMIT CO EMISSIONS TO 50 PPMVD @ 3% O<sub>2</sub> (0.037 LB-CO/MMBTU) AND RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O<sub>2</sub> (0.018 LB-NOX/MMBTU) (RENEWED ONE TIME - 05/16/08, JS)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4306 Emission Control Plan. [District Rule 4306, 6.4] Federally Enforceable Through Title V Permit
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

C-311-50-5 : Sep 17 2009 11:02AM -- RICKARDIK : Joint Inspection NOT Required

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5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively with natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
12. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
14. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
15. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
16. Natural gas consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. LPG consumption shall not exceed either of the following limits: 1,404 MMBtu/day or 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
20. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.018 lb-NO<sub>x</sub>/MMBtu, 0.052 lb-SO<sub>2</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
22. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 15,660 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, or 16,095 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
23. 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 each start-up and shutdown period. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
24. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
25. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected 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 4306, 5.3] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NO<sub>x</sub> 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
27. 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
28. 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
29. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
30. 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
31. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
32. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
33. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
34. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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
37. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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
38. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
39. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
40. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. Permittee shall record daily natural gas and propane consumption. [District NSR Rule] Federally Enforceable Through Title V Permit
42. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
43. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

47. 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

# AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-53-15

ISSUANCE DATE: 06/07/2007

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

## EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #6-33, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT), FLUE GAS RECIRCULATION SYSTEM, AND AN OXYGEN CONTROLLER: REDESIGN CONVECTION/RADIANT SECTIONS

## CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. This Authority to Construct (ATC) cancels and supersedes {replaces} ATC C-0311-53-11. [District Rule 2201] Federally Enforceable Through Title V Permit
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. This unit shall be fired exclusively with natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Total gas consumption of this unit shall not exceed either of the following limits: 1,404 MMBtu/day or 457,800 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services  
C-311-53-15: Sep 17 2009 11:02AM -- RICKARDK : Joint Inspection NOT Required

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7. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the boiler. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801] Federally Enforceable Through Title V Permit
10. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
11. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
13. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
14. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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
15. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. Emissions from the steam generator shall not exceed any of the following limits: 0.140 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
18. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. 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, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
21. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NOx/day, 8,332 lb-NOx/yr, 51.9 lb-CO/day, or 16,939 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1, and 4306, 6.3.1] Federally Enforceable Through Title V Permit
23. NOx, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
24. 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 2520, 9.3.2, 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
25. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
26. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The source test plan shall indicate which test method shall be used to demonstrate compliance. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
29. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 2520, 9.3.2, 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
30. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 2520, 9.3.2, 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
31. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 2520, 9.3.2, 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
32. Stack gas moisture content shall be determined using EPA Method 4. [District NSR Rule] Federally Enforceable Through Title V Permit
33. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
34. 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 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

35. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
36. 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 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
38. Concentration measurements shall not be taken until the sample acquisition probe has been exposed to the stack gas for at least 150% of the response time. Measurements shall be taken in triplicate. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
39. If water vapor is not removed prior to measurement, the absolute humidity in the gas stream must be determined so that the gas concentrations may be reported on a dry basis. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
40. If water vapor creates an interference with the measurement of any component, then the water vapor must be removed from the gas stream prior to concentration measurements. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
41. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
42. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
43. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for natural gas used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
44. Permittee shall maintain records of daily natural gas consumption. [District Rule 1070] Federally Enforceable Through Title V Permit
45. 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
46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 1081 (Amended December 16, 1993), 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

CONDITIONS CONTINUE ON NEXT PAGE

47. 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

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-311-55-12

EXPIRATION DATE: 12/31/2005

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

## EQUIPMENT DESCRIPTION:

DORMANT 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #6-35, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GAS BURNER MODEL 4131G, AND FLUE GAS RECIRCULATION

## PERMIT UNIT REQUIREMENTS

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1. No modification(s) to this unit shall be performed without an Authority to Construct for such modification(s), except for changes specified in conditions below. [District Rule 2010] Federally Enforceable Through Title V Permit
2. The fuel supply line shall be physically disconnected from this unit. [District Rule 4306] Federally Enforceable Through Title V Permit
3. This equipment shall not be operated for any reason until an Authority to Construct permit is issued approving all necessary retrofits required to comply with the applicable requirements of District Rule 4306 and all other applicable District regulations. [District Rule 4306] Federally Enforceable Through Title V Permit
4. This unit shall be fired exclusively with natural gas. [District NSR Rule]
5. Natural gas consumption shall not exceed 1404 MMBtu/day nor 457800 MMBtu/year. [District NSR Rule]
6. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the boiler. [District NSR Rule]
7. The flue gas recirculation system shall be operated whenever the generator is in use. [District NSR Rule]
8. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081]
9. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3]
10. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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]
11. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or 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]
13. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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]
14. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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]
15. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2]
16. NO<sub>x</sub> emissions shall not exceed 30 ppmvd @ 3% excess oxygen or 0.036 lb/MMBtu. [District Rule 2520, 9.3.2 and 4305]
17. CO emissions shall not exceed 40 ppmvd @ 3% excess oxygen or 0.035 lb/MMBtu. [District NSR Rule]
18. Emissions shall not exceed the following limits: 0.14 lb-SO<sub>2</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, 0.008 lb-VOC/MMBtu. [District NSR Rule]
19. This unit, or a representative unit as approved by the District, shall be tested for compliance with NO<sub>x</sub> emissions limit not less than once every 12 months. After demonstrating compliance on two consecutive annual source tests, the unit shall be tested not less than once every 36 months. [District Rule 2520, 9.3.2 and 4305]
20. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.3.2]
21. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO<sub>x</sub> and CO. [District Rule 2520, 9.3.2]
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081]
23. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
24. NO<sub>x</sub> emissions (ppmv) shall be determined by EPA Method 7E or ARB Method 100; EPA Method 19 for NO<sub>x</sub> emissions rate (lb/MMBtu). [District Rule 2520, 9.3.2 and 4305]
25. CO emissions (ppmv) shall be determined by EPA Method 10 or ARB Method 100. [District Rule 2520, 9.3.2 and 4305]
26. Stack gas oxygen concentration shall be determined by EPA Method 3 or 3A, or CARB Method 100. [District Rule 2520, 9.3.2 and 4305]
27. Stack gas moisture content shall be determined using EPA Method 4. [District NSR Rule]
28. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081]
29. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081]

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

30. The stack concentration of NO<sub>x</sub> (as NO<sub>2</sub>), CO, and O<sub>2</sub> shall be measured at least on a monthly basis using District approved portable analyzers. Monitoring shall not be required if the unit is not in operation during any given month, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the steam generator unless monitoring has been performed within the last month. [District Rule 2520, 9.3.2 and 4305]
31. The permittee shall maintain records of the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, the measured NO<sub>2</sub> and CO concentrations corrected to 3% O<sub>2</sub>, and the O<sub>2</sub> concentration. The records must also include a description of any corrective action taken to maintain the emissions within the acceptable range and shall identify the months of non-operation for any unit to validate extended monitoring frequencies. [District Rule 2520, 9.3.2 and 4305]
32. If the NO<sub>x</sub> or CO concentrations, as measured by the portable analyzer, exceed the allowable emissions rate, the permittee shall notify the District and take corrective action within one (1) hour after detection. If portable analyzer readings continue to exceed the allowable emissions rate, the permittee shall conduct an emission test within 60 days, utilizing District-approved test methods, to demonstrate compliance with the applicable emissions limits. [District Rule 2520, 9.3.2 and 4305]
33. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 3 months prior to the date the stack concentration are measured and recorded. [District Rule 2520, 9.3.2 and 4305]
34. Concentration measurements shall not be taken until the sample acquisition probe has been exposed to the stack gas for at least 150% of the response time. Measurements shall be taken in triplicate. [District Rule 2520, 9.3.2 and 4305]
35. If water vapor is not removed prior to measurement, the absolute humidity in the gas stream must be determined so that the gas concentrations may be reported on a dry basis. [District Rule 2520, 9.3.2 and 4305]
36. If water vapor creates an interference with the measurement of any component, then the water vapor must be removed from the gas stream prior to concentration measurements. [District Rule 2520, 9.3.2 and 4305]
37. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. [District NSR Rule]
38. Annual test results to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> 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<sub>x</sub> 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. [District Rule 2520, 9.3.2, and 4305, 6.3.2]
39. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> 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 and 4305, 6.3.2]
40. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). 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 and 4305, 6.3.2]
41. All units in a group for which representative units are source tested for NO<sub>x</sub> emissions for 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, and 4305, 6.3.2]
42. The number of representative units source tested for NO<sub>x</sub> 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 Rule 2520, 9.3.2]
43. 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

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

44. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2]
45. Permittee shall record daily natural gas consumption. Records shall be made available for District inspection upon request. [District Rule 1070 and 2520, 9.3.2]
46. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for natural gas used in this operation. [District NSR Rule]
47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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
48. 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

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

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# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** C-311-56-11

**EXPIRATION DATE:** 12/31/2005

**SECTION:** 6C **TOWNSHIP:** 20S **RANGE:** 15E

## **EQUIPMENT DESCRIPTION:**

DORMANT 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #6-36, MODEL OH-50-ND-16XAM, NATURAL GAS FIRED, EQUIPPED WITH A NORTH AMERICAN BURNER, MODEL 4131G, AN OXYGEN CONTROLLER, AND A FLUE GAS RECIRCULATION (FGR) SYSTEM

## **PERMIT UNIT REQUIREMENTS**

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1. The fuel supply line shall be physically disconnected from this unit. [District Rule 4306] Federally Enforceable Through Title V Permit
2. This equipment shall not be operated for any reason until an Authority to Construct permit is issued approving all necessary retrofits required to comply with the applicable requirements of District Rule 4306 and all other applicable District regulations. [District Rule 4306] Federally Enforceable Through Title V Permit
3. This unit shall be fired exclusively with PUC-quality natural gas or waste gas. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Total gas consumption shall not exceed 457,800 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
5. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the boiler. [District NSR Rule] Federally Enforceable Through Title V Permit
6. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The flue gas recirculation system shall be operated in accordance with the manufacturer's directions whenever the steam generator is operating. [District NSR Rule] Federally Enforceable Through Title V Permit
8. This steam generator may be operated at the following Coalinga locations: Section 28, T19S/R15E, and Section 6, T20S/R15E. Other locations require specific District permits. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
10. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 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.

11. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
13. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
14. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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
15. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301; 5.2.2; 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. Emissions shall not exceed any of the following limits: 0.003 lb-VOC/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, 0.14 lb-SO<sub>x</sub>/MMBtu, 0.036 lb-NO<sub>x</sub>/MMBtu, or 400 ppmvd CO (@ 3% O<sub>2</sub>). [District NSR Rule] Federally Enforceable Through Title V Permit
17. Source testing demonstrating compliance with NO<sub>x</sub> and CO emission limits shall be conducted annually. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
18. Annual compliance testing frequency may be changed to not less than once every 36 months if two consecutive annual source tests demonstrate compliance with the NO<sub>x</sub> and CO emission limits. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
19. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
20. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO<sub>x</sub> and CO. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
21. 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
22. NO<sub>x</sub> emissions (ppmv) shall be determined by EPA Method 7E or ARB Method 100. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
23. CO emissions (ppmv) shall be determined by EPA Method 10 or ARB Method 100. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. The stack concentration of NO<sub>x</sub> (as NO<sub>2</sub>), CO, and O<sub>2</sub> shall be measured at least on a monthly basis using District approved portable analyzers. Monitoring shall not be required if the unit is not in operation during any given month, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the steam generator unless monitoring has been performed within the last month. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, the measured NO<sub>2</sub> and CO concentrations corrected to 3% O<sub>2</sub>, and the O<sub>2</sub> concentration. The records must also include a description of any corrective action taken to maintain the emissions within the acceptable range and shall identify the months of non-operation for any unit to validate extended monitoring frequencies. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
27. If the NO<sub>x</sub> or CO concentrations, as measured by the portable analyzer, exceed the allowable emissions rate, the permittee shall notify the District and take corrective action within one (1) hour after detection. If the portable analyzer readings continue to exceed the allowable emissions rate, the permittee shall conduct an emissions test within 60 days, utilizing District-approved test methods, to demonstrate compliance with the applicable emissions limits. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
28. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 3 months prior to the date the stack concentrations are measured and recorded. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
29. Concentration measurements shall not be taken until the sample acquisition probe has been exposed to the stack gas for at least 150% of the response time. Measurements shall be taken in triplicate. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
30. If water vapor is not removed prior to measurement, the absolute humidity in the gas stream must be determined so that the gas concentrations may be reported on a dry basis. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
31. If water vapor creates an interference with the measurement of any component, then the water vapor must be removed from the gas stream prior to concentration measurements. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
32. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Waste gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
33. Annual test results to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> 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<sub>x</sub> 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. [District Rule 2520, 9.4.2, and 4305, 6.3.2] Federally Enforceable Through Title V Permit
34. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> 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
35. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rule, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit

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

36. All units in a group for which representative units are source tested for NOx emissions for 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
37. The number of representative units source tested for NOx 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 Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
38. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (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
39. Copies of all 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, fuel source, 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
40. Permittee shall maintain accurate annual records of natural gas and waste gas use, and such records shall be made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
41. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] 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, 9.5.2] Federally Enforceable Through Title V Permit
43. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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. 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

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

# AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-76-12

ISSUANCE DATE: 05/22/2007

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

## EQUIPMENT DESCRIPTION:

MODIFICATION OF DORMANT 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (SG 6-38) MODEL OH-50-ND-16XAM NATURAL GAS/LPG/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN 4131-G-LNX BURNER, AND FLUE GAS RECIRCULATION SYSTEM INCLUDING AN OXYGEN CONTROLLER: RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER TO ACHIEVE 15 PPMVD-NOX @ 3% O2 (0.018 LB-NOX/MMBTU) FOR RULE 4306 COMPLIANCE, INCREASE CO EMISSIONS FROM 0.035 LB-CO/MMBTU TO 0.037 LB-CO/MMBTU, LOWER SOX EMISSIONS LIMIT FROM 0.14 LB-SOX/MMBTU TO 0.043 LB-SOX/MMBTU, ADD START-UP AND SHUT-DOWN PROVISIONS PER RULE 4306, AND REVISE ALTERNATE MONITORING CONDITIONS TO CONFORM TO DISTRICT POLICY SSP 1105

## CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. This unit shall be fired exclusively with natural gas, LPG, or TEOR gas. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 434,700 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the boiler. [District NSR Rule] Federally Enforceable Through Title V Permit
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

C-311-76-12; Sep 17 2009 11:02AM - RICKARDK : Joint Inspection NOT Required

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6. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
7. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
8. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
10. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
11. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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
12. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
13. Except during start-up and shutdown, emissions from this steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu, 0.043 lb-SO<sub>x</sub>/MMBtu, 0.00675 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu, or 0.00855 lb-VOC/MMBtu. [District NSR Rule and District Rule 4306, 5.1] Federally Enforceable Through Title V Permit
14. During start-up and shutdown, emissions from this steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 0.043 lb-SO<sub>x</sub>/MMBtu, 0.00675 lb-PM<sub>10</sub>/MMBtu, 0.084 lb-CO/MMBtu, or 0.00855 lb-VOC/MMBtu. [District NSR Rule and District Rule 4306, 5.1] Federally Enforceable Through Title V Permit
15. Maximum emissions from this steam generator, including start-up and shutdown operation, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub> in any one day, 7,825 lb-NO<sub>x</sub> in any calendar year, 66.4 lb-CO in any one day, or 16,084 lb-CO in any calendar year. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Start-up is defined as that 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 that period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.22, 3.25] Federally Enforceable Through Title V Permit
17. The duration of each start-up or each shutdown shall not exceed two hours per occurrence. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. The operator shall maintain daily records of the number and duration of start-up and shutdown periods. [District Rule 4306, 5.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



18. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District NSR Rule and District Rules 4305 and 4306, 6.3] Federally Enforceable Through Title V Permit
19. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306, 6.3] Federally Enforceable Through Title V Permit
20. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
21. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
22. The source 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
23. 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
24. 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
25. 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
26. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
27. NO<sub>x</sub> 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, 6.2] Federally Enforceable Through Title V Permit
28. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306, 6.2] Federally Enforceable Through Title V Permit
29. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306, 6.2] Federally Enforceable Through Title V Permit
30. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
31. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



32. 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
33. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
34. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 3 months prior to the date the stack concentrations are measured and recorded. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
35. Concentration measurements shall not be taken until the sample acquisition probe has been exposed to the stack gas for at least 150% of the response time. Measurements shall be taken in triplicate. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
36. If water vapor is not removed prior to measurement, the absolute humidity in the gas stream must be determined so that the gas concentrations may be reported on a dry basis. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
37. If water vapor creates an interference with the measurement of any component, then the water vapor must be removed from the gas stream prior to concentration measurements. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
38. Natural gas or LPG sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas or LPG shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
39. Copies of all 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, fuel source, 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
40. Permittee shall record daily natural gas, casing gas, and propane consumption. Records shall be provided to the District upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
41. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070; 4305, 6.1; and 4306, 6.1] Federally Enforceable Through Title V Permit
43. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 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. 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

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-311-84-14

EXPIRATION DATE: 12/31/2005

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

## EQUIPMENT DESCRIPTION:

58.5 MMBTU/HR STRUTHERS THERMOFLOOD (SG 6-37) MODELOH50-ND-16XAM NATURAL GAS/LPG/TEOR GAS (COMMON TO C-311-37, SG 25-19) FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION

## PERMIT UNIT REQUIREMENTS

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1. This unit shall be fired exclusively with natural gas, LPG, or TEOR gas. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 434,700 MMBtu/year. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the boiler. [District NSR Rule] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
6. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
7. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
8. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

9. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
10. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. Except during start-up and shutdown, emissions from this steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu, 0.043 lb-SO<sub>x</sub>/MMBtu, 0.00675 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu, or 0.00855 lb-VOC/MMBtu. [District NSR Rule and District Rule 4306, 5.1] Federally Enforceable Through Title V Permit
12. During start-up and shutdown, emissions from this steam generator shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 0.043 lb-SO<sub>x</sub>/MMBtu, 0.00675 lb-PM10/MMBtu, 0.084 lb-CO/MMBtu, or 0.00855 lb-VOC/MMBtu. [District NSR Rule and District Rule 4306, 5.1] Federally Enforceable Through Title V Permit
13. Maximum emissions from this steam generator, including start-up and shutdown operation, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub> in any one day, 7,825 lb-NO<sub>x</sub> in any calendar year, 66.4 lb-CO in any one day, or 16,084 lb-CO in any calendar year. [District NSR Rule] Federally Enforceable Through Title V Permit
14. Start-up is defined as that 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 that period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.22, 3.25] Federally Enforceable Through Title V Permit
15. The duration of each start-up or each shutdown shall not exceed two hours per occurrence. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. The operator shall maintain daily records of the number and duration of start-up and shutdown periods. [District Rule 4306, 5.3] Federally Enforceable Through Title V Permit
16. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306, 6.3] Federally Enforceable Through Title V Permit
17. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
18. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
19. 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
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
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. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

23. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
24. NO<sub>x</sub> 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, 6.2] Federally Enforceable Through Title V Permit
25. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306, 6.2] Federally Enforceable Through Title V Permit
26. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306, 6.2] Federally Enforceable Through Title V Permit
27. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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
28. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
29. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
32. Natural gas or LPG sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source; or natural gas or LPG shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
33. Permittee shall record daily natural gas, casing gas, and propane consumption. Records shall be provided to the District upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
34. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [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.

35. Copies of all 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, fuel source, 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
36. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070; 4305, 6.1; and 4306, 6.1] Federally Enforceable Through Title V Permit
37. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
38. 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

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

INSPECTION

ISSUANCE DATE: 05/16/2006

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
 BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL PRODUCTION  
 FRESNO COUNTY, CA

**SECTION:** 18 **TOWNSHIP:** 20S **RANGE:** 15E

**EQUIPMENT DESCRIPTION:**

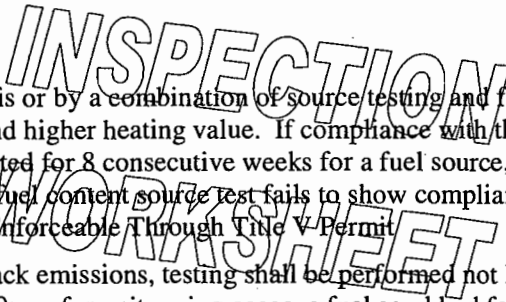
MODIFICATION OF 23 MMBTU/HR HOPPER STEAM GENERATOR, HSG-36, NATURAL GAS FIRED WITH ONE NORTH AMERICAN BURNER, DIS #21013-66: LIMIT CO EMISSIONS TO 50 PPMVD @ 3% O2 (0.037 LB-CO/MMBTU) AND RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O2 (0.018 LB-NOX/MMBTU) (RENEWED ONE TIME - 05/16/08, JS)

WORKSHEET

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4306 Emission Control Plan. [District Rule 4306, 6.4] Federally Enforceable Through Title V Permit
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 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
11. This unit shall be fired exclusively with natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit





12. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
14. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
15. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
16. Natural gas consumption shall not exceed either of the following limits: 526 MMBtu/day or 192,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Emissions from the steam generator shall not exceed any of the following limits: 0.0006 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
19. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.018 lb-NO<sub>x</sub>/MMBtu, 0.0006 lb-SO<sub>2</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
21. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 18.9 lb-NO<sub>x</sub>/day, 6,912 lb-NO<sub>x</sub>/yr, 19.5 lb-CO/day, or 7,104 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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 each start-up and shutdown period. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
23. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit



INSPECTION  
WORKSHEET

24. 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 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected 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 4306, 5.3] Federally Enforceable Through Title V Permit
25. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
29. 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
30. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
32. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
34. 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
35. The permittee shall monitor and record the stack concentration of NOx, CO, and O<sub>2</sub> 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
36. If either the NOx or CO concentrations corrected to 3% O<sub>2</sub>, 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

- INSPECTION WORKSHEET**
37. 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
  38. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
  39. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
  40. Permittee shall record daily natural gas consumption. [District NSR Rule] Federally Enforceable Through Title V Permit
  41. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
  42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

**INSPECTION**  
ISSUANCE DATE: 05/16/2006

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

**SECTION:** 18 **TOWNSHIP:** 20S **RANGE:** 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 23 MMBTU/HR HOPPER STEAM GENERATOR, HSG-1, NATURAL GAS FIRED, WITH ONE NORTH AMERICAN BURNER, DIS #5702-66: LIMIT CO EMISSIONS TO 50 PPMVD @ 3% O2 (0.037 LB-CO/MMBTU) AND RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O2 (0.018 LB-NOX/MMBTU) (RENEWED ONE TIME - 05/16/08, JS)

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4306 Emission Control Plan. [District Rule 4306, 6.4] Federally Enforceable Through Title V Permit
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 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
11. This unit shall be fired exclusively with natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit

12. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 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
14. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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
15. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
16. Natural gas consumption shall not exceed either of the following limits: 526 MMBtu/day or 192,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Emissions from the steam generator shall not exceed any of the following limits: 0.0006 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Except during start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.0182 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
19. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>, equivalent to 0.018 lb-NO<sub>x</sub>/MMBtu, 0.0006 lb-SO<sub>2</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub>, equivalent to 0.037 lb-CO/MMBtu or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
21. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 18.9 lb-NO<sub>x</sub>/day, 6,912 lb-NO<sub>x</sub>/yr, 19.5 lb-CO/day, or 7,104 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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 each start-up and shutdown period. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
23. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit

- INSPECTION WORKSHEET
24. 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 30 ppmvd @ 3% O2 or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected 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 4306, 5.3] Federally Enforceable Through Title V Permit
  25. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  28. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
  29. 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
  30. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  31. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  32. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
  34. 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
  35. 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
  36. 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

- INSPECTION**  
**NOT AVAILABLE**
37. 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
  38. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
  39. Copies of all 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
  40. Permittee shall record daily natural gas consumption. [District NSR Rule] Federally Enforceable Through Title V Permit
  41. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
  42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

**Appendix B**  
**Manufacturer's Guarantee**







- Ultra low NOx and CO without FGR
- Dual-fuel capability
- High intensity flame allows significant reductions in firing chamber size
- 5 to 400 million Btu/hr
- Single UV monitoring

**Applications:**

- air heaters
- process heaters
- dryers & calciners
- incinerators
- aggregate dryers
- soil remediation

Magna-Flame LEx systems greatly reduce the typical pollutants (NOx, CO) from gas combustion. Utilizing lean premix technology the patented burner produces NOx emissions of less than 10 ppm in many applications. The companion burner reaction chamber completes over 80 percent of the combustion producing very compact flame geometry. This compact flame allows significant reductions in furnace size and overall installed cost.

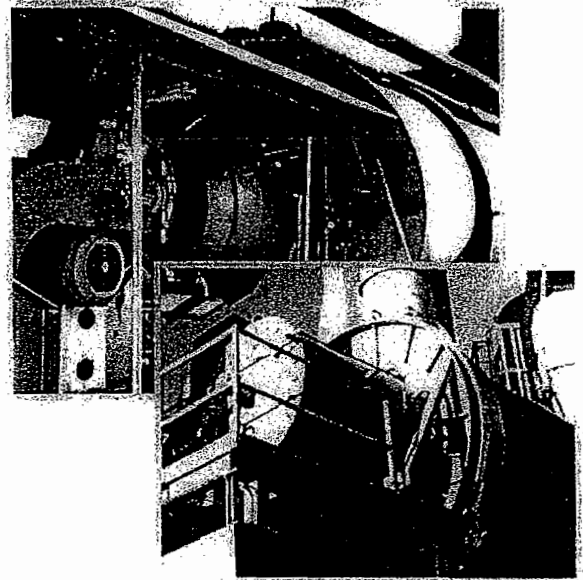
**Operation**

The burner incorporates internal mixing elements that premix the fuel and air prior to combustion in the reaction chamber. By completing over 80 percent of the combustion in the burner reaction chamber, the low NOx characteristics of the burner are protected from process influences.

The burner is designed to operate at 10"wc main air pressure and 8 psig gas pressure. The burner and control system are designed to hold to a preset ratio over a 4:1 turndown. Thermal turndowns of 10:1 or greater are also possible in most applications.

**Control**

A characterizable mass flow ratio control device is recommended. This gives the operator the tools to tailor the burner ratio through the turndown for optimum emissions performance.



**Pilot and Flame Supervision**

The 4020-HP nozzle mix pilot is recommended for use on the burner. Refer to Bulletin 4020 for specific information on the operation of this pilot.

For flame supervision the pilot must be the interrupted type. A single UV scanner monitors both the main flame and the pilot.

**Burner Construction**

The burner is of rugged construction suitable for industrial applications. The front face of the burner is constructed of high temperature refractory. The anti-flashback mixers are made of high grade alloy components.

**Other Fuels**

The LEx burner can fire many gaseous fuels with similar low emission performance. The LEx reaction chamber makes it extremely effective for low Btu gases. Light fuel oils may be used as a back up fuel. Consult your North American Sales and Application Engineer for your specific needs.

**NOx and CO Emissions Comparison\***

Example at 1200 F Temp.

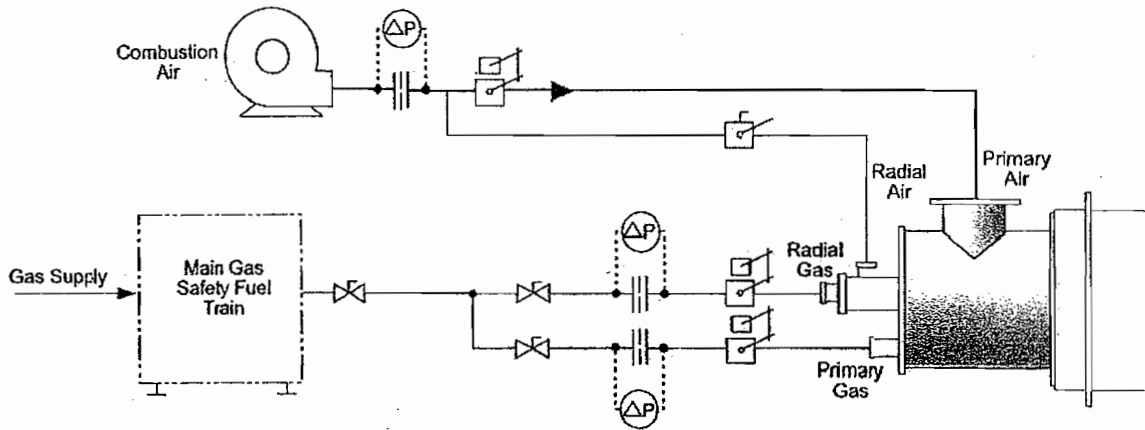
	Typical Cold Air Burner	Magna-Flame LEx System
NOx	82	9
CO	20	5

Emissions ppm<sub>v</sub> at 3% O<sub>2</sub>

\*Application dependent

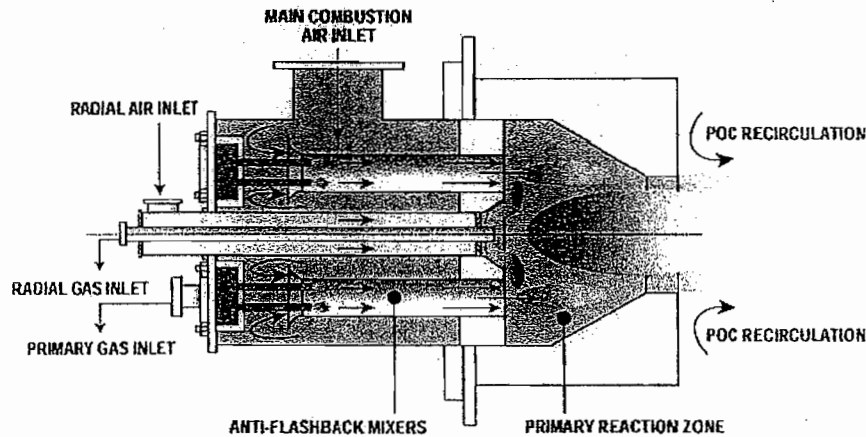
## Flow Control Concept

Figure 1. Typical Control Concept for Single Burner MAGNA-FLAME™ LEx Combustion System. A characterizable mass flow ratio control device is recommended for tailoring burner ratio through turndown.



## Simplified Burner Design — No Moving Parts — No FGR

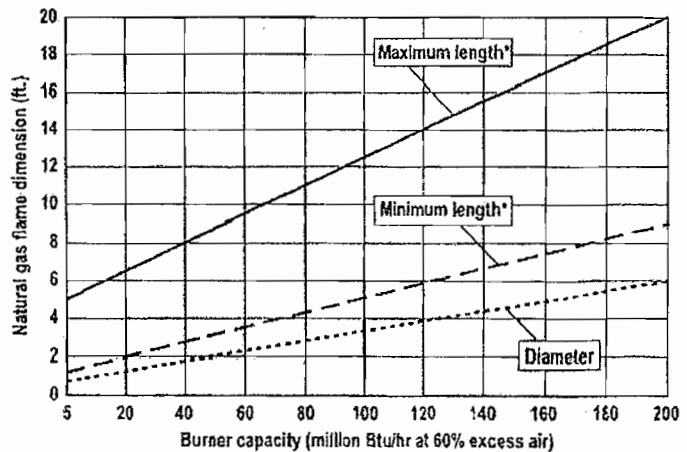
Figure 2. The Magna-Flame LEx uses patented premix technology to establish a lean premix and then combusts the mixture in a controlled reaction zone without the use of FGR, complex staging devices or moving parts. The fuel and air are introduced separately into the burner where they are intimately mixed within anti-flashback mixers. This mixture is then directed into the reaction region where lean combustion takes place.



## Gas Burner Flames

Figure 3. Gas Flame Dimensions vs. Burner Capacity (Btu/hr)

The LEx flame exits the reaction chamber 80 percent combusted resulting in shorter, more compact flame geometry. In most applications the firing chamber size can be significantly reduced.



\* Application dependent

**WARNING:** Situations dangerous to personnel and property can develop from incorrect operation of combustion equipment. North American urges compliance with National Safety Standards and Insurance Underwriters recommendations, and care in operation.

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email: sales@namfg.com • www.namfg.com

Appendix C  
Draft ATCs



San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-19-14

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 13-03 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH NORTH AMERICAN GAS BURNER, MODEL 6131G-LO-NOX WITH FLUE GAS RECIRCULATION AND O2 CONTROLLER: INSTALL NORTH AMERICAN LOW-NOX BURNER, LIMIT NOX TO 9 PPM @ 3% O2, AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

## CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
4. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

C-311-19-14 : Dec 9 2009 4:23PM - RICKARDK : Joint Inspection NOT Required

6. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. This unit shall be fired on natural gas, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
9. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The flue gas recirculation system shall be operated whenever the generator is in use. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
13. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.022 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 5,036 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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
19. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
20. 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 Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



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 semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081]
29. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
32. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

33. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
34. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
35. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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
37. Source testing to measure natural gas-combustion NO<sub>x</sub> 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 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
39. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
40. 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]
41. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
43. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

45. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
47. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-19-15

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 13-03 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH NORTH AMERICAN GAS BURNER, MODEL 6131G-LO-NOX WITH FLUE GAS RECIRCULATION AND O2 CONTROLLER: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
4. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

**DAVID WARNER, Director of Permit Services**

C-311-19-15 : Dec 9 2009 4:24PM - RICKARDK : Joint Inspection NOT Required

6. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. This unit shall be fired on natural gas, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
9. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The flue gas recirculation system shall be operated whenever the generator is in use. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
13. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.022 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 8,240 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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
19. 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 Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
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, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. 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
28. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
29. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
31. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
32. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit



33. 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 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. If the unit is fired on noncertified gaseous fuel and compliance with 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 or double GC for H2S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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
36. 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 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
38. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
42. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
44. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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

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CONDITIONS CONTINUE ON NEXT PAGE



45. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
46. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-20-17

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 13D TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR NATURAL GAS-FIRED STRUTHERS THERMOFLOOD SG 13-04 STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH OXYGEN CONTROLLER: INSTALL OPTIONAL USE FGR, LIMIT NOX TO 9 PPM @ 3% O2, AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This unit shall be fired on PUC-quality natural gas, or a blend of PUC-quality natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
5. Total consumption shall not exceed either of the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director YAPCO

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DAVID WARNER, Director of Permit Services

C-311-20-17: Dec 9 2009 4:24PM - RICKARDK : Joint Inspection NOT Required

7. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801] Federally Enforceable Through Title V Permit
9. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.004 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
11. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 5,036 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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
15. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
18. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
19. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

20. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
21. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520; 9.3.2] Federally Enforceable Through Title V Permit
22. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
27. 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
28. The results of each source test shall be submitted to the District within 60 days after the source test. [District Rule 1081] Federally Enforceable Through Title V Permit
29. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

30. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. 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 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. Concentration measurements shall not be taken until the sample acquisition probe has been exposed to the stack gas for at least 150% of the response time. Measurements shall be taken in triplicate. [District Rule 2520, 9.3.2, 4305, 4306, and 4320]
34. The well casing gas shall be sampled monthly from the gas line down stream from the point where the casing gas from all 4 casing collection systems is connected together and upstream from the point where the well casing gas is fed to the steam generators. The gas sample shall be analyzed by the laboratory for total sulfur and the results shall be given in grain/100 scf. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Permittee shall maintain monthly records of the total amount of well casing gas consumed by the entire bank of steam generators (in MMscf), along with the date and time of the measurement. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. Permittee shall maintain monthly records of the total amount of PUC grade gas consumed by the entire bank of steam generators (in MMscf), along with the date and time of the measurement. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. Permittee shall maintain records of daily total gas consumption. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of all lab analyses. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
40. 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, 4306, and 4320] Federally Enforceable Through Title V Permit

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41. 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]
42. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
43. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
44. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 1081 (Amended December 16, 1993), 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
47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
48. {1669} 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**DRAFT**  
ISSUANCE DATE: DRAFT

PERMIT NO: C-311-21-8

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 13-5 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER: INSTALL OPTIONAL USE FGR, LIMIT NOX TO 9 PPM @ 3% O<sub>2</sub>, AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE.

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-21-6 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**DAVID WARNER, Director of Permit Services**

C-311-21-8 : Dec 9 2009 4:24PM - RICKARDK : Joint Inspection NOT Required

7. This unit shall be fired on PUC-quality natural gas, or a blend of PUC-quality natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
9. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Total fuel consumption shall not exceed either of the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.08 lb-PM<sub>10</sub>/MMBtu, or 0.08 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 5,036 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. 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 each start-up and shutdown period. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
18. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
19. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
20. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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

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CONDITIONS CONTINUE ON NEXT PAGE

21. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
39. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
40. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-22-15

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 13-06 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH A NORTH AMERICAN GLE LOW NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, AND O2 CONTROLLER: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-22-13 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070]
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services  
C-311-22-15 - Dec 9 2009 4:24PM - RICKARDK : Joint Inspection NOT Required

6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired on natural gas and/or well casing gas. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. Total fuel consumption shall not exceed either of the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.022 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 5,036 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
20. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]

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CONDITIONS CONTINUE ON NEXT PAGE



23. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
24. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
25. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
26. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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
30. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. 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
32. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



33. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
37. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
40. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] 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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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

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CONDITIONS CONTINUE ON NEXT PAGE

44. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-23-13

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 13-07 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION AND O2 CONTROLLER: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-23-11 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

**DAVID WARNER**, Director of Permit Services  
C-311-23-13 : Dec 9 2009 4:24PM - RICKARDK : Joint Inspection NOT Required

7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired on PUC-quality natural gas, or a blend of PUC-quality natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Total fuel consumption shall not exceed either of the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.022 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 5,036 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
22. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
23. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

24. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
25. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
26. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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
30. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. 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
32. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
37. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
40. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] 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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
44. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-25-7

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 13-9 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-25-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

**DAVID WARNER, Director of Permit Services**

C-311-25-7 : Dec 9 2009 4:24PM - RICKARDK : Joint Inspection NOT Required



7. This unit shall be fired on PUC-quality natural gas, or a blend of PUC-quality natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
9. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Total fuel consumption shall not exceed either of the following limits: 1,404 MMBtu/day nor 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.009 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 4,785 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
16. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
19. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
20. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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

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CONDITIONS CONTINUE ON NEXT PAGE

21. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. 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
26. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
39. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
40. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-27-14

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-11, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE BURNER, EQUIPPED WITH FLUE GAS RECIRCULATION AND AN OXYGEN CONTROLLER: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE

**CONDITIONS**

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

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

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DAVID WARNER, Director of Permit Services

C-311-27-14 : Dec 9 2009 4:25PM - RICKARDK : Joint Inspection NOT Required

7. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Total fuel consumption shall not exceed either of the following limits: 1,404 MMBtu/day nor 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Emissions from the steam generator shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.009 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
10. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,480 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
14. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
17. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
18. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
19. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

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20. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The 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 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The 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, 4306, and 4320] Federally Enforceable Through Title V Permit
27. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
28. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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, 4306, and 4320] Federally Enforceable Through Title V Permit

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30. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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 compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-27-15

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-11, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE BURNER, EQUIPPED WITH FLUE GAS RECIRCULATION AND AN OXYGEN CONTROLLER: LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
6. This unit shall be fired on PUC-quality natural gas, or a blend of PUC-quality natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**DAVID WARNER**, Director of Permit Services

C-311-27-15 : Dec 9 2009 4:25PM - RICKARDK : Joint Inspection NOT Required

7. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Total fuel consumption shall not exceed either of the following limits: 1,404 MMBtu/day nor 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Emissions from the steam generator shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.009 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
10. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 7,830 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
14. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
17. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
18. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
19. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. 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
23. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. 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
25. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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, 4306, and 4320] Federally Enforceable Through Title V Permit

30. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
33. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
37. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**

**PERMIT NO:** C-311-28-17

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

**SECTION:** 13 **TOWNSHIP:** 20S **RANGE:** 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-12, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE BURNER, FLUE GAS RECIRCULATION (FGR), AND AN OXYGEN CONTROLLER: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This unit shall be fired on PUC-quality natural gas, or a blend of PUC-quality natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
5. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services  
C-311-28-17, Dec 9 2009 4:25PM - RICKARDK : Joint Inspection NOT Required

7. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, 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 from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
9. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 5,036 lb-NO<sub>x</sub>/yr, 62.9 lb-CO/day, and 20,953 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
13. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
16. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
17. Source testing to measure natural gas-combustion NO<sub>x</sub> 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 2520, 9.3.2, 4305, 4306, and 4320] 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. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
20. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District. [District Rule 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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
30. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit



31. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
32. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule Rules 2520, 9.3.2; 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
34. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
35. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
38. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
42. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**

**PERMIT NO:** C-311-30-17

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

**SECTION:** 13 **TOWNSHIP:** 20S **RANGE:** 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-14, MODEL OH-50-ND-16XAM, NATURAL GAS FIRED, WITH A NORTH AMERICAN GLE BURNER, AN OXYGEN CONTROLLER, AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This unit shall be fired on PUC-quality natural gas, or a blend of PUC-quality natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Total fuel consumption shall not exceed 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE.** Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-30-17 : Dec 9 2008 4:25PM - RICKARDK : Joint Inspection NOT Required

7. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
11. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 5,036 lb-NO<sub>x</sub>/yr, 67.3 lb-CO/day, and 21,227 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
17. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
18. Source testing to measure natural gas-combustion NO<sub>x</sub> 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 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
20. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
21. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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
30. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

31. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
32. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.4.2, 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
34. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
35. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
43. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-36-18

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR (SG #25-15), MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, FLUE GAS RECIRCULATION SYSTEM AND AN OXYGEN CONTROLLER SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS FROM SECTIONS 25D AND 6C ONLY: LIMIT NOX TO 9 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-36-15 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-36-18 : Dec 9 2009 4:25PM - RICKARDK : Joint Inspection NOT Required

7. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
9. Total fuel consumption shall not exceed 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The permittee shall maintain and operate a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Whenever well casing vapors and/or tank vapor recovery gas are being burned in this unit, the SO<sub>2</sub> scrubber shall operate and shall reduce SO<sub>2</sub> emissions by 95% by weight, or shall limit exhaust SO<sub>2</sub> to less than or equal to 9 ppmv corrected to 3.0% oxygen. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. Whenever the unit is switched to scrubbed operation, compliance source testing for SO<sub>x</sub> shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. PUC quality gas shall be combusted in this unit whenever the scrubber is not being operated. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Scrubber liquor pH shall be maintained between 6.5 and 8.0. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Tray packing flowrate shall be operated at 700 to 840 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Quench flowrate shall be operated at 145 to 185 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.014 lb-PM<sub>10</sub>/MMBtu, or 0.0085 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 4,785 lb-NO<sub>x</sub>/yr, 49.1 lb-CO/day, and 16,095 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]

CONDITIONS CONTINUE ON NEXT PAGE



24. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit
25. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
26. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
27. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2, 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

33. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. Source testing to measure SO<sub>x</sub> emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. [District Rule 4320]
35. 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
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
37. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (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
39. Permittee shall measure and record the BTU content of the gas burned at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
40. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
41. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
43. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
44. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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

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CONDITIONS CONTINUE ON NEXT PAGE

47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
48. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-37-22

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS THERMOFLOOD MODEL OH-50-ND-16XAM STEAM GENERATOR (#25-16) WITH A NORTH AMERICAN MODEL GLE LOW NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS: LIMIT NOX TO 9 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
5. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

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DAVID WARNER, Director of Permit Services

C-311-37-22 : Dec 9 2009 4:25PM - RICKARDK : Joint Inspection NOT Required

6. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
8. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Whenever well casing vapors and/or tank vapor recovery gas are being burned in this unit, the SO<sub>2</sub> scrubber shall operate and shall reduce SO<sub>2</sub> emissions by 95% by weight, or shall limit exhaust SO<sub>2</sub> to less than or equal to 9 ppmv corrected to 3.0% oxygen. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
11. Whenever the unit is switched to scrubbed operation, compliance source testing for SO<sub>x</sub> shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. PUC quality gas shall be combusted in this unit whenever the scrubber is not being operated. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Scrubber liquor pH shall be maintained between 6.5 and 8.0. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Tray packing flowrate shall be operated at 700 to 840 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Quench flowrate shall be operated at 145 to 185 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.014 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 5,036 lb-NO<sub>x</sub>/yr, 85.6 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]

CONDITIONS CONTINUE ON NEXT PAGE

23. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit
24. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
25. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
26. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2, 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



32. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. Source testing to measure SO<sub>x</sub> emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. [District Rule 4320]
34. 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
35. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
37. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
38. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Waste gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
39. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (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
40. Daily records of the tray packing flowrate and the quench flowrate shall be maintained, retained on the premises for a period of at least five years, and made available for District inspection upon request. [District Rule 1070 and 2520, 9.5.2] Federally Enforceable Through Title V Permit
41. Permittee shall measure and record the BTU content of the gas burned at the time of NO<sub>x</sub> source testing, except for natural gas purchased from a PUC regulated utility. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
42. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
43. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
44. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
45. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



46. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
48. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
50. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-38-22

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-17 STRUTHERS THERMOFLOOD MODEL #OH-50-ND-16XAM NATURAL GAS/LPG/WC/TVC GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER AND FLUE GAS RECIRCULATION SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS (SG 25-17): LIMIT NOX TO 9 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-38-17 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

C-311-38-22 : Dec 9 2009 4:25PM -- RICKARDK : Joint Inspection NOT Required

6. Whenever well casing vapors and/or tank vapor recovery gas are being burned in this unit, the SO<sub>2</sub> scrubber shall operate and shall reduce SO<sub>2</sub> emissions by 95% by weight, or shall limit exhaust SO<sub>2</sub> to less than or equal to 9 ppmv corrected to 3.0% oxygen. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
7. Whenever the unit is switched to scrubbed operation, compliance source testing for SO<sub>x</sub> shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
8. PUC quality gas shall be combusted in this unit whenever the scrubber is not being operated. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Scrubber liquor pH shall be maintained between 6.5 and 8.0. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Tray packing flowrate shall be operated at 700 to 840 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Quench flowrate shall be operated at 145 to 185 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
13. Total fuel consumption of this unit shall not exceed either of the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit
15. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
16. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
17. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 5,036 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. 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. 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]
24. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit
25. 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 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans 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
26. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
27. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2, 4305, 4306, and 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. Source testing to measure SOx emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. [District Rule 4320]
31. NOx, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
32. 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
33. The results of each source test shall be submitted to the District within 60 days after the source test. [District Rule 1081] Federally Enforceable Through Title V Permit

34. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. 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 Rule 2520, 9.4.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Waste gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
40. Permittee shall maintain daily records of the tray packing flowrate and the quench flowrate. [District Rule 1070 and 2520, 9.5.2] Federally Enforceable Through Title V Permit
41. Permittee shall measure and record the BTU content of the gas burned at the time of NO<sub>x</sub> source testing, except for natural gas purchased from a PUC regulated utility. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
42. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
43. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

44. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
45. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
46. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
48. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
50. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**DRAFT**  
ISSUANCE DATE: DRAFT

**PERMIT NO:** C-311-39-20

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

**SECTION:** 25 **TOWNSHIP:** 20S **RANGE:** 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #25-18, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE BURNER AND FLUE GAS RECIRCULATION SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS: LIMIT NOX TO 9 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**DRAFT**

DAVID WARNER, Director of Permit Services

C-311-39-20 : Dec 9 2009 4:25PM - RICKARDK : Joint Inspection NOT Required



6. Whenever well casing vapors and/or tank vapor recovery gas are being burned in this unit, the SO<sub>2</sub> scrubber shall operate and shall reduce SO<sub>2</sub> emissions by 95% by weight, or shall limit exhaust SO<sub>2</sub> to less than or equal to 9 ppmv corrected to 3.0% oxygen. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
7. Whenever the unit is switched to scrubbed operation, compliance source testing for SO<sub>x</sub> shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
8. PUC quality gas shall be combusted in this unit whenever the scrubber is not being operated. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Scrubber liquor pH shall be maintained between 6.5 and 8.0. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Tray packing flowrate shall be operated at 700 to 840 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Quench flowrate shall be operated at 145 to 185 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
13. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 5,036 lb-NO<sub>x</sub>/yr, 62.9 lb-CO/day, and 20,953 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure SOx emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. [District Rule 4320]
24. 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
25. NOx, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
26. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
27. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 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
29. 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 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
31. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
32. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

33. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
36. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
37. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2, 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
39. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Waste gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
40. Daily records of the tray packing flowrate and the quench flowrate shall be maintained, retained on the premises for a period of at least five years, and made available for District inspection upon request. [District Rules 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
41. Permittee shall measure and record the BTU content of the gas burned at the time of NO<sub>x</sub> source testing, except for natural gas purchased from a PUC regulated utility. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
42. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
43. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

44. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
45. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
46. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
48. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
50. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-40-19

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR NATURAL GAS, LPG OR PROCESS GAS FIRED STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE BURNER, FLUE GAS RECIRCULATION SYSTEM, AN OXYGEN CONTROLLER, SERVED BY THE NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS (COMMON TO C-311-37) (SG-25-19): LIMIT NOX TO 9 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Total fuel consumption shall not exceed 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-40-19: Dec 9 2009 4:26PM - RICKAROK : Joint Inspection NOT Required

6. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Whenever well casing vapors and/or tank vapor recovery gas are being burned in this unit, the SO<sub>2</sub> scrubber shall operate and shall reduce SO<sub>2</sub> emissions by 95% by weight, or shall limit exhaust SO<sub>2</sub> to less than or equal to 9 ppmv corrected to 3.0% oxygen. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
8. Whenever the unit is switched to scrubbed operation, compliance source testing for SO<sub>x</sub> shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
9. PUC quality gas shall be combusted in this unit whenever the scrubber is not being operated. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf; 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 4,782 lb-NO<sub>x</sub>/yr, 62.9 lb-CO/day, and 20,098 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
19. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Source testing to measure natural gas-combustion NO<sub>x</sub> 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 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure SO<sub>x</sub> emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. [District Rule 4320]

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22. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
23. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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

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CONDITIONS CONTINUE ON NEXT PAGE



31. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
32. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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 Rules 2201 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2, 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
35. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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

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CONDITIONS CONTINUE ON NEXT PAGE

43. {1669} 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

**DRAFT**

PERMIT NO: C-311-41-16

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-20 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM; WITH A NORTH AMERICAN GLE BURNER AND FLUE GAS RECIRCULATION SYSTEM, SERVED BY THE NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS: LIMIT NOX TO 9 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Total fuel consumption shall not exceed 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Whenever well casing vapors and/or tank vapor recovery gas are being burned in this unit, the SO2 scrubber shall operate and shall reduce SO2 emissions by 95% by weight, or shall limit exhaust SO2 to less than or equal to 9 ppmv corrected to 3.0% oxygen. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services  
C-311-41-16 : Dec 9 2009 4:26PM - RICKARDK : Joint Inspection NOT Required

5. Whenever the unit is switched to scrubbed operation, compliance source testing for SOx shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. PUC quality gas shall be combusted in this unit whenever the scrubber is not being operated. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
8. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SOx/MMBtu, 0.044 lb-PM<sub>10</sub>/MMBtu, or 0.0085 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NOx @ 3% O<sub>2</sub> or 0.011 lb-NOx/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NOx/day, 4,782 lb-NOx/yr, 62.9 lb-CO/day, and 20,109 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. 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% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
17. 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 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Source testing to measure SOx emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. [District Rule 4320]
19. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. NOx, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. 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
22. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
30. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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

31. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2, and 4320] Federally Enforceable Through Title V Permit
32. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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 Rules 2201 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2, 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
35. Permittee shall measure and record the BTU content of the gas burned at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
36. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
37. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
40. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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

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CONDITIONS CONTINUE ON NEXT PAGE

43. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
44. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-42-17

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-21 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-42-14 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

C-311-42-17 : Dec 9 2009 4:26PM - RICKARDK : Joint Inspection NOT Required

7. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
9. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,478 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
18. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
19. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
20. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
22. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. 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
26. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
39. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
40. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-42-18

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-21 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-42-14 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-42-18 : Dec 9 2009 4:26PM - RICKARDK : Joint Inspection NOT Required

7. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
9. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 7,825 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
18. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
19. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
20. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]

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CONDITIONS CONTINUE ON NEXT PAGE



21. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit



31. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
38. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
39. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-43-15

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-22 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16AXM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grain/dscf, 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
4. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
6. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

C-311-43-15 : Dec 9 2009 4:26PM - RICKARDK : Joint Inspection NOT Required

7. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
9. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
10. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,478 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
16. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
17. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
18. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
20. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

30. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
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 compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**

**PERMIT NO:** C-311-43-16

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

**SECTION:** 25 **TOWNSHIP:** 20S **RANGE:** 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-22 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16AXM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
4. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
6. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**DAVID WARNER, Director of Permit Services**  
C-311-43-16 : Dec 9 2008 4:28PM - RICKARDK : Joint Inspection NOT Required

7. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
9. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
10. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 7,825 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
16. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
17. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]

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CONDITIONS CONTINUE ON NEXT PAGE



19. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. 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
23. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. 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
25. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

29. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
30. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
33. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
37. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**

**PERMIT NO:** C-311-45-14

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

**SECTION:** 25 **TOWNSHIP:** 20S **RANGE:** 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-24 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16AXM, WITH A NORTH AMERICAN GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-45-13 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

C-311-45-14 : Dec 9 2009 4:26PM - RICKARDK : Joint Inspection NOT Required

7. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
9. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,478 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
18. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
19. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
20. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
22. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. 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
26. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
39. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
40. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-45-15

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-24 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16AXM, WITH A NORTH AMERICAN GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-45-13 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

C-311-45-15 : Dec 9 2009 4:28PM - RICKARDK : Joint Inspection NOT Required



7. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
9. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 7,825 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
18. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
19. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
20. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]

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CONDITIONS CONTINUE ON NEXT PAGE

21. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
38. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
39. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-46-12

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-25 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-46-11 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-46-12: Dec 9 2009 4:27PM - RICKARDK : Joint Inspection NOT Required

7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,478 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
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 semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320]

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CONDITIONS CONTINUE ON NEXT PAGE



23. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
25. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
26. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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
30. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. 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
32. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
37. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
40. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] 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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
44. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-46-13

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-25 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-46-11 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070]
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

C-311-46-13 : Dec 9 2009 4:27PM - RICKARDK : Joint Inspection NOT Required

7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 7,825 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. 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 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
23. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
25. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 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
29. 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 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. 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
31. The permittee shall monitor and record the stack concentration of NOx, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. If either the NOx or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. 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
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
43. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-47-6

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-26 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16-XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, AND A FLUE GAS RECIRCULATION SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-47-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070]
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**DAVID WARNER**, Director of Permit Services

C-311-47-6 : Dec 9 2009 4:27PM - RICKARDK : Joint Inspection NOT Required

6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf; 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,480 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,095 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]

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CONDITIONS CONTINUE ON NEXT PAGE



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 semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
29. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
30. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



31. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
34. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
36. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
37. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
40. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
44. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-47-7

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-26 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16-XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, AND A FLUE GAS RECIRCULATION SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-47-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070]
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

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DAVID WARNER, Director of Permit Services

C-311-47-7 : Dec 9 2009 4:27PM - RICKARDK : Joint Inspection NOT Required

7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 7,830 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,095 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

23. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
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, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
27. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
29. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. 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

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CONDITIONS CONTINUE ON NEXT PAGE

33. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
34. 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
35. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (h<sub>h</sub>v), in MMBtu/scf, for each gaseous fuel used in this operation. [District NSR Rule] Federally Enforceable Through Title V Permit
39. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
43. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-48-7

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-27 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, AND A FLUE GAS RECIRCULATION SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-48-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services  
C-311-48-7: Dec 9 2009 4:27PM - RICKARDK : Joint Inspection NOT Required



6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,480 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,095 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]

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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 semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
23. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
25. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
26. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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
30. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. 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
32. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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33. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
37. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. Permittee shall maintain records of higher heating value (h<sub>h</sub>v), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
40. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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

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44. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-48-8

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-27 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, AND A FLUE GAS RECIRCULATION SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-48-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-48-8 : Dec 9 2009 4:27PM - RICKARDK : Joint Inspection NOT Required

7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 7,830 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,095 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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22. 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 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
23. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. Operator shall provide an annual fuel analysis to the District. [District Rule 4320] Federally Enforceable Through Title V Permit
25. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; and 4305, 6.2.1] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 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
29. 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 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. 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
31. The permittee shall monitor and record the stack concentration of NOx, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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32. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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

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CONDITIONS CONTINUE ON NEXT PAGE



43. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-49-7

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-28 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-DN-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-49-6 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE.** Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

C-311-49-7 : Dec 9 2008 4:27PM - RICKARDK : Joint Inspection NOT Required

6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,480 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,095 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline selected 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]

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CONDITIONS CONTINUE ON NEXT PAGE

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 semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
23. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
25. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
26. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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
30. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. 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
32. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

33. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
37. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
40. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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

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CONDITIONS CONTINUE ON NEXT PAGE

44. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-49-8

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-28 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-DN-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-49-6 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

C-311-49-8 : Dec 9 2009 4:27PM -- RICKARDK : Joint Inspection NOT Required



7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow-meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 7,830 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,095 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. 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 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans 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
23. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
25. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. 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
29. 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 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. 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
31. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
32. 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 performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320]
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
43. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-50-7

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-29 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-DN-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, AND A GAS RECIRCULATION SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-50-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services  
C-311-50-7 : Dec 9 2009 4:27PM - RICKARDK : Joint Inspection NOT Required

6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,480 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,095 lb-CO/yr. [District Rule 2201 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]

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CONDITIONS CONTINUE ON NEXT PAGE



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 semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
23. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
25. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
26. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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
30. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. 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
32. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

33. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
37. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
40. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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

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CONDITIONS CONTINUE ON NEXT PAGE



44. 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

**DRAFT**

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-50-8

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 25-29 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-DN-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, AND A GAS RECIRCULATION SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-50-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services  
C-311-50-8 : Dec 9 2009 4:28PM - RICKARDK : Joint Inspection NOT Required

7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively on PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.045 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 7,830 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,095 lb-CO/yr. [District Rule 2201 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
23. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
25. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 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
29. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. 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
31. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
43. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**

**PERMIT NO:** C-311-51-12

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

**SECTION:** 6 **TOWNSHIP:** 20S **RANGE:** 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 6-31 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-51-11 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services  
C-311-51-12 : Dec 9 2009 4:28PM - RICKARDK : Joint Inspection NOT Required



7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.003 lb-SO<sub>x</sub>/MMBtu, 0.007 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,478 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
23. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
25. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 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
29. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. 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
31. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. 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
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
43. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**

**PERMIT NO:** C-311-51-13

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

**SECTION:** 6 **TOWNSHIP:** 20S **RANGE:** 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG 6-31 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION: LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-51-11 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

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DAVID WARNER, Director of Permit Services

C-311-51-13 : Dec 9 2009 4:28PM - RICKARDK : Joint Inspection NOT Required

7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively PUC-quality natural gas or LPG. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Total fuel consumption shall not exceed the following limits: 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.003 lb-SO<sub>x</sub>/MMBtu, 0.007 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 7,825 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



21. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
22. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
24. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. 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
28. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

32. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
35. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
38. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
42. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-52-15

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6 TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG STRUTHERS THERMOFLOOD STEAM GENERATOR #6-32, MODEL 0H-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE LOW-NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, AND AN OXYGEN CONTROLLER: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-52-14 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. This unit shall be fired exclusively on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-52-15 : Dec 9 2009 4:28PM - RICKARDK : Joint Inspection NOT Required

7. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
8. Total fuel consumption of this unit shall not exceed the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801] Federally Enforceable Through Title V Permit
13. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,662 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
23. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
24. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
25. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
30. 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. The source test plan shall indicate which test method shall be used to demonstrate compliance. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
32. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
33. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
34. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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35. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
39. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
40. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
43. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
45. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 1081 (Amended December 16, 1993), 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

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CONDITIONS CONTINUE ON NEXT PAGE

46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
47. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-52-16

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6 TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR SG STRUTHERS THERMOFLOOD STEAM GENERATOR #6-32, MODEL 0H-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE LOW-NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, AND AN OXYGEN CONTROLLER: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-52-14 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. This unit shall be fired exclusively on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

C-311-52-16 : Dec 9 2009 4:28PM - RICKARDK : Joint Inspection NOT Required



7. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
8. Total fuel consumption of this unit shall not exceed the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801] Federally Enforceable Through Title V Permit
13. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 8,240 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. 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 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
22. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
23. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
24. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. NOx, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
28. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
29. 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. The source test plan shall indicate which test method shall be used to demonstrate compliance. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
31. 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 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
33. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

34. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
38. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320]
40. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
42. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
44. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 1081 (Amended December 16, 1993), 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

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CONDITIONS CONTINUE ON NEXT PAGE

45. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
46. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-53-16

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #6-33, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT), FLUE GAS RECIRCULATION SYSTEM, AND AN OXYGEN CONTROLLER: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-53-15 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. This unit shall be fired exclusively with natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services  
C-311-53-16 : Dec 9 2009 4:28PM - RICKAROK : Joint Inspection NOT Required

7. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
8. Total fuel consumption of this unit shall not exceed the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801] Federally Enforceable Through Title V Permit
13. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,662 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



22. 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 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans 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
23. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
24. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
25. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1, 4306, 6.3.1, and 4320] Federally Enforceable Through Title V Permit
28. NOx, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
30. 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. The source test plan shall indicate which test method shall be used to demonstrate compliance. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
32. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
33. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
34. 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, 4306, and 4320] Federally Enforceable Through Title V Permit

35. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
39. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
40. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
43. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
45. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 1081 (Amended December 16, 1993), 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

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CONDITIONS CONTINUE ON NEXT PAGE

46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
47. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-53-17

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #6-33, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE LOW-NOX BURNER (OR DISTRICT APPROVED EQUIVALENT), FLUE GAS RECIRCULATION SYSTEM, AND AN OXYGEN CONTROLLER: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-53-15 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. This unit shall be fired exclusively with natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-53-17: Dec 9 2009 4:28PM - RICKARDK : Joint Inspection NOT Required

7. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
8. Total fuel consumption of this unit shall not exceed the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801] Federally Enforceable Through Title V Permit
13. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 8,240 lb-NO<sub>x</sub>/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. 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 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
22. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
23. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
24. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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
25. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1, 4306, 6.3.1, and 4320] Federally Enforceable Through Title V Permit
27. NOx, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
28. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
29. 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. The source test plan shall indicate which test method shall be used to demonstrate compliance. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
31. 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 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
33. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



34. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
38. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
42. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
44. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 1081 (Amended December 16, 1993), 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

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CONDITIONS CONTINUE ON NEXT PAGE

45. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
46. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-55-15

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (#6-35) MODEL OH-50-ND-16XAM NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GAS BURNER MODEL 4131G AND FLUE GAS RECIRCULATION: RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER FOR RULE 4306 COMPLIANCE, ADD START-UP AND SHUT-DOWN PROVISIONS PER RULE 4306, AND REVISE ALTERNATE MONITORING CONDITIONS TO CONFORM TO DISTRICT POLICY SSP 1105

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
4. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-55-15: Dec 9 2009 4:28PM - RICKARDK : Joint Inspection NOT Required

6. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
7. This unit shall be fired exclusively with natural gas or TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
13. Emissions from the steam generator shall not exceed any of the following limits: 0.14 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
15. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 8,240 lb-NO<sub>x</sub>/yr, 66.4 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
17. 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 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
18. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
19. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

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20. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
21. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
22. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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
23. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District NSR Rule and District Rules 4305 and 4306, 6.3] Federally Enforceable Through Title V Permit
24. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306, 6.3] Federally Enforceable Through Title V Permit
25. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
26. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by an independent testing laboratory and shall be witnessed or authorized by the District. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
27. 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
28. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
29. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
30. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
31. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 3 months prior to the date the stack concentration are measured and recorded. [District Rule 2520, 9.4.2, 4305, and 4306] Federally Enforceable Through Title V Permit

32. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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
33. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
34. 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
35. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
36. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
37. 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
38. 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
39. 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
40. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
41. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. 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, and 4306] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



43. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
45. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-55-16

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (#6-35) MODEL OH-50-ND-16XAM NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-55-15 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

**DAVID WARNER, Director of Permit Services**

C-311-55-16 : Dec 9 2009 4:28PM - RICKARDK : Joint Inspection NOT Required

6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. A source test to demonstrate compliance with the NOx and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. This unit shall be fired exclusively on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
10. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
13. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
14. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,662 lb-NO<sub>x</sub>/yr, 66.4 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]

CONDITIONS CONTINUE ON NEXT PAGE

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 semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit
23. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
24. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
25. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
26. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
27. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
30. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by an independent testing laboratory and shall be witnessed or authorized by the District. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
31. 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
32. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
34. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

35. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 3 months prior to the date the stack concentration are measured and recorded. [District Rule 2520, 9.4.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
41. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
42. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
43. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
44. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

46. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 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
48. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
49. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-55-17

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (#6-35) MODEL OH-50-ND-16XAM NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-55-15 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

**DAVID WARNER**, Director of Permit Services

C-311-55-17; Dec 9 2009 4:29PM - RICKARDK : Joint Inspection NOT Required

7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. This unit shall be fired exclusively on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
10. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
13. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
14. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 8,240 lb-NO<sub>x</sub>/yr, 66.4 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. 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 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans 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
23. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
24. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
25. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
26. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
29. NOx, and CO emissions shall be measured with source testing conducted by an independent testing laboratory and shall be witnessed or authorized by the District. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
30. 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
31. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
32. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
33. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
34. 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, 4306, and 4320] Federally Enforceable Through Title V Permit

35. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 3 months prior to the date the stack concentration are measured and recorded. [District Rule 2520, 9.4.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
40. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
41. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
43. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
44. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 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
47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
48. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**DRAFT**  
ISSUANCE DATE: DRAFT

PERMIT NO: C-311-56-14

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (#6-36) MODEL OH-50-ND-16XAM NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN BURNER MODEL 4131G, AN OXYGEN CONTROLLER, AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER FOR RULE 4306 COMPLIANCE, ADD START-UP AND SHUT-DOWN PROVISIONS PER RULE 4306, AND REVISE ALTERNATE MONITORING CONDITIONS TO CONFORM TO DISTRICT POLICY SSP 1105

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
4. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**DAVID WARNER, Director of Permit Services**

C-311-56-14; Dec 9 2009 4:29PM - RICKARDK : Joint Inspection NOT Required



5. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
6. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
7. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
8. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
9. This steam generator may be operated at the following Coalinga locations: Section 28, T19S/R15E, and Section 6, T20S/R15E. Other locations require specific District permits. [District Rule 2201] Federally Enforceable Through Title V Permit
10. This unit shall be fired exclusively on natural gas or TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
13. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
14. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.14 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
17. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 8,240 lb-NO<sub>x</sub>/yr, 66.4 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
19. 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 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
22. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
23. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
24. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: 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
25. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rule 2201, 4305 and 4306, 6.3] Federally Enforceable Through Title V Permit
26. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306, 6.3] Federally Enforceable Through Title V Permit
27. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
28. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
30. 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
31. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
32. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
34. 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
35. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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
36. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 3 months prior to the date the stack concentrations are measured and recorded. [District Rule 2520, 9.4.2, 4305, and 4306] Federally Enforceable Through Title V Permit
37. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Waste gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
38. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
39. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
40. 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
41. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
42. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

44. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
45. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
46. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-56-15

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #6-36, MODEL OH-50-ND-16XAM, NATURAL GAS FIRED, EQUIPPED WITH A NORTH AMERICAN BURNER, MODEL 4131G, AN OXYGEN CONTROLLER, AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT NOX TO 7 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-56-14 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services  
C-311-56-15 : Dec 9 2009 4:28PM - RICKARDK : Joint Inspection NOT Required

6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
9. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
10. This steam generator may be operated at the following Coalinga locations: Section 28, T19S/R15E, and Section 6, T20S/R15E. Other locations require specific District permits. [District Rule 2201] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
15. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
17. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
18. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 3,662 lb-NO<sub>x</sub>/yr, 66.4 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



22. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
24. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit
25. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
26. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
27. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
28. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District NSR Rule and District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
32. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
33. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
34. 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

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CONDITIONS CONTINUE ON NEXT PAGE

35. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
36. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 3 months prior to the date the stack concentrations are measured and recorded. [District Rule 2520, 9.4.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Natural gas sulfur content and higher heating value (h<sub>h</sub>v) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (h<sub>h</sub>v) monthly. Waste gas shall be tested for sulfur content and higher heating value (h<sub>h</sub>v) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
42. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
43. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

44. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
45. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
46. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
48. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
50. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-56-16

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #6-36, MODEL OH-50-ND-16XAM, NATURAL GAS FIRED, EQUIPPED WITH A NORTH AMERICAN BURNER, MODEL 4131G, AN OXYGEN CONTROLLER, AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-56-14 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

C-311-56-16 : Dec 9 2009 4:29PM - RICKARDK : Joint Inspection NOT Required

6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
9. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
10. This steam generator may be operated at the following Coalinga locations: Section 28, T19S/R15E, and Section 6, T20S/R15E. Other locations require specific District permits. [District Rule 2201] Federally Enforceable Through Title V Permit
11. This unit shall be fired exclusively on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
13. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
15. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
17. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
18. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 8,240 lb-NO<sub>x</sub>/yr, 66.4 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit
24. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
25. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
26. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
27. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District NSR Rule and District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
31. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
32. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
33. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

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34. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
35. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 3 months prior to the date the stack concentrations are measured and recorded. [District Rule 2520, 9.4.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Waste gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
41. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
42. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

43. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
44. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
46. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 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
48. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
49. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-76-14

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (SG 6-38) MODEL OH-50-ND-16XAM NATURAL GAS/LPG/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM INCLUDING AN OXYGEN CONTROLLER: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-76-12 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the boiler. [District Rule 2201] Federally Enforceable Through Title V Permit
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. This unit shall be fired on PUC-quality natural gas, LPG, or a blend of PUC-quality natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

**DRAFT**

DAVID WARNER, Director of Permit Services

C-311-76-14: Dec 9 2009 4:37PM - RICKARDK : Joint Inspection NOT Required

7. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
8. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
10. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
12. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.00675 lb-PM<sub>10</sub>/MMBtu, or 0.00855 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 4,782 lb-NO<sub>x</sub>/yr, 66.4 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
19. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

20. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
21. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
22. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
23. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
24. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
27. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 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
29. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 3 months prior to the date the stack concentrations are measured and recorded. [District Rule 2520, 9.4.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. Natural gas or LPG sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas or LPG shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
37. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
38. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
41. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



43. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
45. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-76-15

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (SG 6-38) MODEL OH-50-ND-16XAM NATURAL GAS/LPG/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM INCLUDING AN OXYGEN CONTROLLER: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-76-12 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the boiler. [District Rule 2201] Federally Enforceable Through Title V Permit
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. This unit shall be fired on PUC-quality natural gas, LPG, or a blend of PUC-quality natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**DAVID WARNER**, Director of Permit Services

C-311-76-15 : Dec 9 2009 4:37PM - RICKARDK : Joint Inspection NOT Required

7. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
8. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
10. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
12. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.00675 lb-PM<sub>10</sub>/MMBtu, or 0.00855 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 7,825 lb-NO<sub>x</sub>/yr, 66.4 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit
19. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCO or double GC for H<sub>2</sub>S and mercaptans 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

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CONDITIONS CONTINUE ON NEXT PAGE

20. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
21. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
22. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
23. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
26. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
27. 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
28. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
29. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 3 months prior to the date the stack concentrations are measured and recorded. [District Rule 2520, 9.4.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. Natural gas or LPG sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas or LPG shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
36. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
37. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
40. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 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. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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

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CONDITIONS CONTINUE ON NEXT PAGE

44. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-84-15

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (SG 6-37) MODEL OH50-ND-16XAM NATURAL GAS/LPG/TEOR GAS (COMMON TO C-311-37, SG 25-19) FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the boiler. [District Rule 2201] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
5. This unit shall be fired on PUC-quality natural gas, LPG, or a blend of PUC-quality natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-84-15 : Dec 9 2009 4:37PM -- RICKARDK : Joint Inspection NOT Required

7. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
11. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.00675 lb-PM<sub>10</sub>/MMBtu, or 0.00855 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO<sub>x</sub>/day, 4,782 lb-NO<sub>x</sub>/yr, 66.4 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
18. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320]

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19. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
20. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
21. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
25. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
26. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
30. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. Natural gas or LPG sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source; or natural gas or LPG shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
35. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 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

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CONDITIONS CONTINUE ON NEXT PAGE

42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
43. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-84-16

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 6C TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (SG 6-37) MODEL OH50-ND-16XAM NATURAL GAS/LPG/TEOR GAS (COMMON TO C-311-37, SG 25-19) FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the boiler. [District Rule 2201] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
5. This unit shall be fired on PUC-quality natural gas, LPG, or a blend of PUC-quality natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

**DAVID WARNER, Director of Permit Services**

C-311-84-16: Dec 9 2009 4:37PM - RICKARDK : Joint Inspection NOT Required



7. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO<sub>2</sub>. 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, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
11. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO<sub>x</sub>/MMBtu, 0.00675 lb-PM<sub>10</sub>/MMBtu, or 0.00855 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO<sub>x</sub>/day, 7,825 lb-NO<sub>x</sub>/yr, 66.4 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit
18. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
19. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]

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CONDITIONS CONTINUE ON NEXT PAGE

20. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
24. NO<sub>x</sub>, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
25. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 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
26. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
28. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
29. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. Natural gas or LPG sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source; or natural gas or LPG shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
34. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
35. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
38. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
42. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-114-6

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 18 TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 23 MMBTU/HR HOPPER STEAM GENERATOR, HSG-36, NATURAL GAS FIRED WITH A NORTH AMERICAN GLE LOW-NOX BURNER, DIS #21013-66: INSTALL OPTIONAL USE FGR, LIMIT NOX TO 7 PPM @ 3% O2, AND LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-114-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services  
C-311-114-6: Dec 9 2009 4:37PM - RICKARDK : Joint Inspection NOT Required

7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. This unit shall be fired exclusively on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Total fuel consumption shall not exceed the following limits: 526 MMBtu/day nor 192,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 9.5 lb-NO<sub>x</sub>/day, 1,536 lb-NO<sub>x</sub>/yr, 19.5 lb-CO/day, and 7,104 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



22. 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 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans 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
23. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
25. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 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
29. 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 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. 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
31. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
32. 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 performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



33. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
43. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-114-7

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 18 TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 23 MMBTU/HR HOPPER STEAM GENERATOR, HSG-36, NATURAL GAS FIRED WITH A NORTH AMERICAN GLE LOW-NOX BURNER, DIS #21013-66: LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-114-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-114-7 : Dec 9 2008 4:37PM - RICKARDK : Joint Inspection NOT Required

7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. This unit shall be fired exclusively on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Total fuel consumption shall not exceed the following limits: 526 MMBtu/day nor 192,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 18.9 lb-NO<sub>x</sub>/day, 3,456 lb-NO<sub>x</sub>/yr, 19.5 lb-CO/day, and 7,104 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
21. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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

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CONDITIONS CONTINUE ON NEXT PAGE

22. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
24. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. 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
28. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas h<sub>h</sub>v - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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33. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
35. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
38. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
42. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-117-6

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 18 TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 23 MMBTU/HR HOPPER STEAM GENERATOR, HSG-1, NATURAL GAS FIRED, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, DIS #5702-66: INSTALL OPTIONAL USE FGR, LIMIT NOX TO 7 PPM @ 3% O2, AND LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-117-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

**DAVID WARNER**, Director of Permit Services

C-311-117-6 : Dec 9 2009 4:38PM - RICKARDK : Joint Inspection NOT Required



7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. This unit shall be fired exclusively on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Natural gas consumption shall not exceed either of the following limits: 526 MMBtu/day or 192,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.008 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 9.5 lb-NO<sub>x</sub>/day, 1,536 lb-NO<sub>x</sub>/yr, 19.5 lb-CO/day, and 7,104 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. 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]
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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22. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H<sub>2</sub>S and mercaptans 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
23. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 or double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
25. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 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
29. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. 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
31. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

33. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of 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
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
43. 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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: C-311-117-7

LEGAL OWNER OR OPERATOR: CHEVRON USA INC  
MAILING ADDRESS: PO BOX 1392  
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

SECTION: 18 TOWNSHIP: 20S RANGE: 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 23 MMBTU/HR HOPPER STEAM GENERATOR, HSG-1, NATURAL GAS FIRED, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, DIS #5702-66: LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-117-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

**DAVID WARNER, Director of Permit Services**

C-311-117-7 : Dec 9 2009 4:38PM - RICKARDK : Joint Inspection NOT Required

7. A source test to demonstrate compliance with the NO<sub>x</sub> and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. This unit shall be fired exclusively on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Natural gas consumption shall not exceed either of the following limits: 526 MMBtu/day or 192,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 18.9 lb-NO<sub>x</sub>/day, 3,456 lb-NO<sub>x</sub>/yr, 19.5 lb-CO/day, and 7,104 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. 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 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



21. 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 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, 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 a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans 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
22. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
24. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. 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
28. 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 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The 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, 4306, and 4320] Federally Enforceable Through Title V Permit
31. 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 performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



32. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
35. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
38. Copies of all , 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, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 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
42. 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

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SJVAPCD  
Southern Region

**San Joaquin Valley  
Unified Air Pollution Control District**

**TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM**

**I. TYPE OF PERMIT ACTION (Check appropriate box)**

- SIGNIFICANT PERMIT MODIFICATION                       ADMINISTRATIVE  
 MINOR PERMIT MODIFICATION                                       AMENDMENT

COMPANY NAME: <b>Chevron U.S.A. Inc.</b>	FACILITY ID: <b>C - 311</b>
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name:	
3. Agent to the Owner:	

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

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

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

William R. Fall

Signature of Responsible Official

6/30/09

Date

**William R. Fall**

Name of Responsible Official (please print)

**Manager – Health, Safety & Environment**

Title of Responsible Official (please print)

## Quarterly Net Emissions Change

Unit	PE1 <sup>Annual</sup> NO <sub>x</sub> (lb/year)	PE2 <sup>Annual</sup> NO <sub>x</sub> (lb/year)	PE1 <sup>Annual</sup> SO <sub>x</sub> (lb/year)	PE2 <sup>Annual</sup> SO <sub>x</sub> (lb/year)	QNEC NO <sub>x</sub> (lb/qtr)	QNEC SO <sub>x</sub> (lb/qtr)
19-14	8,240	5,036	71,875	6,547	-801	-16,332
19-15	8,240	8,240	71,875	6,547	0	-16,332
20-17	8,240	5,036	71,875	6,547	-801	-16,332
21-8	8,240	5,036	71,875	6,547	-801	-16,332
22-15	8,240	5,036	71,875	6,547	-801	-16,332
23-13	8,240	5,036	71,875	6,547	-801	-16,332
25-7	7,830	4,785	22,620	6,221	-762	-4,100
27-14	7,830	3,480	1,240	1,240	-1,088	0
27-15	7,830	7,830	1,240	1,240	0	0
28-17	8,240	5,036	130,015	6,547	-801	-30,867
30-17	8,240	5,036	64,092	6,547	-801	-14,386
36-18	7,830	4,785	22,620	22,620	-762	0
37-22	8,240	5,036	23,806	23,806	-801	0
38-22	8,240	5,036	23,806	23,806	-801	0
39-20	8,240	5,036	23,806	23,806	-801	0
40-19	7,825	4,782	22,604	22,604	-760	0
41-16	7,830	4,785	22,620	22,620	-762	0
42-17	7,825	3,478	22,604	6,216	-1,086	-4,097
42-18	7,825	7,825	22,604	6,216	0	-4,097
43-15	7,825	3,478	22,604	6,216	-1,086	-4,097
43-16	7,825	7,825	22,604	6,216	0	-4,097
45-14	7,825	3,478	22,604	6,216	-1,086	-4,097
45-15	7,825	7,825	22,604	6,216	0	-4,097
46-12	7,825	3,478	22,604	6,216	-1,086	-4,097
46-13	7,825	7,825	22,604	6,216	0	-4,097
47-6	7,830	3,480	22,620	6,221	-1,088	-4,100
47-7	7,830	7,830	22,620	6,221	0	-4,100
48-7	7,830	3,480	22,620	6,221	-1,088	-4,100
48-8	7,830	7,830	22,620	6,221	0	-4,100
49-7	7,830	3,480	22,620	6,221	-1,088	-4,100
49-8	7,830	7,830	22,620	6,221	0	-4,100
50-7	7,830	3,480	22,620	6,221	-1,088	-4,100
50-8	7,830	7,830	22,620	6,221	0	-4,100
51-12	7,825	3,478	1,304	1,304	-1,086	0
51-13	7,825	7,825	1,304	1,304	0	0
52-15	8,240	3,662	64,092	6,547	-1,144	-14,386
52-16	8,240	8,240	64,092	6,547	0	-14,386
53-16	8,240	3,662	64,092	6,547	-1,144	-14,386
53-17	8,240	8,240	64,092	6,547	0	-14,386
55-15	16,481	8,240	64,092	64,092	-2,060	0
55-16	8,240	3,662	64,092	6,547	-1,144	-14,386
55-17	8,240	8,240	64,092	6,547	0	-14,386
56-14	16,481	8,240	64,092	64,092	-2,060	0
56-15	8,240	3,662	64,092	6,547	-1,144	-14,386
56-16	8,240	8,240	64,092	6,547	0	-14,386
76-14	7,825	4,782	18,692	6,216	-760	-3,119
76-15	7,825	7,825	18,692	6,216	0	-3,119
84-15	7,825	4,782	18,692	6,216	-760	-3,119
84-16	7,825	7,825	18,692	6,216	0	-3,119
114-6	3,456	1,536	547	547	-480	0
114-7	3,456	3,456	547	547	0	0
117-6	3,456	1,536	547	547	-480	0
117-7	3,456	3,456	547	547	0	0