



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

MAY 25 2010

Mr. William Fall
Chevron USA
PO Box 1392
Bakersfeild, CA 93302

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1141
Project # S-1094822**

Dear Mr. Fall:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Chevron USA Heavy Oil Western, CA. The project is to limit the NOx and SOx emissions of fourteen steam generators for District Rule 4320 compliance.

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

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

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

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW: DG/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
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

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



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

MAY 25 2010

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

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1141
Project # S-1094822**

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for Chevron USA Heavy Oil Western, CA, which has been issued a Title V permit. Chevron USA is requesting that Certificates of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The project is to limit the NOx and SOx emissions of fourteen steam generators for District Rule 4320 compliance.

Enclosed is the engineering evaluation of this application, along with the current Title V permit, and proposed Authorities to Construct # S-1141-26-33/34, '-31-34/35, '-55-30/31, '-60-30/31, '-515-10/11, '-549-10/11, '-550-8/9, '-551-7/8, '-552-7/8, '-553-7/8, '-555-11/12, '-556-12/13, '-557-10/11 & '-558-8/9 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: DG/cm

Enclosures

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MAY 25 2010

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

Re: **Notice of Preliminary Decision - ATC / Certificate of Conformity**
Facility # S-1141
Project # S-1094822

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Chevron USA Heavy Oil Western, CA. The project is to limit the NOx and SOx emissions of fourteen steam generators for District Rule 4320 compliance.

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

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW: DG/cm

Enclosures

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

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed issuance of Authority To Construct to Chevron USA for its heavy oil Heavy Oil Western, California. The project is to limit the NOx and SOx emissions of fourteen steam generators for District Rule 4320 compliance.

The analysis of the regulatory basis for these proposed actions, Project #S-1094822, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 34946 Flyover Court, Bakersfield, CA 93308.**

San Joaquin Valley Air Pollution Control District Authority to Construct

Steam Generators for Rule 4320 Compliance

Facility Name: Chevron, USA Date: May 6, 2010
Mailing Address: P. O. Box 1392 Engineer: Dolores Gough
Bakersfield, CA 93302 Lead Engineer: Richard Karrs
Contact Person: Martin Lundy or Sharon Walker
Telephone: 661-654-7142 or 654-7487
Fax: 661-654-7004
Application #(s): S-1141-26-33/34, '-31-34/35, '-55-30/31, '-60-30/31, '-515-10/11, '-549-10/11, '-550-8/9, '-551-7/8, '-552-7/8, '-553-7/8, '-555-11/12, '-556-12/13, '-557-10/11 & '-558-8/9
Project #: S-1094822
Deemed Complete: March 3, 2010

I. PROPOSAL

Chevron, USA (CUSA) is requesting Authority to Construct (ATC) permits for the modification of fourteen gas-fired steam generators at their Heavy Oil Western Stationary Source to comply with the applicable emission requirements of District Rule 4320, Advanced Emission Reductions Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr. CUSA is requesting ATCs for two options:

Option 1: Dual NO_x limits and SO_x limit: Based on fuel gas quality, CUSA will comply with the C2 and C3 staged enhanced initial NO_x limit options of 9 ppmv @ 3% O₂ and 12 ppm @ 3% O₂, respectively. When the steam generator is burning 50% or greater by volume PUC quality gas, the NO_x limit would be 9 ppmvd @ 3% O₂. If the fuel is less than 50% volume PUC quality gas, the NO_x limit would be 12 ppmv @ 3% O₂. For the SO_x, CUSA is proposing to limit the fuel gas sulfur content to 5 gr-S/100 scf or reduce SO_x via scrubbing or to an outlet concentration not exceeding 9 ppmv @ 3% O₂.

Option 2: Annual Fee with SO_x limit only: CUSA will pay an annual emissions fee to the District as specified in Section 5.3 of Rule 4320 and comply with the particulate matter control requirements in Section 5.4 of the rule. CUSA is proposing to limit the fuel gas sulfur content to 5 gr-S/100 scf or reduce SO_x via scrubbing or to an outlet concentration not exceeding 9 ppmv @ 3% O₂.

On this project, two ATCs will be issued for each of the units (one ATC per option). CUSA plans to implement the ATCs for Option 2 initially and pay annual emission fees to the District in lieu of implementing the ATCs with the NO_x limits (Option 1).

All the subject steam generators are equipped with North American GLE Magna Flame ultra low-NOx burners with flue gas recirculation (FGR) systems except for Units '-55 and '-60. These two units are currently dormant. CUSA is proposing to install North American GLE Magna-Flame low NOx burner on each of these two units under the Option 2 ATCs (annual fee and SOx limit only option). In addition, CUSA is requesting to correct the location of Unit '-26 to NW17, T32S and R23E.

Five of the steam generators have existing ATCs that will be used as the base documents for this project. For the other nine steam generators, the current PTOs will be used as base documents. The above modifications are proposed solely to comply with District Rule 4320 emission requirements. Since there is a change to the method of operation of the steam generators, these changes are modifications pursuant to District Rule 2201.

CUSA received their Title V Permit on November 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. CUSA must apply to administratively amend their Title V Operating Permit to include the requirements of the ATCs issued with this project.

Appendix A – Current Permit to Operate (PTO) and implemented ATCs

II. APPLICABLE RULES

District Rule 2201	New and Modified Stationary Source Review Rule (9/21/06)
District Rule 2520	Federally Mandated Operating Permits (6/21/01)
District Rule 4001	New Source Performance Standards (4/14/99)
District Rule 4101	Visible Emissions (2/17/05)
District Rule 4102	Nuisance (12/17/92)
District Rule 4201	Particulate Matter Concentration (12/17/92)
District Rule 4301	Fuel Burning Equipment (12/17/92)
District Rule 4305	Boilers, Steam Generators and Process Heaters – Phase 2 (8/21/03)
District Rule 4306	Boilers, Steam Generators and Process Heaters – Phase 3 (3/17/05)
District Rule 4320	Advanced Emission Reductions Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
District Rule 4351	Boilers, Steam Generators and Process Heaters – Phase 1 (8/21/03)
District Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
Public Resources Code 21000-21177:	California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387:	CEQA Guidelines

III. PROJECT LOCATION

The steam generators are located within CUSA's Heavy Oil Western stationary source at the Midway Sunset Field at NW17, T32S, R23E in Kern County. The steam generators are not located within 1,000 feet of the outer boundary of a K-12 school. There is also no

increase in emissions; therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. PROCESS DESCRIPTION

CUSA operates permitted equipment at their Heavy Oil Central stationary source. In thermally enhanced oil recovery (TEOR), steam generators produce steam for injection into heavy crude oil bearing strata via injection wells to reduce the viscosity of the crude oil, thereby facilitating petroleum production.

Steam enhanced oil recovery requires control of air contaminants associated with produced gas (and steam). CUSA operates tank vapor and well casing gas collection and control systems for this purpose. Tank vapor control gas and field gas is typically higher in sulfur content than PUC-regulated natural gas. The collected vapors will be pre-scrubbed (sweetened) prior to destruction in several existing steam generators.

V. EQUIPMENT LISTING

Pre-Project Equipment Description (base for this project):

- S-1141-26-29: 62.5 MMBTU/HR STRUTHERS THERMOFLOOD NATURAL GAS/TEOR GAS/TVC VAPORS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL GLE 4231 ULTRA-LOW NOX BURNER, FGR, A THERMOX O2 CONTROLLER, VAPOR PIPING FROM TEOR SYSTEM, VAPOR PIPING FROM TVC SYSTEMS, AND A SULFA SCRUB HYDROGEN SULFIDE (H₂S) SYSTEM (COMMON TO -31, -549, -550, -551, -552, -553, -555, -556, -557 AND -558) (#48, DIS #20660-81, NATIONAL BOARD #1041)
- S-1141-31-32: (ATC) MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR #59 (DIS# 20639-81, NATIONAL BOARD #1352), WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O₂ CONTROLLER AND FGR: ALLOW THE STEAM GENERATOR TO BE RUN WITH EITHER THE EXISTING AIR-FUEL MIXING ROD OR A MULTI-PORT (AKA GATLING GUN) PRIMARY MIXER.
- S-1141-55-24: DORMANT EMISSION UNIT: 62.5 MMBTU/HR NATURAL GAS/TEOR GAS/TVC GAS FIRED STRUTHERS STEAM GENERATOR #105 (SN 81-37411-16, NB 1027, DIS 39622-90) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN BURNER, O₂ CONTROLLER, SO₂ SCRUBBER, AND VAPOR PIPING FROM TEOR AND TVC SYSTEMS
- S-1141-60-24: DORMANT EMISSION UNIT: 62.5 MMBTU/HR NATURAL GAS/TEOR/TVC GAS FIRED STRUTHERS STEAM GENERATOR #112 (SN 81-37411-12, NB 1022, DIS 39623-90) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN BURNER, O₂ CONTROLLER, SO₂ SCRUBBER, AND VAPOR PIPING FROM TEOR SYSTEMS AND TVC SYSTEMS

- S-1141-515-6: (ATC) MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED SMITH MOON STEEL STEAM GENERATOR N.B. #826 WITH FGR AND O2 ANALYZER/CONTROLLER: TRANSFER LOCATION TO S17, T32S, R23E, REPLACE AND/OR MODIFY RADIANT AND/OR CONVECTION SECTIONS TO SPLIT FLOW CONFIGURATION, AND AUTHORIZE COMBUSTION OF VAPORS FROM S-1141-127
- S-1141-549-5: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED STRUTHERS STEEL STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA LOW-NOX BURNER, WITH AN O2 ANALYZER/CONTROLLER AND FLUE GAS RECIRCULATION (FGR) SYSTEM WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), AND ELECTRONIC CONTROLS (NATIONAL BOARD #1026)
- S-1141-550-6: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED SMITH MOON STEEL STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH AN O2 ANALYZER/CONTROLLER AND FGR WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), AND ELECTRONIC CONTROLS (NATIONAL BOARD #879)
- S-1141-551-6: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR (NATIONAL BOARD #2369) WITH A NORTH AMERICAN MODEL MAGNA-FLAME GLE ULTRA LOW NOX BURNER, AN O2 CONTROLLER, AND A FLUE GAS RECIRCULATION SYSTEM
- S-1141-552-6: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR (NATIONAL BOARD #192) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER, AND FGR
- S-1141-553-6: (ATC) MODIFICATION OF 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #552) WITH NORTH AMERICAN BURNER, O2 CONTROLLER, AND FGR: REPLACE BURNER WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER OR DISTRICT-APPROVED EQUIVALENT FOR RULE 4306 COMPLIANCE AND MODIFY CONVECTION AND RADIANT SECTION WATER/STEAM PIPING IF NECESSARY
- S-1141-555-10: (ATC) MODIFICATION OF 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #7953) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER, FGR, AND EXHAUST GAS SOX SCRUBBER SHARED WITH S-1141-555, -556 AND -557: INSTALL BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557
- S-1141-556-9: (ATC) MODIFICATION OF 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED SMITH MOON STEEL STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O2

ANALYZER/CONTROLLER, FGR, VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), ELECTRONIC CONTROLS, (NATIONAL BOARD #653) AND EXHAUST GAS SOX SCRUBBER SHARED WITH S-1141-555, -556 AND -557: INSTALL BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

S-1141-557-9: MODIFICATION OF 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED C.E. NATCO STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA LOW-NOX BURNER, O2 ANALYZER/CONTROLLER, FGR, VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), ELECTRONIC CONTROLS, (NATIONAL BOARD #9333) AND EXHAUST GAS SOX SCRUBBER SHARED WITH S-1141-555, -556 AND -557: INSTALL BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

S-1141-558-7: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR (NATIONAL BOARD #2398) WITH A NORTH AMERICAN MAGNA-FLAME MODEL GLE ULTRA LOW NOX BURNER, FGR AND O2 CONTROLLER

Proposed Modification:

Option 1 (Dual NOx Limits and SOx Limit

S-1141-26-33, '-31-34, '-55-30, '-60-30, '-515-10, '-549-10, '-550-8, '-551-7, '-552-7, '-553-7 and '-558-8:

LIMIT NOX TO 9 PPM @ 3% O2 (0.011 LB-NOX/MMBTU) OR TO 12 PPMV @ 3% O2 (0.014 LB-NOX/MMBTU) & FUEL GAS SULFUR CONTENT TO 5 GR-S/100 SCF OR REDUCE SOX BY 95% VIA SCRUBBING OR TO AN OUTLET CONCENTRATION NOT EXCEEDING 9 PPMVD SO2 @ 3% O2 FOR RULE 4320 COMPLIANCE

S-1141-555-11, '-556-12 and '-557-10:

LIMIT NOX TO 9 PPM @ 3% O2 (0.011 LB-NOX/MMBTU) OR TO 12 PPMV @ 3% O2 (0.014 LB-NOX/MMBTU) & REDUCE SOX BY 95% VIA SCRUBBING OR TO AN OUTLET CONCENTRATION NOT EXCEEDING 9 PPMVD SO2 @ 3% O2 FOR RULE 4320 COMPLIANCE

Option 2 (Annual Fee w/ SOx Limit only

S-1141-26-34, '-31-35, '-515-11, '-549-11, '-550-9, '-551-8, '-552-8, '-553-8 and '-558-9:

LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 SCF OR REDUCE SOX BY 95% VIA SCRUBBING OR TO AN OUTLET CONCENTRATION NOT EXCEEDING 9 PPMVD @ 3% O2 FOR RULE 4320 COMPLIANCE

S-1141-55-32 and '-60-32

INSTALL NORTH AMERICAN GLE ULTRA LOW-NOX BURNER AND REDUCE SOX BY 95% VIA SCRUBBING OR TO 9 PPMV @3% O2 IN EXHAUST FOR 4320 COMPLIANCE

S-1141-555-12, '-556-13 and '-557-11:

REDUCE SOX BY 95% VIA SCRUBBING OR TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

Post Project Equipment Description:

S-1141-26-33/34: 62.5 MMBTU/HR STRUTHERS THERMOFLOOD NATURAL GAS/TEOR GAS/TVC VAPORS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL GLE 4231 ULTRA-LOW NOX BURNER, FGR, A THERMOX O2 CONTROLLER, VAPOR PIPING FROM TEOR SYSTEM, VAPOR PIPING FROM TVC SYSTEMS, AND A SULFA SCRUB HYDROGEN SULFIDE (H2S) SYSTEM (COMMON TO -31, -549, -550, -551, -552, -553, -555, -556, -557 AND -558) (#48, DIS #20660-81, NATIONAL BOARD #1041)

S-1141-31-34/35: 62.5 MMBTU/HR NATURAL GAS/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR #59 (DIS# 20639-81, NATIONAL BOARD #1352), WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER AND FGR

S-1141-55-30/31: 62.5 MMBTU/HR NATURAL GAS/TEOR GAS/TVC GAS FIRED STRUTHERS STEAM GENERATOR #105 (SN 81-37411-16, NB 1027, DIS 39622-90) WITH NORTH AMERICAN GLE ULTRA LOW-NOX BURNER, FLUE GAS RECIRCULATION, O2 CONTROLLER, SO2 SCRUBBER, AND VAPOR PIPING FROM TEOR SYSTEMS AND TVC SYSTEMS

S-1141-60-30/31: 62.5 MMBTU/HR NATURAL GAS/TEOR/TVC GAS FIRED STRUTHERS STEAM GENERATOR #112 (SN 81-37411-12, NB 1022, DIS 39623-90) WITH NORTH AMERICAN GLE ULTRA LOW-NOX BURNER, FLUE GAS RECIRCULATION, O2 CONTROLLER, SO2 SCRUBBER, AND VAPOR PIPING FROM TEOR SYSTEMS AND TVC SYSTEMS

S-1141-515-10/11: 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED SMITH MOON STEEL STEAM GENERATOR N.B. #826 WITH FGR AND O2 ANALYZER/CONTROLLER

S-1141-549-10/11: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED STRUTHERS STEEL STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA LOW-NOX BURNER, WITH AN O2 ANALYZER/CONTROLLER AND FLUE GAS RECIRCULATION (FGR) SYSTEM WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), AND ELECTRONIC CONTROLS (NATIONAL BOARD #1026)

- S-1141-550-8/9: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED SMITH MOON STEEL STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH AN O₂ ANALYZER/CONTROLLER AND FGR WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), AND ELECTRONIC CONTROLS (NATIONAL BOARD #879)
- S-1141-551-7/8: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR (NATIONAL BOARD #2369) WITH A NORTH AMERICAN MODEL MAGNA-FLAME GLE ULTRA LOW NOX BURNER, AN O₂ CONTROLLER, AND A FLUE GAS RECIRCULATION SYSTEM
- S-1141-552-7/8: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR (NATIONAL BOARD #192) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O₂ CONTROLLER, AND FGR
- S-1141-553-7/8: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #552) WITH NORTH AMERICAN BURNER MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O₂ CONTROLLER, AND FGR
- S-1141-555-11/12: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #7953) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O₂ CONTROLLER, FGR AND SO₂ SCRUBBER SHARED WITH '-556 AND -557
- S-1141-556-12/13: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #653) WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH AN O₂ ANALYZER/CONTROLLER, FGR (WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), ELECTRONIC CONTROLS, AND SO₂ SCRUBBER SHARED WITH '-555 AND -557
- S-1141-557-10/11: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED C.E. NATCO STEAM GENERATOR (NATIONAL BOARD #9333) WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA LOW-NOX BURNER, O₂ ANALYZER/CONTROLLER, FGR SYSTEM (WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), ELECTRONIC CONTROLS, AND SO₂ SCRUBBER SHARED WITH '-555 AND -556
- S-1141-558-8/9: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR (NATIONAL BOARD #2398) WITH A NORTH AMERICAN MAGNA-FLAME MODEL GLE ULTRA LOW NOX BURNER, FGR AND O₂ CONTROLLER

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

The combustion equipment in this project is capable of generating NO_x, CO, VOC, PM₁₀ and SO_x emissions due to the combustion of natural gas/TEOR/TVC.

The steam generators are currently equipped with North American Magna-Flame ultra low-NO_x burner, FGR and O₂ controller to meet the staged enhanced schedule limit of 12 ppmv NO_x @ 3% O₂. SO_x emissions are reduced by 95% or limited to 9 ppmv @ 3% O₂ for three of the units with the use of a scrubber. For the other 11 units, the sulfur will be limited to 5 grains/100 scf.

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

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

An electronic O₂ controller in connection with a programmable logic controller (PLC) monitors and precisely adjusts the amount of excess combustion air and recirculated flue gas necessary for a stable combustion flame.

VII. GENERAL CALCULATIONS

A. Assumptions

- Steam generators operate 24 hours/day and 365 days/week.
- Steam generators are fired exclusively on gaseous fuels.
- There will be no change in current permitted emissions rates, daily and annual potential to emit for CO, VOC, or PM₁₀.
- There is a decrease in the NO_x emission rate (from 15 ppmv to 12 ppmv or 9 ppmv @ 3% O₂) for the first set of ATCs
- Fuel gas sulfur content limited to 5 gr/100 scf unless SO_x emissions are reduced by 95% or 9 ppmv @3% O₂ in the exhaust (0.04 lb/MMBtu to 1.94 lb/MMBtu)
- Higher start-up and shutdown emissions are allowed for NO_x and CO
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice)
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B)

B. Emission Factors

Pre-Project Emission Factors (EF1) – from the base documents (current PTO or existing ATCs)

	NOx	SOx	PM10	CO	VOC
S-1141-26-29	15 ppmv @ 3%O ₂ 0.0182 lb/MMBtu	1.94 lb/MMBtu	0.096 lb/MMBtu	51 ppmv @ 3%O ₂ 0.0375 lb/MMBtu	0.005 lb/MMBtu
S-1141-31-32	15 ppmv @ 3%O ₂ 0.0182 lb/MMBtu	1.94 lb/MMBtu	0.096 lb/MMBtu	37 ppmv @ 3%O ₂ 0.027 lb/MMBtu	0.006 lb/MMBtu
S-1141-55-24	30 ppmv @ 3%O ₂ 0.036 lb/MMBtu	0.04 lb/MMBtu	0.005 lb/MMBtu	1.4 ppmv @ 3%O ₂ 0.001 lb/MMBtu	0.003 lb/MMBtu
S-1141-60-24	30 ppmv @ 3%O ₂ 0.036 lb/MMBtu	0.04 lb/MMBtu	0.005 lb/MMBtu	1.4 ppmv @ 3%O ₂ 0.001 lb/MMBtu	0.003 lb/MMBtu
S-1141-515-6	15 ppmv @ 3%O ₂ 0.0182 lb/MMBtu	1.644 lb/MMBtu	0.096 lb/MMBtu	51 ppmv @ 3%O ₂ 0.0375 lb/MMBtu	0.0056 lb/MMBtu
S-1145-549-5	15 ppmv @ 3%O ₂ 0.0182 lb/MMBtu	0.126 lb/MMBtu	0.096 lb/MMBtu	51 ppmv @ 3%O ₂ 0.0375 lb/MMBtu	0.003 lb/MMBtu
S-1141-550-6	15 ppmv @ 3%O ₂ 0.0182 lb/MMBtu	0.126 lb/MMBtu	0.073 lb/MMBtu	51 ppmv @ 3%O ₂ 0.0375 lb/MMBtu	0.003 lb/MMBtu
S-1141-551-6	15 ppmv @ 3%O ₂ 0.0182 lb/MMBtu	0.126 lb/MMBtu	0.078 lb/MMBtu	45 ppmv @ 3%O ₂ 0.033 lb/MMBtu	0.006 lb/MMBtu
S-1141-552-6	15 ppmv @ 3%O ₂ 0.0182 lb/MMBtu	0.126 lb/MMBtu	0.078 lb/MMBtu	45 ppmv @ 3%O ₂ 0.033 lb/MMBtu	0.006 lb/MMBtu
S-1141-553-6	15 ppmv @ 3%O ₂ 0.0182 lb/MMBtu	0.126 lb/MMBtu	0.078 lb/MMBtu	45 ppmv @ 3%O ₂ 0.033 lb/MMBtu	0.006 lb/MMBtu
S-1141-555-10	15 ppmv @ 3%O ₂ 0.0182 lb/MMBtu	0.063 lb/MMBtu	0.073 lb/MMBtu	37 ppmv @ 3%O ₂ 0.027 lb/MMBtu	0.006 lb/MMBtu
S-1141-556-9	15 ppmv @ 3%O ₂ 0.0182 lb/MMBtu	0.063 lb/MMBtu	0.073 lb/MMBtu	50 ppmv @ 3%O ₂ 0.0375 lb/MMBtu	0.006 lb/MMBtu
S-1141-557-9	15 ppmv @ 3%O ₂ 0.0182 lb/MMBtu	0.063 lb/MMBtu	0.073 lb/MMBtu	50 ppmv @ 3%O ₂ 0.0375 lb/MMBtu	0.006 lb/MMBtu
S-1141-558-7	15 ppmv @ 3%O ₂ 0.0182 lb/MMBtu	0.126 lb/MMBtu	0.0096 lb/MMBtu	37 ppmv @ 3%O ₂ 0.027 lb/MMBtu	0.006 lb/MMBtu

Post- Project Emission Factors (EF2) – Option 1 (Dual NOx and SOx limit)

Permit No.	NOx ^a	SOx	PM10	CO	VOC
S-1141-26-33		1.94 lb/MMBtu	0.096 lb/MMBtu	51 ppmv @ 3%O ₂ 0.0375 lb/MMBtu	0.005 lb/MMBtu

S-1141-31-34	When fuel is 50% or greater by volume PUC quality gas: NOx = 12 ppmv @ 3%O ₂ (0.014 lb/MMBTU)	1.94 lb/MMBtu	0.096 lb/MMBtu	37 ppmv @ 3%O ₂ 0.027 lb/MMBtu	0.006 lb/MMBtu	
S-1141-55-30		0.04 lb/MMBtu	0.005 lb/MMBtu	1.4 ppmv @ 3%O ₂ 0.001 lb/MMBtu	0.003 lb/MMBtu	
S-1141-60-30		0.04 lb/MMBtu	0.005 lb/MMBtu	1.4 ppmv @ 3%O ₂ 0.001 lb/MMBtu	0.003 lb/MMBtu	
S-1141-515-10		1.644lb/MMBtu	0.096 lb/MMBtu	51 ppmv @ 3%O ₂ 0.0375 lb/MMBtu	0.0056 lb/MMBtu	
S-1145-549-10	When fuel is less than 50% by volume PUC quality gas, NOx = 9 ppmv @ 3% O ₂ (0.011 lb/MMBtu)	0.126 lb/MMBtu	0.096 lb/MMBtu	51 ppmv @ 3%O ₂ 0.0375 lb/MMBtu	0.003 lb/MMBtu	
S-1141-550-8		0.126 lb/MMBtu	0.073 lb/MMBtu	51 ppmv @ 3%O ₂ 0.0375 lb/MMBtu	0.003 lb/MMBtu	
S-1141-551-7		0.126 lb/MMBtu	0.078 lb/MMBtu	45 ppmv @ 3%O ₂ 0.033 lb/MMBtu	0.006 lb/MMBtu	
S-1141-552-7		0.126 lb/MMBtu	0.078 lb/MMBtu	45 ppmv @ 3%O ₂ 0.033 lb/MMBtu	0.006 lb/MMBtu	
S-1141-553-7		0.126 lb/MMBtu	0.078 lb/MMBtu	45 ppmv @ 3%O ₂ 0.033 lb/MMBtu	0.006 lb/MMBtu	
S-1141-555-11		During start-up/shutdown: NOx = 30 ppmv @ 3% O ₂ (0.036 lb/MMBtu)	0.063 lb/MMBtu	0.073 lb/MMBtu	37 ppmv @ 3%O ₂ 0.027 lb/MMBtu	0.006 lb/MMBtu
S-1141-556-12			0.063 lb/MMBtu	0.073 lb/MMBtu	50 ppmv @ 3%O ₂ 0.0375 lb/MMBtu	0.006 lb/MMBtu
S-1141-557-10			0.063 lb/MMBtu	0.073 lb/MMBtu	50 ppmv @ 3%O ₂ 0.0375 lb/MMBtu	0.006 lb/MMBtu
S-1141-558-8	0.126 lb/MMBtu		0.0096 lb/MMBtu	37 ppmv @ 3%O ₂ 0.027 lb/MMBtu	0.006 lb/MMBtu	

Post- Project Emission Factor (EF2) – Option 2 (Annual Fee with SOx limit only):
The emission factors are the same as Option 1 except for NOx. The EF2 for NOx is 15 ppmv @3% O₂ (0.0182 lb/MMBtu) except during start-up and shutdown.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The PE1 for each pollutant is calculated using the following equation and included in Appendix B. The results are summarized in the table below:

- PE1 = EF1 (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched (hr/day or hr/year)

Daily PE1 (lb/day):

	NOx	SOx	PM10	CO	VOC
S-1141-26-29	54.0	2,910.0	144.0	56.3	7.5

S-1141-31-32	54.0	2,910.0	144.0	40.5	9.0
S-1141-55-24	54.0	60.0	7.5	1.5	4.5
S-1141-60-24	54.0	60.0	7.5	1.5	4.5
S-1141-515-6	54.0	2,466.0	144.0	56.3	4.5
S-1145-549-5	54.0	189.0	144.0	56.3	4.5
S-1141-550-6	54.0	189.0	109.5	56.3	4.5
S-1141-551-6	54.0	189.0	117.0	49.5	9.0
S-1141-552-6	54.0	189.0	117.0	49.5	9.0
S-1141-553-6	54.0	189.0	117.0	49.5	9.0
S-1141-555-10	54.0	94.5	109.5	40.5	9.0
S-1141-556-9	54.0	94.5	109.5	56.3	9.0
S-1141-557-9	54.0	94.5	109.5	56.3	9.0
S-1141-558-7	54.0	189.0	144.0	40.5	9.0

Start-up and Shutdown Emissions (lb/day)

Chevron is allowed start-up/shutdown NOx emissions of 54.0 lb/day, calculated based on 30 ppmv @ 3% O2.

Annual PE1 (lb/yr):

	NOx	SOx	PM10	CO	VOC
S-1141-26-29	9,965	1,062,150	52,560	20,531	2,738
S-1141-31-32	9,965	1,062,150	52,560	14,783	3,285
S-1141-55-24	19,710	21,900	2,738	548	1,643
S-1141-60-24	19,710	21,900	2,738	548	1,643
S-1141-515-6	9,965	900,090	52,560	20,531	3,066
S-1145-549-5	9,965	68,985	52,560	20,531	3,066
S-1141-550-6	9,965	68,985	39,968	20,531	3,066
S-1141-551-6	9,965	68,985	42,705	18,068	3,285
S-1141-552-6	9,965	68,985	42,705	18,068	3,285
S-1141-553-6	9,965	68,985	42,705	18,068	3,285
S-1141-555-10	9,965	34,493	39,968	14,783	3,285

S-1141-556-9	9,965	34,493	39,968	20,531	3,285
S-1141-557-9	9,965	34,493	39,968	20,531	3,285
S-1141-558-7	9,965	68,985	52,560	14,783	3,285
Total	159,000	3,585,579	--	--	--

2. Post-Project Potential to Emit (PE2)

The PE2 for each pollutant is calculated using the following equation and included in Appendix B. The results are summarized in the table below. Only the NOx and SOx emissions have changed.

- PE2 = EF2 (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year)

Option 1 (Dual NOx limits and SOx limit):

Daily PE2 (lb/day):

	NOx	SOx	PM10	CO	VOC
S-1141-26-33	When fuel is 50% or greater by volume PUC quality gas: NOx = 21.0	2,910.0	144.0	56.3	7.5
S-1141-31-34		2,910.0	144.0	40.5	9.0
S-1141-55-30		60.0	7.5	1.5	4.5
S-1141-60-30		60.0	7.5	1.5	4.5
S-1141-515-10		2,466.0	144.0	56.3	4.5
S-1145-549-10	When fuel is less than 50% by volume PUC quality gas: NOx = 16.5	189.0	144.0	56.3	4.5
S-1141-550-8		189.0	109.5	56.3	4.5
S-1141-551-7		189.0	117.0	49.5	9.0
S-1141-552-7		189.0	117.0	49.5	9.0
S-1141-553-7		189.0	117.0	49.5	9.0
S-1141-555-11	During start-up/shutdown: NOx = 54.0 (this emission will be entered in PAS)	94.5	109.5	40.5	9.0
S-1141-556-12		94.5	109.5	56.3	9.0
S-1141-557-10		94.5	109.5	56.3	9.0
S-1141-558-8		189.0	144.0	40.5	9.0

Annual PE2 (lb/yr):

	NOx	SOx	PM10	CO	VOC	
S-1141-26-33	When fuel is 50% or greater by volume PUC quality gas: NOx = 7,665 (this emission will be entered in PAS)	1,062,150	52,560	20,531	2,738	
S-1141-31-34		1,062,150	52,560	14,783	3,285	
S-1141-55-30		21,900	2,738	548	1,643	
S-1141-60-30		21,900	2,738	548	1,643	
S-1141-515-10		900,090	52,560	20,531	3,066	
S-1145-549-10		68,985	52,560	20,531	3,066	
S-1141-550-8		68,985	39,968	20,531	3,066	
S-1141-551-7		68,985	42,705	18,068	3,285	
S-1141-552-7		When fuel is less than 50% by volume PUC quality gas: NOx = 6,023	68,985	42,705	18,068	3,285
S-1141-553-7			68,985	42,705	18,068	3,285
S-1141-555-11			34,493	39,968	14,783	3,285
S-1141-556-12			34,493	39,968	20,531	3,285
S-1141-557-10			34,493	39,968	20,531	3,285
S-1141-558-8			68,985	52,560	14,783	3,285
Total	107,310		3,585,579	--	--	--

Option 2 (Annual fee with SOx limit only):

Daily PE2 (lb/day):

	NOx	SOx	PM10	CO	VOC
S-1141-26-34	27.3	2,910.0	144.0	56.3	7.5
S-1141-31-35	27.3	2,910.0	144.0	40.5	9.0
S-1141-55-31	27.3	60.0	7.5	1.5	4.5
S-1141-60-31	27.3	60.0	7.5	1.5	4.5
S-1141-515-11	27.3	2,466.0	144.0	56.3	4.5
S-1145-549-11	27.3	189.0	144.0	56.3	4.5
S-1141-550-9	27.3	189.0	109.5	56.3	4.5
S-1141-551-8	27.3	189.0	117.0	49.5	9.0
S-1141-552-8	27.3	189.0	117.0	49.5	9.0

S-1141-553-8	27.3	189.0	117.0	49.5	9.0
S-1141-555-12	27.3	94.5	109.5	40.5	9.0
S-1141-556-13	27.3	94.5	109.5	56.3	9.0
S-1141-557-11	27.3	94.5	109.5	56.3	9.0
S-1141-558-8	27.3	189.0	144.0	40.5	9.0

Annual PE2 (lb/yr):

	NOx	SOx	PM10	CO	VOC
S-1141-26-34	9,855	1,062,150	52,560	20,531	2,738
S-1141-31-35	9,855	1,062,150	52,560	14,783	3,285
S-1141-55-31	9,855	21,900	2,738	548	1,643
S-1141-60-31	9,855	21,900	2,738	548	1,643
S-1141-515-11	9,855	900,090	52,560	20,531	3,066
S-1145-549-11	9,855	68,985	52,560	20,531	3,066
S-1141-550-9	9,855	68,985	39,968	20,531	3,066
S-1141-551-8	9,855	68,985	42,705	18,068	3,285
S-1141-552-8	9,855	68,985	42,705	18,068	3,285
S-1141-553-8	9,855	68,985	42,705	18,068	3,285
S-1141-555-12	9,855	34,493	39,968	14,783	3,285
S-1141-556-13	9,855	34,493	39,968	20,531	3,285
S-1141-557-11	9,855	34,493	39,968	20,531	3,285
S-1141-558-9	9,855	68,985	52,560	14,783	3,285
Total	137,970	183,658	--	--	--

Start-up and Shutdown Emissions (lb/day)

For this second option, the start-up/shutdown emissions for NOx will be the same as the existing (54.0 lb/day) based on 30 ppmv @ 3%O2 (0.036 lb/MMBtu) and will be retained in the appropriate ATCs. These emissions will be entered in PAS.

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

SSPE1 calculations are necessary to aid the following determinations:

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

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

Facility emissions are already above the Offset and Major Source Thresholds for all the criteria 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.

Facility emissions are already above the Offset and Major Source Thresholds for all the criteria pollutants. There is no increase in potential emissions for any of the units, for any pollutant in this project. The potential to emit NO_x will decrease in accordance with District Rule 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 with 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 the criteria 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 lbs/year) is performed pollutant-by-pollutant for each unit within the project, to calculate the QNEC and if applicable, to determine the amount of offsets required. The facility is exempt from offset requirements; however for QNEC calculations, BE is as follows:

BE = Pre-project Potential to Emit (PE1) for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit (80% of pre-project emissions), located at a Major Source,
- Any Fully-Offset Emissions Unit (a unit for which offsets have been provided), located at a Major Source, or
- Any Clean Emissions Unit located at a Major Source.

Otherwise,

BE = Historic Actual Emissions (HAE)

Pursuant to Rule 2201, Section 3.12, a Clean Emissions Unit is defined as an emissions unit that is equipped with emission control technology that has a minimum control efficiency of at least 95% or meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application. The subject steam generators are fired on gaseous fuels and are equipped with low NO_x burners that meet the requirements for achieved-in-practice BACT (BACT Guideline 1.2.1).

Therefore, the steam generators are considered clean emissions units and the baseline emissions (BE) are equal to the Pre-Project Potential to Emit (PE1).

7. Major Modification

The 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:

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

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.

¹ Due to the large number of affected units proposed by CUSA for facilities S-1127, S-1131 and S-1141 for Rule 4320 compliance, this project in conjunction with others (and considering that boilers and steam generators typically have actual emissions below their permitted emission levels) is presumed to cross one or more major modification thresholds.

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 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.

9. Quarterly Net Emissions Change (QNEC)

The QNEC is used to complete the emission profile for the District's PAS database. The QNEC for each unit is calculated as the difference between the quarterly PE2 and the quarterly BE, which in this project is the PE1, as discussed in VII (C)(6) above.

$$\text{QNEC (lb/qtr)} = [\text{PE2 (lb/yr)} - \text{PE1 (lb/yr)}] / 4$$

There is no change in emissions for the criteria pollutants except for NOx for both options; therefore, only the QNEC for NOx is calculated

Option 1 (Dual NOx Limits and SOx Limit):

NOx	PE2 (lb/yr)	PE1 (lb/yr)	QNEC (lb/qtr)
S-1141-26-34	7,665	9,965	-575
S-1141-31-35	7,665	9,965	-575
S-1141-55-31	7,665	19,710	-3,011
S-1141-60-31	7,665	19,710	-3,011
S-1141-515-11	7,665	9,965	-575
S-1145-549-11	7,665	9,965	-575
S-1141-550-9	7,665	9,965	-575
S-1141-551-8	7,665	9,965	-575
S-1141-552-8	7,665	9,965	-575
S-1141-553-8	7,665	9,965	-575
S-1141-555-12	7,665	9,965	-575
S-1141-556-13	7,665	9,965	-575
S-1141-557-11	7,665	9,965	-575
S-1141-558-9	7,665	9,965	-575

Option 2 (Annual Fee with SOx limit only)

NOx	PE2 (lb/yr)	PE1 (lb/yr)	QNEC (lb/qtr)
S-1141-26-34	9,855	9,965	0
S-1141-31-35	9,855	9,965	0
S-1141-55-31	9,855	19,710	-2,464
S-1141-60-31	9,855	19,710	-2,464
S-1141-515-11	9,855	9,965	0
S-1145-549-11	9,855	9,965	0
S-1141-550-9	9,855	9,965	0
S-1141-551-8	9,855	9,965	0
S-1141-552-8	9,855	9,965	0
S-1141-553-8	9,855	9,965	0
S-1141-555-12	9,855	9,965	0
S-1141-556-13	9,855	9,965	0
S-1141-557-11	9,855	9,965	0
S-1141-558-9	9,855	9,965	0

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_x, or 25 tons per year of VOC, or 15 tons per year of SO_x, or 15 tons per year of PM₁₀, or 50 tons per year of CO.

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

2. BACT Guideline and Top-Down Analysis

Since BACT is not triggered, the proposed operation is not subject to any BACT guideline nor top-down analysis. No further discussion is required.

B. Offsets

1. Offset Applicability

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

Emission offsets shall not be required for the following:

- 4.6.8 For existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders, as approved by the APCO, shall be exempt from offset requirements for all air pollutants provided all of the following conditions are met:
 - 4.6.8.1 There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;

- 4.6.8.2 There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;
- 4.6.8.3 There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and
- 4.6.8.4 The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO_x, or 25 tons per year of VOC, or 15 tons per year of SO_x, or 15 tons per year of PM-10, or 50 tons per year of CO.

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

2. Quantity of Offsets Required

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

C. Public Notification

1. Applicability

Public noticing is required for:

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

a. New Major Source

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

b. Major Modification

As demonstrated in VII.C.7, this project 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. 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 for Major Modification purposes.

D. Daily Emission Limits (DELs)

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

The DELs for the units are stated in the form of emission factors as shown:

Option 1 (Dual NOx Limits and SOx limit:

- Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: *9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and XX ppmvd CO @ 3% O2 or X.XXX lb-CO/MMBtu.* [District Rules 2201 and 4320]
- Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: *12 ppmvd NOx @ 3% O2 or 0.014 lb-*

NO_x/MMBtu and XX ppmvd CO @ 3% O₂ or X.XXX lb-CO/MMBtu. [District Rules 2201 and 4320]

Option 2 (Annual Fee with SO_x limit only):

- Emissions from the steam generator shall not exceed any of the following limits: *X.XX lb-SO_x/MMBtu, X.XXX lb-PM₁₀/MMBtu, or X.XXX lb-VOC/MMBtu.* [District Rules 2201 and 4320]
- Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: *15 ppmvd NO_x @ 3% O₂ or 0.0182 lb-NO_x/MMBtu or XX ppmvd CO @ 3% O₂ or X.XXX lb-CO/MMBtu.* [District Rules 2201 and 4320]

E. Compliance Assurance

1. Source Testing

The units in this project are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr.* Source testing requirements will be discussed in the compliance review section of this evaluation.

2. Monitoring

As required by District Rules 4305, 4306 and 4320, the units are subject to monitoring requirements. Monitoring requirements, in accordance with District Rules will be discussed in the compliance review section of this evaluation.

3. Recordkeeping

As required by District Rules 4305, 4306 and 4320, the units are subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rules will be discussed in the compliance review of this evaluation.

The following permit condition will be listed on permit as follows:

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

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

District Rule 2520 Federally Mandated Operating Permits

CUSA has a Title V permit. The changes authorized by these ATCs constitute a minor modification of their Title V permit. The facility has requested that the ATCs be issued with a

Certificate of Conformity (COC). Therefore, prior to issuance, the ATCs will undergo a 45 day EPA review. Prior to initial operation under these ATCs, the applicant must submit a Title V application for an administrative amendment, 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, 5.3.4]

District Rule 4001 New Source Performance Standards

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); therefore, the requirements of this section do not apply to the subject units.

District Rule 4101 Visible Emissions

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

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 or fuel usage 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. As natural gas-fired combustion equipment emits negligible amounts of particulate matter, compliance with this rule is expected.

District Rule 4301 Fuel Burning Equipment

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

The maximum emission rates in lb/hr for each of the steam generator in this project are as follows:

District Rule 4301 Limits (lb/hr)			
Pollutant	NO₂	Total PM	SO₂
ATC S-1141-26	2.25	6.0	121.2
ATC S-1141-31	2.25	6.0	121.5
ATC S-1141-55	2.25	0.3	2.5
ATC S-1141-60	2.25	0.3	2.5
ATC S-1141-515	2.25	6.0	102.8
ATC S-1141-549	2.25	6.0	7.9
ATC S-1141-550	2.25	4.6	7.9
ATC S-1141-551	2.25	4.9	7.9
ATC S-1141-552	2.25	4.9	7.9
ATC S-1141-553	2.25	4.9	7.9
ATC S-1141-555	2.25	4.6	3.9
ATC S-1141-556	2.25	4.6	3.9
ATC S-1141-557	2.25	4.6	3.9
ATC S-1141-558	2.25	6.0	7.9
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 4305 Boilers, Steam Generators and Process Heaters – Phase 2

This rule limits NO_x and CO emissions from boilers, steam generators, and process heaters rated greater than 5 MMBtu/hr. The 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

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

This rule limits NO_x and CO emissions from boilers, steam generators, and process heaters rated greater than 5 MMBtu/hr. The 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

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

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

The units in this project are all rated at greater than 5 MMBtu/hr heat input and are subject to this rule.

Section 5.1 NO_x Emission Limits

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

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

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

Option 1 (Dual NO_x Limits and SO_x Limit): With a maximum heat input of 62.5 MMBtu/hr for the oilfield steam generators, CUSA opted for dual NO_x limits based on the fuel burned.

Category C2, Staged Enhanced Schedule Initial limit of 9 ppmv (0.011 lb/MMBtu) - if the unit is burning 50% or greater by volume PUC quality gas.

Category C3, Staged Enhanced Schedule Initial Limit of 12 ppmv (0.014 lb/MMBtu) – if the unit is burning less than 50% by volume PUC quality gas.

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

Option 2 (Annual Fee w/ SOx limit only): CUSA will pay annual emissions fee to the District and comply with the particulate matter control requirements in Section 5.4 by complying with SO2 or fuel gas sulfur requirements. See also Section 5.4 discussion below.

The steam generators associated with this project have CO limits from 1.4 to 51 ppmv CO @ 3%O2 (0.002 to 0.0375 lb/MMBtu). No change to the CO emissions limit is proposed; therefore, compliance with the rule emission requirements is expected.

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

Section 5.4 Particulate Matter Control Requirements

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

Section 5.4.1.1 provides option for the operator to comply with the rule by firing the unit exclusively on PUC-quality gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;

Section 5.4.1.2 provides option for the operator to comply with the rule by limiting the fuel sulfur content to no more than five (5) grains of total sulfur per hundred (100) standard cubic feet.

Section 5.4.1.3 provides option for the operator to comply with the rule by installing and properly operating an emissions control system that reduces SO₂ emissions by at least 95% by weight; or limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3 % O₂.

The steam generators are approved to incinerate TEOR and TVR gas. For units S-1141-26, 31, 55, 60, 515, 549, 550, 551, 552, 663 and 558, CUSA is proposing to apply a sulfur limit of 5 gr S/100 scf unless the SO_x is reduced by 95% or 9 ppmv @ 3% O₂ with a scrubber. For units S-1141-555, 556 and 557, the SO_x will be reduced by 95% or 9 ppmv @ 3% O₂ with a scrubber. The ATCs will have conditions specifying these limits to ensure compliance with this section of the rule.

Section 5.5 Low-Use Unit

This section discusses the requirements of low-use units. CUSA is not requesting low-use status; therefore, this section of the rule is not applicable to this project.

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 start-up and shutdown NO_x and CO emissions and duration limits of 2 hours each. Emissions during start-up and shutdown will not be subject to the emission limits in Sections 5.2 and 5.2.2.

Section 5.7 Monitoring Provisions

Section 5.7.1 requires that permit units subject to District Rule 4320, Section 5.2 shall either install and maintain an operational APCO approved Continuous Emission Monitoring System (CEMS) for NO_x, CO and O₂, or implement an APCO-approved alternate monitoring.

Consistent with current permit requirements, CUSA proposes to continue implementing Alternate Monitoring Scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NO_x, CO, and O₂ exhaust concentrations shall be conducted at least once per month (in which a source test is not performed) using a portable analyzer. The following conditions will be retained in the ATCs to ensure compliance with the requirements of this alternate monitoring plan:

- {4063} The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Measurement shall be made with the FGR system in the mode of operation (closed or open) in which it was used in the preceding 30 days. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]
- {4064} If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320]
- {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_x, CO, and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320]

Section 5.7.6 requires monitoring SO_x emissions. CUSA has elected to comply with Sections 5.4.1.2 and 5.4.1.3 as discussed above. The following conditions will be retained and/or added to be in compliance with this rule requirement:

- PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]

- Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228; total sulfur: ASTM D1072; ASTM D3246, double GC for H₂S and mercaptans or ASTM D6228; and methane content: ASTM D1945. [District Rule 4320]
- In months where PUC quality gas is burned, the permittee shall maintain records on a calendar month basis of the volume of PUC quality natural gas and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is less than 50%. [District Rule 4320]
- Each fuel source shall be tested *quarterly (or semi-annually)* for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which *quarterly (or semi-annual)* testing may resume. [District Rule 4320]
- If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320]
- If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320]

Section 5.8 Compliance Determination

Section 5.8.1 requires that the operator of any unit 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 retained or listed on the ATCs as follows:

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

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

- {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 of District Rule 4320. [District Rules 4305, 4306 and 4320]

Section 5.8.4 requires that for emissions monitoring pursuant to Sections 5.7.1 and 6.3.1 using a portable NO_x analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15-consecutive-minute period. Therefore, the following 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.

The condition on start-up and shutdown record keeping conditions shall be retained in the ATCs to ensure CUSA's compliance with this section of the rule.

Section 6.2, Test Methods

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

- {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
- The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities – EPA Method 2; Stack gas moisture content – EPA Method 4; SO_x – EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H₂S content – EPA Method 11 or 15; and fuel hhv (MMBtu) –ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320]

Section 6.3, Compliance Testing

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

- A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. The NO_x limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (greater than or equal to 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NO_x and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
- Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (greater than or equal to 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NO_x and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320]
- Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320]
- Compliance with SO_x emission limits shall be demonstrated within 60 days of initial operation under this ATC. [District Rules 2201 and 4320]

- {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Section 6.3.1.1 specifies tune-up requirements. CUSA will use pre-approved Alternate Monitoring Scheme "A" using a portable analyzer. Therefore the tune-up requirements listed in Section 6.3.1.1 are not applicable. This section also requires, that during the 36-month source testing interval, the owner/operator shall monitor monthly the operational characteristics recommended by the unit manufacturer. Since the pre-approved alternate monitoring requires monthly monitoring of NO_x, CO and O₂ exhaust emission concentrations using a portable analyzer, the operational characteristics monitoring requirements is satisfied.

Section 6.4 Emission Control Plan (ECP)

Section 6.4 requires the operator of any unit to submit to APCO for approval an Emissions Control Plan no later than January 1, 2010. CUSA has submitted their ECP for these units; therefore, is in compliance with this requirement.

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. Compliance with this requirement of the rule is expected.

Conclusion

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

District Rule 4351 Boilers, Steam Generators and Process Heaters – Phase 1

This rule applies to boilers, steam generators, and process heaters at NO_x Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. The steam generators are located within the Heavy Oil Western stationary source. The units in this project are located west of I-5; therefore, the provisions of this rule do not apply.

District Rule 4801 Sulfur Compounds

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

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

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

With:

N = moles SO₂

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

P (Standard Pressure) = 14.7 psi

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

$$\frac{1.94 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 1,341 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 1,341 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)} < /math>$$

Therefore, compliance with District Rule 4801 requirements is expected.

California Health & Safety Code 42301.6 (School Notice)

There is no increase in emissions of any hazardous air pollutants as a result of this project. 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.

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. 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 the ATCs listed below subject to the permit conditions on the attached draft Authorities to Construct in Appendix C.

X. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1141-26	3020-02-H	62.5 MMBtu/hr	\$1,030
S-1141-31	3020-02-H	62.5 MMBtu/hr	\$1,030
S-1141-55	3020-02-H	62.5 MMBtu/hr	\$1,030
S-1141-60	3020-02-H	62.5 MMBtu/hr	\$1,030
S-1141-515	3020-02-H	62.5 MMBtu/hr	\$1,030
S-1145-549	3020-02-H	62.5 MMBtu/hr	\$1,030
S-1141-550	3020-02-H	62.5 MMBtu/hr	\$1,030
S-1141-551	3020-02-H	62.5 MMBtu/hr	\$1,030
S-1141-552	3020-02-H	62.5 MMBtu/hr	\$1,030
S-1141-553	3020-02-H	62.5 MMBtu/hr	\$1,030
S-1141-555	3020-02-H	62.5 MMBtu/hr	\$1,030
S-1141-556	3020-02-H	62.5 MMBtu/hr	\$1,030
S-1141-557	3020-02-H	62.5 MMBtu/hr	\$1,030
S-1141-558	3020-02-H	62.5 MMBtu/hr	\$1,030

APPENDICES

- Appendix A: Current PTOs and ATCs (based documents)
- Appendix B: Daily and Annual PE Sample Calculations
- Appendix C: Draft Authority to Construct (ATCs)
- Appendix D: Emissions Profile(s)
- Appendix E: Title V Compliance Certification

APPENDIX A

Current PTOs and ATCs (based documents)

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-26-29

EXPIRATION DATE: 02/28/2006

SECTION: 17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR STRUTHERS THERMOFLOOD NATURAL GAS/TEOR GAS/TVC VAPORS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL GLE 4231 ULTRA-LOW NOX BURNER, FGR, A THERMOX O2 CONTROLLER, VAPOR PIPING FROM TEOR SYSTEM, VAPOR PIPING FROM TVC SYSTEMS, AND A SULFA SCRUB HYDROGEN SULFIDE (H2S) SYSTEM (COMMON TO -31, -549, -550, -551, -552, -553, -555, -556, -557 AND -558) (#48, DIS #20660-81, NATIONAL BOARD #1041)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. 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
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. 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
5. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, TVC gas flowmeter, and flue gas oxygen monitor. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The VOC content of the fluid stream handled by the Sulfa-Scrub system shall be less than ten (10) percent by weight, as determined by ASTM Methods E-260-73, E-168-67, or E-169-63. Test samples shall be taken from sampling ports immediately upstream and downstream of the Sulfa-Scrub system. VOC content shall be determined quarterly, and if compliance with the VOC content limit is demonstrated for eight consecutive quarters, the testing frequency may be changed to annual. Testing frequency shall revert to quarterly if an annual test is failed. [District Rule 2201] Federally Enforceable Through Title V Permit
7. All piping, fittings, and valves shall be inspected annually in accordance with EPA Method 21, with an instrument calibrated with methane. Components located in unsafe areas shall be inspected and repaired at the next process turnaround (the shutdown of a unit for maintenance and repair work). [District Rule 2201] Federally Enforceable Through Title V Permit
8. Except for components that are part of a critical process unit as defined in this permit, leaking components (having a gas leak >10,000 ppmv measured as methane) shall be repaired to a leak-free condition within 15 days of discovery. [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. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201] Federally Enforceable Through Title V Permit
11. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Total sulfur content of natural gas combusted shall not exceed 0.75 grain/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
13. For each steam generator site downstream of H₂S scavenger vessel, permittee shall monitor sulfur content of the gas prior to incineration in affected steam generators on a weekly basis utilizing gas detection tubes calibrated for existing sulfur species or other District approved fuel sulfur detection method(s) or device(s). [District Rule 1070] Federally Enforceable Through Title V Permit
14. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070] 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 Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or 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, 9.4.2] Federally Enforceable Through Title V Permit
17. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
18. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
19. Emissions from the steam generator shall not exceed any of the following limits: 1.94 lb-SO_x/MMBtu, 0.096 lb-PM₁₀/MMBtu, or 0.005 lb-VOC/MMBtu. [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.

20. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.0182 lb-NO_x/MMBtu or 51 ppmvd CO @ 3% O₂ or 0.0375 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
21. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
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 start-up and shutdown periods. [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. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO_x/day, 9,965 lb-NO_x/yr, 56.3 lb-CO/day, and 20,531 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] 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. If the steam generator is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H₂S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
29. If the steam generator is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
30. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit

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

31. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
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. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
34. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
35. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
36. 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
37. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
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, 5.5.2 and 4306, 5.5.2] 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, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
40. 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
41. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

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

42. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
43. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
44. All units in a group for which representative units are source tested to for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
45. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
46. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
47. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
48. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
49. Permittee shall maintain with the permit a current listing of all TEOR and TVC gas systems providing vapors 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
50. Permittee shall maintain daily records of volume of fuel gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
51. 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 and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
52. 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
53. 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
54. The requirements of SJVUAPCD Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-31-33

EXPIRATION DATE: 02/28/2006

SECTION: NW17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR #59 (DIS# 20639-81, NATIONAL BOARD #1352), WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER AND FGR PERMITTED TO OPERATE WITH EITHER AN AIR-FUEL MIXING ROD OR A MULTI-PORT (AKA GATLING GUN) PRIMARY MIXER

PERMIT UNIT REQUIREMENTS

1. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
2. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
3. 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
4. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
5. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
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, 9.4.2] Federally Enforceable Through Title V Permit
7. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or 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, 9.4.2] 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.

8. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2, 4305, 6.2.1 and 4306] Federally Enforceable Through Title V Permit
10. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
11. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
13. 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
14. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source because this permit unit has not been modified per 40 CFR 60. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
15. The requirements of SJVUAPCD Rule 4351 (Amended October 19, 1995) do not apply to this source because this permit unit is located west of Interstate Highway 5. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
16. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR/TVC gas volume flowmeter, and flue gas oxygen monitor. [District NSR Rule, 4305 and 4306] Federally Enforceable Through Title V Permit
17. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
18. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
20. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit

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

21. Emission rates shall not exceed: PM10: 144.0 lb/day or 52,560 lb/year, SOx: 2910 lb/day or 1,062,150 lb/year, NOx (as NO2): 54.0 lb/day or 9855 lb/year, VOC: 9.0 lb/day or 3285 lb/year, CO: 40.5 lb/day or 14,783 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Emission rates, except during startup and shutdown, shall not exceed any of the following: PM10: 0.096 lb/MMBtu, SOx (as SO2): 1.94 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 37 ppmv @ 3% O2. [District Rule 2201, 4305, 4306 and 4406] 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 and 4306] Federally Enforceable Through Title V Permit
24. 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
25. 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
26. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
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: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, PM10 - EPA Method 5, and gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
30. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR gas and TVC gas incinerated in this unit. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
31. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
32. 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

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

33. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
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_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
36. Permittee shall maintain with the permit a current listing of all TEOR and TVC gas systems providing vapors 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
37. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
38. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.4.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
39. The following conditions must be met for representative unit(s) to be used to test for NO_x 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, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
40. All units in a group for which representative units are source for NO_x emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.4.2, 4305, 6.3.2 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.

41. All units in a group for which representative units are source tested for NOx 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 (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, 4305, 6.3.2 and 4306] 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, 9.4.2] 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 and 4306] Federally Enforceable Through Title V Permit
44. All records shall be maintained 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

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-55-24

EXPIRATION DATE: 02/28/2006

SECTION: NE22 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

DORMANT EMISSION UNIT: 62.5 MMBTU/HR NATURAL GAS/TEOR GAS/TVC GAS FIRED STRUTHERS STEAM GENERATOR #105 (SN 81-37411-16, NB 1027, DIS 39622-90) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN BURNER, O2 CONTROLLER, SO2 SCRUBBER, AND VAPOR PIPING FROM TEOR AND TVC SYSTEMS

PERMIT UNIT REQUIREMENTS

1. No modification 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 Rules 4305 and 4306] Federally Enforceable Through Title V Permit
3. A source test to demonstrate compliance with the indicated emission limits shall be performed within 60 days of recommencing operation of this unit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
4. 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 Rules 4305 and 4306 and all other applicable District regulations. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
5. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
6. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. 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
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
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] 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 SO_x 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, 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
12. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 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
14. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
15. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
17. 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
18. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
19. 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
20. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
21. Permit unit shall include TEOR/TVC/natural gas-fired steam generator with North American burner, O₂ controller, FGR, SO₂ scrubber shared with S-1141-52, '-53, '-60, and '-61 and vapor piping from TEOR operations. [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.

22. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, TVC gas flowmeter, and flue gas oxygen monitor. [District NSR Rule and 4305] Federally Enforceable Through Title V Permit
23. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
24. The scrubber shall be equipped with a differential pressure gauge to indicate the pressure drop across the unit. The gauge shall be maintained in good working condition at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
25. Scrubber liquid supply (at inlet to scrubber) shall have an operational pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit
26. Scrubber liquid supply (at inlet to scrubber) shall have an operational flow meter. [District NSR Rule] Federally Enforceable Through Title V Permit
27. Scrubber sprays and/or nozzles shall be maintained as required to achieve compliance with emission limits. [District NSR Rule] Federally Enforceable Through Title V Permit
28. Dissolved and suspended solids and condensed organics shall not exceed 20% of the scrubbing stream. [District NSR Rule] Federally Enforceable Through Title V Permit
29. Scrubber stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA test methods. [District Rule 1081] Federally Enforceable Through Title V Permit
30. Scrubber shall be equipped with recirculation liquor pH indicator and pump discharge pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit
31. Steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork shall have no detectible leaks. [District NSR Rule] Federally Enforceable Through Title V Permit
32. Scrubber recirculation liquor pH shall be maintained between 6.2 and 7.5. [District NSR Rule] Federally Enforceable Through Title V Permit
33. Scrubber recirculation liquor pH shall be maintained only with soda ash unless District approval is granted for substitution. [District NSR Rule] Federally Enforceable Through Title V Permit
34. Whenever the unit is switched to scrubbed operation, compliance source testing for SO_x shall be conducted within 60 days of initial scrubbing date unless source testing has occurred within the previous 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
35. If the unit is operated with the scrubber, compliance source testing for SO_x shall be conducted not less than once every 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
36. Upon recommencing operation, permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
37. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
38. Permittee shall maintain with the permit a current listing of all TEOR and TVC systems providing vapors 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
39. Permittee shall maintain daily records of volume of fuel gas burned, TEOR/TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [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.

40. Records required by this permit shall be retained at the facility for a period of no less than 5 years and shall be made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
41. Total sulfur content of natural gas combusted shall not exceed 0.75 grain/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
42. SOx emissions, measured as total sulfur, shall not exceed 0.040 lb/MMBtu. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
43. Emission rates shall not exceed any of the following: PM10: 0.005 lb/MMBtu, NOx (as NO2): 0.036 lb/MMBtu or 30 ppmv @ 3% O2, VOC: 0.003 lb/MMBtu or CO: 1.4 ppmv @ 3% O2. [District NSR Rule and 4305] Federally Enforceable Through Title V Permit
44. The acceptable range of positions of the FGR control valve and fuel firing rates shall be established by testing this unit or other representative units, as approved by the District. The acceptable ranges shall be maintained during operation at levels for which compliance with applicable NOx and CO emission rates have been demonstrated through source testing. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
45. Upon recommencing operation, source testing to demonstrate compliance with NOx and CO emission limits shall be conducted not less than once every 12 months, except as provided below. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
46. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
47. Upon recommencing operation, source testing to demonstrate compliance with NOx and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
48. Upon recommencing operation, if permittee fails any compliance demonstration for NOx and CO emission limits when testing not less than once every 36 months, compliance with NOx and CO emission limits shall be demonstrated not less than once every 12 months. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
49. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
50. 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
51. 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
52. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, PM10 - EPA Method 5, SOx (lb/MMBtu) - ARB Method 100 and EPA method 19, and gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305] Federally Enforceable Through Title V Permit
53. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects. [District NSR Rule] Federally Enforceable Through Title V Permit
54. 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 Rule 4305] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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55. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4305] Federally Enforceable Through Title V Permit
56. 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 4305] Federally Enforceable Through Title V Permit
57. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4305] Federally Enforceable Through Title V Permit
58. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
59. 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_x and CO. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
60. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
61. The following conditions must be met for representative unit(s) to be used to test for NO_x 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] Federally Enforceable Through Title V Permit
62. All units in a group for which representative units are source for NO_x emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
63. All units in a group for which representative units are source tested for NO_x 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 (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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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64. The number of representative units source tested for NO_x 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
65. Scrubber pressure drop shall be observed and recorded weekly during operation of this unit. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
66. Records of scrubber pressure drop shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
67. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
68. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
69. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
70. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
71. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
72. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
73. Permittee shall consume no more than 6290 barrels per day of oil on a daily maximum average and no more than 5700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
74. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
75. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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76. Permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
77. Permittee shall not discharge into the atmosphere SO₂ in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
78. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO₂, and furnish the District and the EPA a written report of the results of such tests. The tests for SO₂ shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
79. Permittee shall not discharge into the atmosphere NO_x in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
80. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO_x, and furnish the District and the EPA written report of the results of such tests. The tests for NO_x shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
81. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
82. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO_x. In no event shall EPA set a higher emission limit for NO_x. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
83. Performance tests for the emission of NO_x and SO₂ shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-60-24

EXPIRATION DATE: 02/28/2006

SECTION: NE22 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

DORMANT EMISSION UNIT: 62.5 MMBTU/HR NATURAL GAS/TEOR/TVC GAS FIRED STRUTHERS STEAM GENERATOR #112 (SN 81-37411-12, NB 1022, DIS 39623-90) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN BURNER, O2 CONTROLLER, SO2 SCRUBBER, AND VAPOR PIPING FROM TEOR SYSTEMS AND TVC SYSTEMS

PERMIT UNIT REQUIREMENTS

1. No modification 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 Rules 4305 and 4306] Federally Enforceable Through Title V Permit
3. A source test to demonstrate compliance with the indicated emission limits shall be performed within 60 days of recommencing operation of this unit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
4. 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 Rules 4305 and 4306 and all other applicable District regulations. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
5. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
6. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. 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
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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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] Federally Enforceable Through Title V Permit
11. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 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
12. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 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
14. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
15. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
17. 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
18. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
19. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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20. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
21. Permit unit shall include TEOR/TVC/natural gas-fired steam generator with North American burner, O2 controller, FGR, SO2 scrubber shared with S-1141-52, '-53, '-55, and '-61 and vapor piping from TEOR operations. [District NSR Rule] Federally Enforceable Through Title V Permit
22. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, TVC gas flowmeter, and flue gas oxygen monitor. [District NSR Rule and 4305] Federally Enforceable Through Title V Permit
23. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
24. The scrubber shall be equipped with a differential pressure gauge to indicate the pressure drop across the unit. The gauge shall be maintained in good working condition at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
25. Scrubber liquid supply (at inlet to scrubber) shall have an operational pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit
26. Scrubber liquid supply (at inlet to scrubber) shall have an operational flow meter. [District NSR Rule] Federally Enforceable Through Title V Permit
27. Scrubber sprays and/or nozzles shall be maintained as required to achieve compliance with emission limits. [District NSR Rule] Federally Enforceable Through Title V Permit
28. Dissolved and suspended solids and condensed organics shall not exceed 20% of the scrubbing stream. [District NSR Rule] Federally Enforceable Through Title V Permit
29. Scrubber stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA test methods. [District Rule 1081] Federally Enforceable Through Title V Permit
30. Scrubber shall be equipped with recirculation liquor pH indicator and pump discharge pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit
31. Steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork shall have no detectible leaks. [District NSR Rule] Federally Enforceable Through Title V Permit
32. Scrubber recirculation liquor pH shall be maintained between 6.2 and 7.5. [District NSR Rule] Federally Enforceable Through Title V Permit
33. Scrubber recirculation liquor pH shall be maintained only with soda ash unless District approval is granted for substitution. [District NSR Rule] Federally Enforceable Through Title V Permit
34. 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 has occurred within the previous 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
35. If the unit is operated with the scrubber, compliance source testing for SOx shall be conducted not less than once every 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
36. Upon recommencing operation, permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
37. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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38. Permittee shall maintain with the permit a current listing of all TEOR and TVC systems providing vapors 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
39. Permittee shall maintain daily records of volume of fuel gas burned, TEOR/TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
40. Records required by this permit shall be retained at the facility for a period of no less than 5 years and shall be made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
41. Total sulfur content of natural gas combusted shall not exceed 0.75 grain/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
42. SOx emissions, measured as total sulfur, shall not exceed 0.040 lb/MMBtu. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
43. Emission rates shall not exceed any of the following: PM10: 0.005 lb/MMBtu, NOx (as NO2): 0.036 lb/MMBtu or 30 ppmv @ 3% O2, VOC: 0.003 lb/MMBtu or CO: 1.4 ppmv @ 3% O2. [District NSR Rule and 4305] Federally Enforceable Through Title V Permit
44. The acceptable range of positions of the FGR control valve and fuel firing rates shall be established by testing this unit or other representative units, as approved by the District. The acceptable ranges shall be maintained during operation at levels for which compliance with applicable NOx and CO emission rates have been demonstrated through source testing. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
45. Upon recommencing operation, source testing to demonstrate compliance with NOx and CO emission limits shall be conducted not less than once every 12 months, except as provided below. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
46. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
47. Upon recommencing operation, source testing to demonstrate compliance with NOx and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
48. Upon recommencing operation, if permittee fails any compliance demonstration for NOx and CO emission limits when testing not less than once every 36 months, compliance with NOx and CO emission limits shall be demonstrated not less than once every 12 months. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
49. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
50. 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
51. 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
52. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, PM10 - EPA Method 5, SOx (lb/MMBtu) - ARB Method 100 and EPA method 19, and gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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53. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects. [District NSR Rule] Federally Enforceable Through Title V Permit
54. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4305] Federally Enforceable Through Title V Permit
55. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4305] Federally Enforceable Through Title V Permit
56. 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 4305] Federally Enforceable Through Title V Permit
57. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4305] Federally Enforceable Through Title V Permit
58. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
59. 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_x and CO. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
60. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
61. The following conditions must be met for representative unit(s) to be used to test for NO_x 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] 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.

62. 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). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
63. All units in a group for which representative units are source tested for NOx 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 (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
64. 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
65. Scrubber pressure drop shall be observed and recorded weekly during operation of this unit. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
66. Records of scrubber pressure drop shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
67. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
68. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
69. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
70. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
71. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
72. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] 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.

73. Permittee shall consume no more than 6290 barrels per day of oil on a daily maximum average and no more than 5700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
74. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
75. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
76. Permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
77. Permittee shall not discharge into the atmosphere SO₂ in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
78. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO₂, and furnish the District and the EPA a written report of the results of such tests. The tests for SO₂ shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
79. Permittee shall not discharge into the atmosphere NO_x in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
80. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO_x, and furnish the District and the EPA written report of the results of such tests. The tests for NO_x shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
81. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
82. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO_x. In no event shall EPA set a higher emission limit for NO_x. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
83. Performance tests for the emission of NO_x and SO₂ shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

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

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1141-515-6

ISSUANCE DATE: 05/16/2007

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

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: S17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED SMITH MOON STEEL STEAM GENERATOR N.B. #826 WITH FGR AND O2 ANALYZER/CONTROLLER: TRANSFER LOCATION TO S17, T32S, R23E, REPLACE AND/OR MODIFY RADIANT AND/OR CONVECTION SECTIONS TO SPLIT FLOW CONFIGURATION, AND AUTHORIZE COMBUSTION OF VAPORS FROM S-1141-127

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 grains/dscf in concentration. [District Rule 4201] 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. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-515-6: May 13 2010 4:40PM - GOUHHD : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

6. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070]
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_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or 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 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, 9.4.2] Federally Enforceable Through Title V Permit
9. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
10. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. Emissions from the steam generator shall not exceed any of the following limits: 1.644 lb-SO_x/MMBtu, 0.096 lb-PM₁₀/MMBtu, or 0.0056 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 any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.0182 lb-NO_x/MMBtu or 51 ppmvd CO @ 3% O₂ or 0.0375 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_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] 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 4305, 5.5.6 and 4306, 5.3] 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 Rule 4306, 3.25 and 3.22] 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: 32.7 lb-NO_x/day, 9,965 lb-NO_x/yr, 41.0 lb-CO/day, and 20,531 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1, and 4306, 6.3.1] 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. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H₂S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
20. If the steam generator is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
22. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
23. 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
24. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
25. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
26. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
28. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit

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, 5.5.2 and 4306, 5.5.2] 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, 5.5.5 and 4306, 5.5.5] 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 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
32. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
33. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
34. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
35. All units in a group for which representative units are source tested to for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
36. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
38. Copies of all gas purchase contracts (if fired on PUC regulated natural gas), supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained for five years. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. Permittee shall measure and record, at least monthly, the sulfur content of the TEOR gas introduced into this unit whenever TEOR gas is being combusted, and shall make records available for District inspection, upon request, for a period of five years. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

40. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
41. Permittee shall keep a record of the daily volumes of TEOR gas and fuel gas combusted in this unit, and shall make records available for District inspection, upon request, for a period of five years. [District NSR Rule and 4406] 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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-549-5

EXPIRATION DATE: 02/28/2006

SECTION: NW17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED STRUTHERS STEEL STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA LOW-NOX BURNER, WITH AN O2 ANALYZER/CONTROLLER AND FLUE GAS RECIRCULATION (FGR) SYSTEM WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), AND ELECTRONIC CONTROLS (NATIONAL BOARD #1026)

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
2. 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
3. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070]
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, 9.4.2] Federally Enforceable Through Title V Permit
5. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or 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, 9.4.2] Federally Enforceable Through Title V Permit
6. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
7. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

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

8. Total sulfur content of natural gas combusted shall not exceed 0.75 grain/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
9. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Emissions from the steam generator shall not exceed any of the following limits: 0.126 lb-SO_x/MMBtu, 0.096 lb-PM₁₀/MMBtu, or 0.003 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: 15 ppmvd NO_x @ 3% O₂ or 0.0182 lb-NO_x/MMBtu or 51 ppmvd CO @ 3% O₂ or 0.0375 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] 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_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 30 ppmvd NO_x @ 3% O₂ or 0.036 lb-NO_x/MMBtu, 0.126 lb-SO_x/MMBtu, 0.096 lb-PM₁₀/MMBtu, 51 ppmvd CO @ 3% O₂ or 0.0375 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
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 4305, 5.5.6 and 4306, 5.3] 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 Rule 4306, 3.25 and 3.22] 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: 54.0 lb-NO_x/day, 9,965 lb-NO_x/yr, 56.3 lb-CO/day, and 20,531 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Emissions from the steam generator shall not exceed either of the following limits: 54.0 lb-NO_x/day or 56.3 lb-CO/day. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] 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. If the steam generator is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
21. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H₂S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

22. If the steam generator is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
24. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
26. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
27. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
28. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
29. 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
30. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] 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, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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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. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
35. The following conditions must be met for representative unit(s) to be used to test for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
36. 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, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
37. 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, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
38. The number of representative units source tested for NOx and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
39. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
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 and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit, and shall make the preceding five years records available for District inspection upon request. [District NSR Rule, District Rule 2520, 9.5.2, and District Rule 4406] Federally Enforceable Through Title V Permit
42. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
43. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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44. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-550-6

EXPIRATION DATE: 02/28/2006

SECTION: NW17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED SMITH MOON STEEL STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH AN O2 ANALYZER/CONTROLLER AND FGR WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), AND ELECTRONIC CONTROLS (NATIONAL BOARD #879)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. 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
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. 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
5. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070]
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, 9.4.2] Federally Enforceable Through Title V Permit
7. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or 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 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, 9.4.2] Federally Enforceable Through Title V Permit
8. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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9. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. Total sulfur content of natural gas combusted shall not exceed 0.75 grain/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201]
12. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Emissions from the steam generator shall not exceed any of the following limits: 0.126 lb-SO_x/MMBtu, 0.073 lb-PM₁₀/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 any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.0182 lb-NO_x/MMBtu or 51 ppmvd CO @ 3% O₂ or 0.0375 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_x/MMBtu or 0.084 lb-CO/MMBtu. [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 start-up and shutdown periods. [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. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO_x/day, 9,965 lb-NO_x/yr, 56.3 lb-CO/day, and 20,531 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. If the steam generator is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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22. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H₂S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. If the steam generator is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
25. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] 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, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
27. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2 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, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
29. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
30. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
31. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
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, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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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, 5.5.5 and 4306, 5.5.5] 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
35. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
36. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
37. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
38. All units in a group for which representative units are source tested to for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
39. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
40. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
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 and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit, and shall make the preceding five years records available for District inspection upon request. [District NSR Rule, District Rule 2520, 9.5.2, and District Rule 4406] Federally Enforceable Through Title V Permit
43. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] 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. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule and District Rule 4406] 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, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-551-6

EXPIRATION DATE: 02/28/2006

SECTION: NW17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR (NATIONAL BOARD #2369) WITH A NORTH AMERICAN MODEL MAGNA-FLAME GLE ULTRA LOW NOX BURNER, AN O2 CONTROLLER, AND A FLUE GAS RECIRCULATION SYSTEM

PERMIT UNIT REQUIREMENTS

1. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
2. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
3. 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
4. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
5. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
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
7. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

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

8. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 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. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
11. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. 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
14. 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
15. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
16. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 1081 and District NSR Rule] Federally Enforceable Through Title V Permit
17. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
20. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit

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

21. Emission rates shall not exceed: PM10: 117.0 lb/day or 42,705 lb/year, SOx: 189.0 lb/day or 68,985 lb/year, NOx (as NO2): 54.0 lb/day or 9855 lb/year, VOC: 9.0 lb/day or 3285 lb/year, CO: 49.5 lb/day or 18,068 lb/year. [District NSR Rule] Federally Enforceable Through Title V Permit
22. Emission rates, except during startup and shutdown, shall not exceed any of the following: PM10: 0.078 lb/MMBtu, SOx (as SO2) 0.126 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 45 ppmv @ 3% O2. [District NSR Rule and District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
23. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit, and shall make the preceding five years records available for District inspection upon request. [District NSR Rule, District Rule 2520, 9.3.2, and District Rule 4406] Federally Enforceable Through Title V Permit
24. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
25. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects [District NSR Rule] Federally Enforceable Through Title V Permit
26. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration and shall make the preceding five years records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
27. Except as allowed for below, SOx emissions, measured as total sulfur, shall be measured with annual source testing. Testing shall be by District-witnessed sample collection by CARB certified laboratory. [District Rule 1070] Federally Enforceable Through Title V Permit
28. Compliance with SOx emissions limit may be demonstrated by calculation of mass flow rate of sulfur to permit unit. [District Rule 1070 and 2520, 9.3.2] 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 and 4306] Federally Enforceable Through Title V Permit
30. 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
31. 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
32. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
33. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
34. The 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 following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, PM10 - EPA Method 5, and gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081 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. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
37. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
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_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
40. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
41. The following conditions must be met for representative unit(s) to be used to test for NO_x limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
42. All units in a group for which representative units are source for NO_x emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
43. All units in a group for which representative units are source tested for NO_x 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 (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] 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. The number of representative units source tested for NO_x 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
45. 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
46. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
47. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
48. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-16] Federally Enforceable Through Title V Permit
49. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
50. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
51. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
52. Permittee shall consume no more than 5125 barrels per day of oil on a daily maximum average and no more than 4648 barrels per day of oil on an annual average basis. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
53. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
54. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
55. Permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-16] 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.

56. Permittee shall not discharge into the atmosphere SO₂ in excess of 0.063 lbs/MMBtu. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
57. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO₂, and furnish the District and the EPA a written report of the results of such tests. The tests for SO₂ shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
58. Permittee shall not discharge into the atmosphere NO_x in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-16] Federally Enforceable Through Title V Permit
59. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO_x, and furnish the District and the EPA written report of the results of such tests. The tests for NO_x shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
60. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
61. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO_x. In no event shall EPA set a higher emission limit for NO_x. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
62. Performance tests for the emission of NO_x and SO₂ shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
63. All records shall be maintained 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

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-552-6

EXPIRATION DATE: 02/28/2006

SECTION: NW17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR (NATIONAL BOARD #192) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER, AND FGR

PERMIT UNIT REQUIREMENTS

1. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
2. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
3. 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
4. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
5. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
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
7. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

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

9. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 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. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and Kern County Rule 407] Federally Enforceable Through Title V Permit
11. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. 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
14. 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
15. This unit is located west of Interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
16. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 1081 and District NSR Rule] Federally Enforceable Through Title V Permit
17. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District NSR Rule] 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, 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] Federally Enforceable Through Title V Permit
20. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
21. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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22. Emission rates shall not exceed: PM10: 117.0 lb/day or 42,705 lb/year, SOx: 189.0 lb/day or 68,985 lb/year, NOx (as NO2): 54.0 lb/day or 9855 lb/year, VOC: 9.0 lb/day or 3285 lb/year, CO: 49.5 lb/day or 18,068 lb/year. [District NSR Rule] Federally Enforceable Through Title V Permit
23. Emission rates, except during startup and shutdown, shall not exceed any of the following: PM10: 0.078 lb/MMBtu, SOx (as SO2) 0.126 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 45 ppmv @ 3% O2. [District NSR Rule, 4305 and 4306] Federally Enforceable Through Title V Permit
24. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit, and shall make the preceding five years records available for District inspection upon request. [District NSR Rule, District Rule 2520, 9.3.2, and District Rule 4406] Federally Enforceable Through Title V Permit
25. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
26. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects [District NSR Rule] Federally Enforceable Through Title V Permit
27. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration and shall make the preceding five years records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
28. Except as allowed for below, SOx emissions, measured as total sulfur, shall be measured with annual source testing. Testing shall be by District-witnessed sample collection by CARB certified laboratory. [District Rule 1070] Federally Enforceable Through Title V Permit
29. Compliance with SOx emissions limit may be demonstrated by calculation of mass flow rate of sulfur to permit unit. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
30. Source testing to measure NOx and CO emissions shall be conducted within 60 days of initial start-up and not less than once every 12 months, except as provided below. [District Rule 2520, 9.3.2, 4305 and 4306] 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 and 4306] Federally Enforceable Through Title V Permit
32. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] 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 and 4306] Federally Enforceable Through Title V Permit
34. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
35. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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37. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, PM₁₀ - EPA Method 5, and gas sulfur content - ASTM D3246 or double GC for H₂S and mercaptans. [District Rules 1081 and 4305] Federally Enforceable Through Title V Permit
38. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
39. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
40. 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
41. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
42. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
43. The following conditions must be met for representative unit(s) to be used to test for NO_x limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
44. All units in a group for which representative units are source for NO_x emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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45. All units in a group for which representative units are source tested for NO_x 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 (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
46. The number of representative units source tested for NO_x 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
47. 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
48. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
49. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
50. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-16] Federally Enforceable Through Title V Permit
51. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
52. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
53. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
54. Permittee shall consume no more than 5125 barrels per day of oil on a daily maximum average and no more than 4648 barrels per day of oil on an annual average basis. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
55. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-16] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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56. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
57. Permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
58. Permittee shall not discharge into the atmosphere SO₂ in excess of 0.063 lbs/MMBtu. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
59. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO₂, and furnish the District and the EPA a written report of the results of such tests. The tests for SO₂ shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
60. Permittee shall not discharge into the atmosphere NO_x in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-16] Federally Enforceable Through Title V Permit
61. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO_x, and furnish the District and the EPA written report of the results of such tests. The tests for NO_x shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
62. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
63. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO_x. In no event shall EPA set a higher emission limit for NO_x. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
64. Performance tests for the emission of NO_x and SO₂ shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
65. All records shall be maintained 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

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

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1141-553-6

ISSUANCE DATE: 04/13/2006

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

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: NW17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #552) WITH NORTH AMERICAN BURNER, O2 CONTROLLER, AND FGR: REPLACE BURNER WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER OR DISTRICT-APPROVED EQUIVALENT FOR RULE 4306 COMPLIANCE AND MODIFY CONVECTION AND RADIANT SECTION WATER/STEAM PIPING IF NECESSARY

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. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
4. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-553-6 : May 13 2010 4:40PM -- GOUGHD : Joint Inspection NOT Required

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5. 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
6. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
7. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
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, 9.3.2] Federally Enforceable Through Title V Permit
9. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
11. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 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
12. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
13. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. 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

CONDITIONS CONTINUE ON NEXT PAGE

16. 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
17. This unit is located west of Interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 1081 and District NSR Rule] Federally Enforceable Through Title V Permit
19. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201]
20. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District NSR Rule] 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, 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] Federally Enforceable Through Title V Permit
22. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
23. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
24. Emission rates shall not exceed: PM10: 117.0 lb/day or 42,705 lb/year, SOx: 189.0 lb/day or 68,985 lb/year, NOx (as NO2): 54.0 lb/day or 9855 lb/year, VOC: 9.0 lb/day or 3285 lb/year, CO: 49.5 lb/day or 18,068 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Emission rates, except during startup and shutdown, shall not exceed any of the following: PM10: 0.078 lb/MMBtu, SOx (as SO2) 0.126 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 45 ppmv @ 3% O2. [District Rule 2201,4305 and 4306] Federally Enforceable Through Title V Permit
26. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit, and shall make the preceding five years records available for District inspection upon request. [District NSR Rule, District Rule 2520, 9.3.2, and District Rule 4406] Federally Enforceable Through Title V Permit
27. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
28. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects [District NSR Rule] Federally Enforceable Through Title V Permit
29. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration and shall make the preceding five years records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
30. Except as allowed for below, SOx emissions, measured as total sulfur, shall be measured with annual source testing. Testing shall be by District-witnessed sample collection by CARB certified laboratory. [District Rule 1070] Federally Enforceable Through Title V Permit
31. Compliance with SOx emissions limit may be demonstrated by calculation of mass flow rate of sulfur to permit unit. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

32. Source testing to measure NO_x and CO emissions shall be conducted within 60 days of initial start-up and not less than once every 12 months, except as provided below. [District Rule 2520, 9.4.2, 4305 and 4306] Federally Enforceable Through Title V Permit
33. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
34. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
35. 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
36. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
37. 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
38. 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
39. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, PM₁₀ - EPA Method 5, and gas sulfur content - ASTM D3246 or double GC for H₂S and mercaptans. [District Rules 1081 and 4305] Federally Enforceable Through Title V Permit
40. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
41. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
42. 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

43. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
44. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
45. The following conditions must be met for representative unit(s) to be used to test for NO_x limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
46. All units in a group for which representative units are source for NO_x emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
47. All units in a group for which representative units are source tested for NO_x 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 (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
48. The number of representative units source tested for NO_x 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
49. 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
50. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
51. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-16] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

52. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-16] Federally Enforceable Through Title V Permit
53. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
54. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
55. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
56. Permittee shall consume no more than 5125 barrels per day of oil on a daily maximum average and no more than 4648 barrels per day of oil on an annual average basis. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
57. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
58. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
59. Permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
60. Permittee shall not discharge into the atmosphere SO₂ in excess of 0.063 lbs/MMBtu. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
61. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO₂, and furnish the District and the EPA a written report of the results of such tests. The tests for SO₂ shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
62. Permittee shall not discharge into the atmosphere NO_x in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-16] Federally Enforceable Through Title V Permit
63. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO_x, and furnish the District and the EPA written report of the results of such tests. The tests for NO_x shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
64. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-16] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

65. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO_x. In no event shall EPA set a higher emission limit for NO_x. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
66. Performance tests for the emission of NO_x and SO₂ shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
67. All records shall be maintained 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
68. The permittee shall notify the District of the approved burner to be installed prior to or concurrently with implementation of this ATC. [District Rule 2080]
69. 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]
70. 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]
71. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
72. 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]

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-555-10

EXPIRATION DATE: 02/28/2006

SECTION: NW17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #7953) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER, FGR AND EXHAUST GAS SOX SCRUBBER AND BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

PERMIT UNIT REQUIREMENTS

1. Exhaust from unit shall be directed to SOx scrubber authorized herein except when unit is combusting only PUC quality natural gas with a sulfur content not exceeding 1.0 gr S/100scf. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Scrubber control efficiency shall be maintained at least 95% by weight sulfur compounds or greater, or SO2 concentration at the stack gas outlet that shall not exceed 30 ppmvd, as measured at the actual stack gas O2 level. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Scrubber recirculation liquid pH shall be maintained only by the addition of caustic unless prior approval for an alternative pH maintenance method is received from the District. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Daily average pH of scrubber liquor (calculated from hourly averages) shall be maintained between 6 and 8, and shall be continuously monitored. [District NSR Rule] Federally Enforceable Through Title V Permit
5. The minimum scrubber recirculation liquid to gas ratio (recirculation rate) required to maintain compliance with the SO2 limit shall be established during an initial 60 day shakedown period. During the initial 60 day shakedown period, SO2 emissions shall not exceed any of the following: 0.126 lb SO2/MMBtu and 189.0 lb SO2/day. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Upon conclusion of the shakedown period, permittee shall maintain the scrubber recirculation rate at the minimum rate determined during the shakedown period. If the recirculation rate falls below the minimum rate, the permittee shall commence repairs or perform a source test to determine compliance with the SO2 emissions limit required by this permit. Compliance with the minimum recirculation rate requirement (gpm/1000 acf) shall be determined by averaging the recirculation rate readings (calculated from hourly averages) during operation during the calendar day. [District NSR Rule]
7. SO2 scrubber exhaust shall be vented to operational Brinks mist eliminator prior to being exhausted to atmosphere when total H2S loading to any one of the steam generators exceeds 1.24 lb/min for an aggregate of three or more minutes in any one hour period. H2S concentration of the TEOR gas shall be determined and entered into the generator fuel throughput processor weekly using gas detection tubes to determine H2S concentration. The H2S loading shall be calculated using the generator actual fuel volumetric flow rate and H2S concentration of the TEOR and fuel gas. [District Rules 2201 and 4101] Federally Enforceable Through Title V Permit
8. Scrubber mist eliminator shall be properly cleaned and maintained. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 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.

10. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
12. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
13. Annual combined emissions of PM10 from units '-555, '-556, and '-557 shall not exceed 115,687 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Permittee shall demonstrate compliance with the annual PM10 combined emission limit for units '-555, '-556, and '-557 by calculation using the amount of fuel combusted, and either the results from the latest source test or the permitted emission factor if there is no PM10 source test data. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emission rates shall not exceed any of the following: PM10: 109.5 lb/day, SOx: 94.5 lb/day, NOx (as NO2): 54.0 lb/day and 9855 lb/year, VOC: 9.0 lb/day, CO: 41.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM10: 0.073 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 37 ppmv @ 3% O2 or 0.0273 lb/MMBtu. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
17. Except during periods of startup, shutdown and shakedown, the emission rate for SOx (as SO2) shall not exceed 0.063 lb/MMBtu. [District Rule 2201] 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. Compliance with NOx, CO and PM10 emissions limits (lb/MM Btu or ppmv) shall be demonstrated by source testing, at startup and at least once every twelve (12) months thereafter. 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 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
20. If required, compliance with the scrubber control efficiency requirement shall be demonstrated within 60 days of startup and at least once every twelve (12) months thereafter. [District Rule 2201]
21. 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 has occurred within the previous 12 months. [District NSR Rule] Federally Enforceable Through Title V Permit
22. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture content - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 and EPA Method 19, EPA Method 6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans, PM10 (lb/scf) - EPA Methods 5, 201A, and 202. [District Rules 1081, 4305, and 4306] Federally Enforceable Through Title V Permit
23. 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
24. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
28. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
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_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects. [District NSR Rule] 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. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
34. The following conditions must be met for representative unit(s) to be used to test for NO_x limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit

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

35. All units in a group for which representative units are source for NO_x emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are source tested for NO_x 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 (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
37. The number of representative units source tested for NO_x 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. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081, and Kern County Rule 108.1] Federally Enforceable Through Title V Permit
39. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. 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
41. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
42. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.3.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
43. 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
44. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or 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
45. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

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

46. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
47. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period [Kern County Rule 407]. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
48. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
49. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
50. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
51. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
52. Permittee shall maintain records of H2S loading (lb H2S/min) and dates and duration of Brinks Mist Eliminator operation and shall make such records readily available for District. [District Rule 2201] Federally Enforceable Through Title V Permit
53. All records shall be maintained 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

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-556-9

EXPIRATION DATE: 02/28/2006

SECTION: NW17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #653) WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH AN O2 ANALYZER/CONTROLLER, FGR (WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), ELECTRONIC CONTROLS, EXHAUST GAS SOX SCRUBBER, AND BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rule 407 (Kern)] Federally Enforceable Through Title V Permit
3. Exhaust from unit shall be directed to SOx scrubber authorized herein except when unit is combusting only PUC quality natural gas with a sulfur content not exceeding 1.0 gr S/100scf. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Scrubber control efficiency shall be maintained at least 95% by weight sulfur compounds or greater, or SO2 concentration at the stack gas outlet that shall not exceed 30 ppmvd, as measured at the actual stack gas O2 level. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Scrubber recirculation liquid pH shall be maintained only by the addition of caustic unless prior approval for an alternative pH maintenance method is received from the District. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Daily average pH of scrubber liquor (calculated from hourly averages) shall be maintained between 6 and 8, and shall be continuously monitored. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The minimum scrubber recirculation liquid to gas ratio (recirculation rate) required to maintain compliance with the SO2 limit shall be established during an initial 60 day shakedown period. During the initial 60 day shakedown period, SO2 emissions shall not exceed any of the following: 0.126 lb SO2/MMBtu and 189.0 lb SO2/day. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Upon conclusion of the shakedown period, permittee shall maintain the scrubber recirculation rate at the minimum rate determined during the shakedown period. If the recirculation rate falls below the minimum rate, the permittee shall commence repairs or perform a source test to determine compliance with the SO2 emissions limit required by this permit. Compliance with the minimum recirculation rate requirement (gpm/1000 acf) shall be determined by averaging the recirculation rate readings (calculated from hourly averages) during operation during the calendar day. [District NSR Rule]

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

9. SO₂ scrubber exhaust shall be vented to operational Brinks mist eliminator prior to being exhausted to atmosphere when total H₂S loading to any one of the steam generators exceeds 1.24 lb/min for an aggregate of three or more minutes in any one hour period. H₂S concentration of the TEOR gas shall be determined and entered into the generator fuel throughput processor weekly using gas detection tubes to determine H₂S concentration. The H₂S loading shall be calculated using the generator actual fuel volumetric flow rate and H₂S concentration of the TEOR and fuel gas. [District Rules 2201 and 4101] Federally Enforceable Through Title V Permit
10. Scrubber mist eliminator shall be properly cleaned and maintained. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070] 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
13. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or 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 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, 9.4.2] Federally Enforceable Through Title V Permit
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
15. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District NSR Rule] Federally Enforceable Through Title V Permit
17. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects [District NSR Rule] Federally Enforceable Through Title V Permit
19. Annual combined emissions of PM₁₀ from units '-555, '-556, and '-557 shall not exceed 115,687 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emission rates shall not exceed any of the following: PM₁₀: 109.5 lb/day, SO_x: 94.5 lb/day, NO_x (as NO₂): 54.0 lb/day and 9855 lb/year, VOC: 9.0 lb/day, CO: 56.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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21. Permittee shall demonstrate compliance with the annual PM10 combined emission limit for units '-555, '-556, and '-557 by calculation using the amount of fuel combusted, and either the results from the latest source test or the permitted emission factor if there is no PM10 source test data. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM10: 0.073 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 50 ppmv @ 3% O2 or 0.0375 lb/MMBtu. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
23. Except during periods of startup, shutdown and shakedown, the emission rate for SOx (as SO2) shall not exceed 0.063 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
24. 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
25. 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
26. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NOx/day, 9,965 lb-NOx/yr, 56.3 lb-CO/day. [District NSR Rule] Federally Enforceable Through Title V Permit
27. Compliance with NOx, CO and PM10 emissions limits (lb/MM Btu or ppmv) shall be demonstrated by source testing, at startup and at least once every twelve (12) months thereafter. 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 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
28. If required, compliance with the scrubber control efficiency requirement shall be demonstrated within 60 days of startup and at least once every twelve (12) months thereafter. [District Rule 2201]
29. 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 has occurred within the previous 12 months. [District NSR Rule] Federally Enforceable Through Title V Permit
30. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture content - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 and EPA Method 19, EPA Method 6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans, PM10 (lb/scf) - EPA Methods 5, 201A, and 202. [District Rules 1081, 4305, and 4306] 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. If the steam generator is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H2S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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34. If the steam generator is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
36. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
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, 5.4 and 4306, 5.4] 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, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
39. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rule 108.1 (Kern)] 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, 5.5.2 and 4306, 5.5.2] 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, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
42. 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
43. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

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

44. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
45. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
46. All units in a group for which representative units are source tested to for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
47. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
48. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
49. 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 and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
50. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
51. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
52. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
53. Permittee shall maintain records of H₂S loading (lb H₂S/min) and dates and duration of Brinks Mist Eliminator operation and shall make such records readily available for District. [District Rule 2201] Federally Enforceable Through Title V Permit
54. 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

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-557-9

EXPIRATION DATE: 02/28/2006

SECTION: NW17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED C.E. NATCO STEAM GENERATOR (NATIONAL BOARD #9333) WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA LOW-NOX BURNER, O2 ANALYZER/CONTROLLER, FGR SYSTEM (WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), ELECTRONIC CONTROLS, EXHAUST GAS SOX SCRUBBER AND BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. 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
3. Exhaust from unit shall be directed to SOx scrubber authorized herein except when unit is combusting only PUC quality natural gas with a sulfur content not exceeding 1.0 gr S/100scf. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Scrubber control efficiency shall be maintained at least 95% by weight sulfur compounds or greater, or SO2 concentration at the stack gas outlet that shall not exceed 30 ppmvd, as measured at the actual stack gas O2 level. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Scrubber recirculation liquid pH shall be maintained only by the addition of caustic unless prior approval for an alternative pH maintenance method is received from the District. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Daily average pH of scrubber liquor (calculated from hourly averages) shall be maintained between 6 and 8, and shall be continuously monitored. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The minimum scrubber recirculation liquid to gas ratio (recirculation rate) required to maintain compliance with the SO2 limit shall be established during an initial 60 day shakedown period. During the initial 60 day shakedown period, SO2 emissions shall not exceed any of the following: 0.126 lb SO2/MMBtu and 189.0 lb SO2/day. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Upon conclusion of the shakedown period, permittee shall maintain the scrubber recirculation rate at the minimum rate determined during the shakedown period. If the recirculation rate falls below the minimum rate, the permittee shall commence repairs or perform a source test to determine compliance with the SO2 emissions limit required by this permit. Compliance with the minimum recirculation rate requirement (gpm/1000 acf) shall be determined by averaging the recirculation rate readings (calculated from hourly averages) during operation during the calendar day. [District NSR Rule]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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9. SO₂ scrubber exhaust shall be vented to operational Brinks mist eliminator prior to being exhausted to atmosphere when total H₂S loading to any one of the steam generators exceeds 1.24 lb/min for an aggregate of three or more minutes in any one hour period. H₂S concentration of the TEOR gas shall be determined and entered into the generator fuel throughput processor weekly using gas detection tubes to determine H₂S concentration. The H₂S loading shall be calculated using the generator actual fuel volumetric flow rate and H₂S concentration of the TEOR and fuel gas. [District Rules 2201 and 4101] Federally Enforceable Through Title V Permit
10. Scrubber mist eliminator shall be properly cleaned and maintained. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070] 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
13. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or 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, 9.4.2] Federally Enforceable Through Title V Permit
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
15. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. Flue gas recirculation system may be designed such that ambient-air may be drawn into flue gas recirculation piping. [District Rule 2201] Federally Enforceable Through Title V Permit
17. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects [District NSR Rule] Federally Enforceable Through Title V Permit
19. Annual combined emissions of PM₁₀ from units '-555, '-556, and '-557 shall not exceed 115,687 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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20. Permittee shall demonstrate compliance with the annual PM10 combined emission limit for units '-555, '-556, and '-557 by calculation using the amount of fuel combusted, and either the results from the latest source test or the permitted emission factor if there is no PM10 source test data. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Emission rates shall not exceed any of the following: PM10: 109.5 lb/day, SOx: 94.5 lb/day, NOx (as NO2): 54.0 lb/day and 9855 lb/year, VOC: 9.0 lb/day, CO: 56.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM10: 0.073 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 50 ppmv @ 3% O2 or 0.0375 lb/MMBtu. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
23. Except during periods of startup, shutdown and shakedown, the emission rate for SOx (as SO2) shall not exceed 0.063 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
24. 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
25. 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
26. Compliance with NOx, CO and PM10 emissions limits (lb/MM Btu or ppmv) shall be demonstrated by source testing, at startup and at least once every twelve (12) months thereafter. 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 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
27. If required, compliance with the scrubber control efficiency requirement shall be demonstrated within 60 days of startup and at least once every twelve (12) months thereafter. [District Rule 2201]
28. 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 has occurred within the previous 12 months. [District NSR Rule] 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 ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture content - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 and EPA Method 19, EPA Method 6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans, PM10 (lb/scf) - EPA Methods 5, 201A, and 202. [District Rules 1081, 4305, and 4306] 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. If the steam generator is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H2S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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33. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
34. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
35. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
36. The 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
37. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
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, 5.5.2 and 4306, 5.5.2] 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, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
40. 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
41. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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42. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
43. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
44. All units in a group for which representative units are source tested to for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
45. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
46. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
47. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
48. Permittee shall maintain with the permit a current listing of all TEOR and TVC gas systems providing vapors 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
49. Permittee shall maintain daily records of volume of fuel gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [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 and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
51. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
52. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
53. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
54. Permittee shall maintain records of H₂S loading (lb H₂S/min) and dates and duration of Brinks Mist Eliminator operation and shall make such records readily available for District. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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55. 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

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-558-7

EXPIRATION DATE: 02/28/2006

SECTION: NW17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR (NATIONAL BOARD #2398)
WITH A NORTH AMERICAN MAGNA-FLAME MODEL GLE ULTRA LOW NOX BURNER, FGR AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit. [District Rules 2201, 4406] Federally Enforceable Through Title V Permit
2. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District Rules 2201, 4406] Federally Enforceable Through Title V Permit
3. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Records required by this permit shall be retained at the facility for a period of no less than 5 years and shall be made readily available for District inspection upon request. [District Rules 1070, 2201] Federally Enforceable Through Title V Permit
5. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
6. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. 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
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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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, 9.4.2] Federally Enforceable Through Title V Permit
11. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or 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, 9.4.2] Federally Enforceable Through Title V Permit
12. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
13. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
14. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
15. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
17. 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
18. 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
19. The requirements of SJVUAPCD Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
20. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
21. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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22. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
24. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
25. Emission rates shall not exceed: PM10: 144.0 lb/day or 52,560 lb/year, SOx: 189.0 lb/day or 68,985 lb/year, NOx (as NO2): 54.0 lb/day or 9855 lb/year, VOC: 9.0 lb/day or 3285 lb/year, CO: 40.5 lb/day or 14,783 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Emission rates, except during startup and shutdown, shall not exceed any of the following: PM10: 0.096 lb/MMBtu, SOx (as SO2) 0.126 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 37 ppmv @ 3% O2. [District Rule 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
27. Permittee shall measure and record, at least monthly, the sulfur content of the well vent vapors and TVC gas introduced into this unit, and shall make the preceding two years records available for District inspection upon request. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
28. Except as allowed for below, compliance with SOx emissions limit, measured as total sulfur, shall be demonstrated annually. Testing shall be by District-witnessed sample collection by CARB certified laboratory. [District Rule 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. Compliance with SOx emissions limit may be demonstrated by calculation of mass flow rate of sulfur to permit unit. [District Rule 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
30. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. 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
32. 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
33. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
34. 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
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, PM10 - EPA Method 5, and gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 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.

37. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
38. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
39. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
40. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
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 and 4306] Federally Enforceable Through Title V Permit
42. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
43. The following conditions must be met for representative unit(s) to be used to test for NO_x 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
44. All units in a group for which representative units are source for NO_x emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 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.

45. All units in a group for which representative units are source tested for NOx 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 (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
46. 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
47. All records shall be maintained 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

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

APPENDIX B

Daily and Annual PE Sample Calculations

Daily and Annual PE

PE1: S-1141-26-29:

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.0182	62.5	24	27.3
SO _x	1.94	62.5	24	2,910.0
PM ₁₀	0.096	62.5	24	144.0
CO	0.0375	62.5	24	56.3
VOC	0.005	62.5	24	7.5

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.0182	62.5	8,760	9,965
SO _x	1.94	62.5	8,760	1,062,150
PM ₁₀	0.096	62.5	8,760	52,560
CO	0.0375	62.5	8,760	20,531
VOC	0.005	62.5	8,760	2,738

PE-2: S-1141-26-33:

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.014	62.5	24	21.0
SO _x	1.9400	62.5	24	2,910.0
PM ₁₀	0.096	62.5	24	144.0
CO	0.0375	62.5	24	56.3
VOC	0.005	62.5	24	7.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.014	62.5	8,760	7,665
SO _x	1.9400	62.5	8,760	1,062,150
PM ₁₀	0.096	62.5	8,760	52,560
CO	0.0375	62.5	8,760	20,531
VOC	0.005	62.5	8,760	2,738

PE1: S-1141-55-24:

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.0360	62.5	24	54.0
SO _x	0.04	62.5	24	60.0
PM ₁₀	0.005	62.5	24	7.5
CO	0.001	62.5	24	1.5
VOC	0.003	62.5	24	4.5

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.0360	62.5	8,760	19,710
SO _x	0.04	62.5	8,760	21,900
PM ₁₀	0.005	62.5	8,760	2,738
CO	0.001	62.5	8,760	548
VOC	0.003	62.5	8,760	1,643

PE-2: S-1141-55-30:

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.014	62.5	24	21.0
SO _x	0.0143	62.5	24	21.5
PM ₁₀	0.005	62.5	24	7.5
CO	0.001	62.5	24	1.5
VOC	0.003	62.5	24	4.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.014	62.5	8,760	7,665
SO _x	0.0143	62.5	8,760	7,829
PM ₁₀	0.005	62.5	8,760	2,738
CO	0.001	62.5	8,760	548
VOC	0.003	62.5	8,760	1,643

PE1: S-1141-551-6:

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.0182	62.5	24	27.3
SO _x	0.126	62.5	24	189.0
PM ₁₀	0.078	62.5	24	117.0
CO	0.0330	62.5	24	49.5
VOC	0.006	62.5	24	9.0

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.0182	62.5	8,760	9,965
SO _x	0.126	62.5	8,760	68,985
PM ₁₀	0.078	62.5	8,760	42,705
CO	0.0330	62.5	8,760	18,068
VOC	0.006	62.5	8,760	3,285

PE-2: S-1141-551-7:

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.014	62.5	24	21.0
SO _x	0.0143	62.5	24	21.5
PM ₁₀	0.078	62.5	24	117.0
CO	0.0330	62.5	24	49.5
VOC	0.006	62.5	24	9.0

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.014	62.5	8,760	7,665
SO _x	0.0143	62.5	8,760	7,829
PM ₁₀	0.078	62.5	8,760	42,705
CO	0.0330	62.5	8,760	18,068
VOC	0.006	62.5	8,760	3,285

PE1: S-1141-555-10:

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.0182	62.5	24	27.3
SO _x	0.063	62.5	24	94.5
PM ₁₀	0.073	62.5	24	109.5
CO	0.0270	62.5	24	40.5
VOC	0.006	62.5	24	9.0

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.0182	62.5	8,760	9,965
SO _x	0.063	62.5	8,760	34,493
PM ₁₀	0.073	62.5	8,760	39,968
CO	0.0270	62.5	8,760	14,783
VOC	0.006	62.5	8,760	3,285

PE-2: S-1141-555-11:

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.014	62.5	24	21.0
SO _x	0.063	62.5	24	94.5
PM ₁₀	0.073	62.5	24	109.5
CO	0.0270	62.5	24	40.5
VOC	0.006	62.5	24	9.0

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.014	62.5	8,760	7,665
SO _x	0.063	62.5	8,760	34,493
PM ₁₀	0.073	62.5	8,760	39,968
CO	0.0270	62.5	8,760	14,783
VOC	0.006	62.5	8,760	3,285

APPENDIX C

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

DRAFT

PERMIT NO: S-1141-26-33

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

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: NW17 TOWNSHIP: 32S RANGE: 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS THERMOFLOOD NATURAL GAS/TEOR GAS/TVC VAPORS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL GLE 4231 ULTRA-LOW NOX BURNER, FGR, A THERMOX O2 CONTROLLER, VAPOR PIPING FROM TEOR SYSTEM, VAPOR PIPING FROM TVC SYSTEMS, AND A SULFA SCRUB HYDROGEN SULFIDE (H2S) SYSTEM (COMMON TO -31, -549, -550, -551, -552, -553, -555, -556, -557 AND -558) (#48, DIS #20660-81, NATIONAL BOARD #1041): LIMIT NOX TO 9 PPM @ 3% O2 (0.011 LB-NOX/MMBTU) OR TO 12 PPMV @ 3% O2 (0.014 LB-NOX/MMBTU) & FUEL GAS SULFUR CONTENT TO 5 GR-S/100 SCF OR REDUCE SOX BY 95% VIA SCRUBBING OR TO AN OUTLET CONCENTRATION NOT EXCEEDING 9 PPMVD SO2 @ 3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
4. {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 (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DRAFT

DAVID WARNER, Director of Permit Services

S-1141-26-33 : May 13 2010 4:16PM -- GOUGHD : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

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
7. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, TVC gas flowmeter, and flue gas oxygen monitor. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The VOC content of the fluid stream handled by the Sulfa-Scrub system shall be less than ten (10) percent by weight, as determined by ASTM Methods E-260-73, E-168-67, or E-169-63. Test samples shall be taken from sampling ports immediately upstream and downstream of the Sulfa-Scrub system. VOC content shall be determined quarterly, and if compliance with the VOC content limit is demonstrated for eight consecutive quarters, the testing frequency may be changed to annual. Testing frequency shall revert to quarterly if an annual test is failed. [District Rule 2201] Federally Enforceable Through Title V Permit
9. All piping, fittings, and valves shall be inspected annually in accordance with EPA Method 21, with an instrument calibrated with methane. Components located in unsafe areas shall be inspected and repaired at the next process turnaround (the shutdown of a unit for maintenance and repair work). [District Rule 2201] Federally Enforceable Through Title V Permit
10. Except for components that are part of a critical process unit as defined in this permit, leaking components (having a gas leak >10,000 ppmv measured as methane) shall be repaired to a leak-free condition within 15 days of discovery. [District Rule 2201] Federally Enforceable Through Title V Permit
11. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201] Federally Enforceable Through Title V Permit
13. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District Rule 2201] Federally Enforceable Through Title V Permit
14. For each steam generator site downstream of H₂S scavenger vessel, permittee shall monitor sulfur content of the gas prior to incineration in affected steam generators on a weekly basis utilizing gas detection tubes calibrated for existing sulfur species or other District approved fuel sulfur detection method(s) or device(s). [District Rule 1070] Federally Enforceable Through Title V Permit
15. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet and at least 80% methane by volume. [District Rule 4320]
16. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228; total sulfur; ASTM D1072; ASTM D3246, double GC for H₂S and mercaptans or ASTM D6228; and methane content: ASTM D1945. [District Rule 4320]
17. In months where PUC quality gas is burned, the permittee shall maintain records on a calendar month basis of the volume of PUC quality natural gas and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas-fired is greater or less than 50%. [District Rule 4320]
18. Each fuel source shall be tested semi-annually for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which semi-annual testing may resume. [District Rules 2520, 9.3.4 and 4320, 5.7.6]

CONDITIONS CONTINUE ON NEXT PAGE

19. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
20. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rules 2520, 9.3.2 and 4320, 5.7.6] Federally Enforceable Through Title V Permit
21. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.4.2, 4305, 6.2.1 and 4320] Federally Enforceable Through Title V Permit
22. Emissions from the steam generator shall not exceed any of the following limits: 1.94 lb-SO_x/MMBtu, 0.096 lb-PM₁₀/MMBtu, or 0.005 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
23. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 51 ppmvd CO @ 3% O₂ or 0.0375 lb-CO/MMBtu. [District Rules 2201 and 4320]
24. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu and 51 ppmvd CO @ 3% O₂ or 0.0375 lb-CO/MMBtu. [District Rules 2201 and 4320]
25. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule]
26. Fuel gas sulfur shall not exceed 5 g-S/100 scf unless SO_x is reduced by 95% or to 9 ppmv SO₂ @ 3%O₂ in the exhaust with scrubber. [District Rule 4320]
27. The applicable NO_x and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or greater than or equal to 50% by volume PUC quality gas). Permittee shall maintain supporting records that determine the type of fuel combusted. [District Rules 2201 and 4320]
28. 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 exceeding 2 hours. [District Rules 4305, 5.5.6, 4306, 5.3 and 4320] Federally Enforceable Through Title V Permit
29. 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
30. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO_x/day, 7,665 lb-NO_x/yr, 56.3 lb-CO/day, and 20,531 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
31. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emissions shall not exceed 15 ppmvd @ 3% O₂ or 0.0182 lb/MMBtu. The shakedown period shall be concluded prior to the 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 Rules 4305, 5.5.6, 4306, 5.3 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. The NO_x limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (greater than or equal to 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NO_x and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
33. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (greater than or equal to 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NO_x and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320]
34. Compliance source testing after switching fuel type is not required if the unit continues to demonstrate compliance with 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 51 ppmvd CO @ 3% O₂ or 0.0375 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six(36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 51 ppmvd CO @ 3% O₂ or 0.0375 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320]
35. Compliance with SO_x emission limits shall be demonstrated within 60 days of initial operation under this ATC. [District Rules 2201 and 4320]
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. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320]
38. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
39. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
40. 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, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

41. The following test methods shall be used: NOX (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; and Stack gas moisture content - EPA Method 4. [District Rules 1081, 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, 5.5.1, 4306, 5.5.1 and 4320] Federally Enforceable Through Title V Permit
43. {518} All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
44. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 5.5.2, 4306, 5.5.2, and 4320] Federally Enforceable Through Title V Permit
45. 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, 4306, 5.5.5 and 4320] Federally Enforceable Through Title V Permit
46. 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
47. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
48. Permittee shall maintain with the permit a current listing of all TEOR and TVC gas systems providing vapors 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
49. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NOx and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520 and 4320]
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, 6.1, 4306, 6.1 and 4320] Federally Enforceable Through Title V Permit
51. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. {535} The requirements of SJVUAPCD Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1141-26-34

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

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: NW17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS THERMOFLOOD NATURAL GAS/TEOR GAS/TVC VAPORS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL GLE 4231 ULTRA-LOW NOX BURNER, FGR, A THERMOX O2 CONTROLLER, VAPOR PIPING FROM TEOR SYSTEM, VAPOR PIPING FROM TVC SYSTEMS, AND A SULFA SCRUB HYDROGEN SULFIDE (H2S) SYSTEM (COMMON TO -31, -549, -550, -551, -552, -553, -555, -556, -557 AND -558) (#48, DIS #20660-81, NATIONAL BOARD #1041): LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 SCF OR REDUCE SOX BY 95% VIA SCRUBBING OR TO AN OUTLET CONCENTRATION NOT EXCEEDING 9 PPMVD @ 3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
4. {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 (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

S-1141-26-34 : May 13 2010 4:16PM : GOUGHD : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

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
7. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, TVC gas flowmeter, and flue gas oxygen monitor. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The VOC content of the fluid stream handled by the Sulfa-Scrub system shall be less than ten (10) percent by weight, as determined by ASTM Methods E-260-73, E-168-67, or E-169-63. Test samples shall be taken from sampling ports immediately upstream and downstream of the Sulfa-Scrub system. VOC content shall be determined quarterly, and if compliance with the VOC content limit is demonstrated for eight consecutive quarters, the testing frequency may be changed to annual. Testing frequency shall revert to quarterly if an annual test is failed. [District Rule 2201] Federally Enforceable Through Title V Permit
9. All piping, fittings, and valves shall be inspected annually in accordance with EPA Method 21, with an instrument calibrated with methane. Components located in unsafe areas shall be inspected and repaired at the next process turnaround (the shutdown of a unit for maintenance and repair work). [District Rule 2201] Federally Enforceable Through Title V Permit
10. Except for components that are part of a critical process unit as defined in this permit, leaking components (having a gas leak >10,000 ppmv measured as methane) shall be repaired to a leak-free condition within 15 days of discovery. [District Rule 2201] Federally Enforceable Through Title V Permit
11. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201] Federally Enforceable Through Title V Permit
13. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District Rule 2201] Federally Enforceable Through Title V Permit
14. For each steam generator site downstream of H₂S scavenger vessel, permittee shall monitor sulfur content of the gas prior to incineration in affected steam generators on a weekly basis utilizing gas detection tubes calibrated for existing sulfur species or other District approved fuel sulfur detection method(s) or device(s). [District Rule 1070] Federally Enforceable Through Title V Permit
15. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228; total sulfur: ASTM D1072; ASTM D3246, double GC for H₂S and mercaptans or ASTM D6228; and methane content: ASTM D1945. [District Rule 4320]
16. Each fuel source shall be tested semi-annually for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which semi-annual testing may resume. [District Rules 2520, 9.3.2 and 4320, 5.7.6] Federally Enforceable Through Title V Permit
17. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

18. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rules 2520, 9.3.2 and 4320, 5.7.6] Federally Enforceable Through Title V Permit
19. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.4.2 , 4305, 6.2.1 and 4320] Federally Enforceable Through Title V Permit
20. Emissions from the steam generator shall not exceed any of the following limits: 1.94 lb-SO_x/MMBtu, 0.096 lb-PM₁₀/MMBtu, or 0.005 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.0182 lb-NO_x/MMBtu or 51 ppmvd CO @ 3% O₂ or 0.0375 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, 4306, 5.1 and 4320] Federally Enforceable Through Title V Permit
22. During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
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 start-up and shutdown periods exceeding 2 hours. [District Rules 4305, 5.5.6, 4306, 5.3 and 4320] 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. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO_x/day, 9,965 lb-NO_x/yr, 56.3 lb-CO/day, and 20,531 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Fuel gas sulfur content shall not exceed 5 gr S/100 dscf unless SO_x emissions are reduced by 95% or to 9 ppmv SO_x @ 3% O₂ in the exhaust with scrubber. [District Rule 4320]
27. Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1, 4306, 6.3.1 and 4320] Federally Enforceable Through Title V Permit
28. Compliance with SO_x emission limits shall be demonstrated within 60 days of initial operation under this ATC. [District Rules 2201 and 4320]
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_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 , 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4, 4306, 5.4 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, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; and Stack gas moisture content - EPA Method 4. [District Rules 1081, 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, 5.5.1, 4306, 5.5.1 and 4320] Federally Enforceable Through Title V Permit
35. {518} All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
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 4320. [District Rules 4305, 5.5.2, 4306, 5.5.2 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, 5.5.5, 4306, 5.5.5 and 4320] Federally Enforceable Through Title V Permit
38. 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
39. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
40. Permittee shall maintain with the permit a current listing of all TEOR and TVC gas systems providing vapors 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. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

42. {535} The requirements of SJVUAPCD Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
43. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320]
44. {4253} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such 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 and Rule 4320]
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, 6.1, 4306, 6.1 and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1141-31-34

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

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: NW17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR #59 (DIS# 20639-81, NATIONAL BOARD #1352), WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER AND FGR PERMITTED TO OPERATE WITH EITHER AN AIR-FUEL MIXING ROD OR A MULTI-PORT (AKA GATLING GUN) PRIMARY MIXER: LIMIT NOX TO 9 PPM @ 3% O2 (0.011 LB-NOX/MMBTU) OR TO 12 PPMV @ 3% O2 (0.014 LB-NOX/MMBTU) & FUEL GAS SULFUR CONTENT TO 5 GR-S/100 SCF OR REDUCE SOX BY 95% VIA SCRUBBING OR TO AN OUTLET CONCENTRATION NOT EXCEEDING 9 PPMVD SO2 @ 3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
4. {518} All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services
S 1141-31-34 - May 13 2010 4:16PM -- GOUGHD - Joint Inspection NOT Required

5. {519} Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
6. {520} The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
7. {521} Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100 standard cubic feet) and at least 80% methane by volume. [District Rule 4320]
9. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228; total sulfur; ASTM D1072; ASTM D3246, double GC for H₂S and mercaptans or ASTM D6228; and methane content: ASTM D1945. [District Rule 4320]
10. In months where PUC quality gas is burned, the permittee shall maintain records on a calendar month basis of the volume of PUC quality natural gas and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is greater or less than 50%. [District Rule 4320]
11. Each fuel source shall be tested semi-annually for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which semi-annual testing may resume. [District Rules 2520, 9.3.2 and 4320, 5.7.6]
12. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
13. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rules 2520, 9.3.2 and 4320, 5.7.6] Federally Enforceable Through Title V Permit
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.4.2 , 4305, 6.2.1 and 4320] Federally Enforceable Through Title V Permit
15. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
16. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source because this permit unit has not been modified per 40 CFR 60. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
17. The requirements of SJVUAPCD Rule 4351(Amended October 19, 1995) do not apply to this source because this permit unit is located west of Interstate Highway 5. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
18. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR/TVC gas volume flowmeter, and flue gas oxygen monitor. [District NSR Rule, 4305 and 4306] Federally Enforceable Through Title V Permit

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19. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
20. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Duration of start-up or shutdown shall not exceed 2 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 records of the duration of each start-up and shutdown periods exceeding 2 hours. [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
22. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Emission rates shall not exceed: PM10: 144.0 lb/day or 52,560 lb/year, SOx: 2910 lb/day or 1,062,150 lb/year, NOx (as NO₂): 54.0 lb/day or 7665 lb/year, VOC: 9.0 lb/day or 3285 lb/year, CO: 40.5 lb/day or 14,783 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Emission rates from the steam generator shall not exceed any of the following: PM10: 0.096 lb/MMBtu, SOx (as SO₂): 1.94 lb/MMBtu, or VOC: 0.006 lb/MMBtu. [District Rule 2201, 4305, 4306, 4406, and 4320] Federally Enforceable Through Title V Permit
25. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NOx @ 3% O₂ or 0.011 lb-NOx/MMBtu and 37 ppmvd CO @ 3% O₂ or 0.027 lb-CO/MMBtu [District Rule]
26. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NOx @ 3% O₂ or 0.014 lb-NOx/MMBtu and 37 ppmvd CO @ 3% O₂ or 0.027 lb-CO/MMBtu. [District Rules 2201 and 4320]
27. The applicable NOx and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or greater than or equal to 50% by volume PUC quality gas). Permittee shall maintain supporting records that determine the type of fuel combusted. [District Rules 2201 and 4320]
28. Fuel gas sulfur shall not exceed 5 g-S/100 scf unless SOx is reduced by 95% or to 9 ppmv SO₂ @ 3%O₂ in the exhaust with scrubber. [District Rule 4320]
29. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emissions shall not exceed 15 ppmvd @ 3% O₂ or 0.0182 lb/MMBtu. The shakedown period shall be concluded prior to the 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 Rules 4305, 5.5.6, 3406, 5.3 and 4320] Federally Enforceable Through Title V Permit
30. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of startup of this unit. The NOx limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (greater than or equal to 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NOx and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]

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32. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (greater than or equal to 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NO_x and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320]
33. Compliance source testing after switching fuel type is not required if the unit continues to demonstrate compliance with 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 51 ppmvd CO @ 3% O₂ or 0.0375 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six(36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 51 ppmvd CO @ 3% O₂ or 0.0375 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320]
34. 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
35. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
36. 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
37. Compliance with SO_x emission limits shall be demonstrated within 60 days of initial operation under this ATC. [District Rule 4320]
38. 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
39. Permittee shall submit an analysis to the District demonstrating compliance with the fuel sulfur content and higher heating value within 60 days of startup and at least once every 12 months. The sulfur content and higher heating value of the fuel shall be determined using the test methods referenced in this permit or certified by a third party fuel supplier. [District Rules 2520 and 4320]
40. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; and Stack gas moisture content - EPA Method 4. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
41. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
42. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of 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

43. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
44. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
45. Permittee shall maintain with the permit a current listing of all TEOR and TVC gas systems providing vapors 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
46. Permittee shall maintain daily records of total combined volume of fuel gas and vapor recovery gas burned, the dates of any fuel type switching, the monthly NO_x and CO emissions limit determinations, the sulfur content and higher heat value as determined by periodic analytical testing or fuel supplier invoices/certifications, and permit number(s) of systems providing gas for incineration. [District Rules 2201, 2520 and 4320]
47. 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
48. All records shall be maintained 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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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
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PERMIT NO: S-1141-31-35

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

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: NW17 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR/TVC GAS FIRED CE NATCO STEAM GENERATOR #59 (DIS# 20639-81, NATIONAL BOARD #1352), WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER AND FGR PERMITTED TO OPERATE WITH EITHER AN AIR-FUEL MIXING ROD OR A MULTI-PORT (AKA GATLING GUN) PRIMARY MIXER: LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 SCF OR REDUCE SOX BY 95% VIA SCRUBBING OR TO AN OUTLET CONCENTRATION NOT EXCEEDING 9 PPMVD @ 3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This Authority to Construct shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
4. {518} All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

S-1141-31-35 : May 13 2010 4:16PM : GOUGHD : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

5. {519} Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
6. {520} The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
7. {521} Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228; total sulfur: ASTM D1072; ASTM D3246, double GC for H₂S and mercaptans or ASTM D6228; and methane content: ASTM D1945. [District Rule 4320]
9. Each fuel source shall be tested semi-annually for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which semi-annual testing may resume. [District Rules 2520, 9.3.2 and 4320, 5.7.6] Federally Enforceable Through Title V Permit
10. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
11. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rules 2520, 9.3.2 and 4320, 5.7.6] Federally Enforceable Through Title V Permit
12. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.4.2 , 4305, 6.2.1 and 4320] Federally Enforceable Through Title V Permit
13. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
14. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source because this permit unit has not been modified per 40 CFR 60. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
15. The requirements of SJVUAPCD Rule 4351(Amended October 19, 1995) do not apply to this source because this permit unit is located west of Interstate Highway 5. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
16. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR/TVC gas volume flowmeter, and flue gas oxygen monitor. [District NSR Rule, 4305 and 4306] Federally Enforceable Through Title V Permit
17. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
18. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. During a start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. [District Rule 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. Permittee shall maintain daily records of the duration of each start-up and shutdown exceeding 2 hours, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
21. During start-up and shutdown periods, emissions from the steam generator shall not exceed the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] 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 Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
23. Emission rates shall not exceed: PM10: 144.0 lb/day or 52,560 lb/year, SOx: 2910 lb/day or 1,062,150 lb/year, NOx (as NO2): 54.0 lb/day or 9855 lb/year, VOC: 9.0 lb/day or 3285 lb/year, CO: 40.5 lb/day or 14,783 lb/year. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
24. Emission rates shall not exceed any of the following: PM10: 0.096 lb/MMBtu, SOx (as SO2): 1.94 lb/MMBtu, or VOC: 0.006 lb/MMBtu. [District Rule 2201, 4305, 4306, 4406 and 4320] Federally Enforceable Through Title V Permit
25. Emission rates, except during startup and shutdown, shall not exceed any of the following: NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, or CO: 37 ppmv @ 3% O2. [District Rule 2201, 4305, 4306, 4406 and 4320] Federally Enforceable Through Title V Permit
26. Fuel gas sulfur content shall not exceed 5 gr S/100 dscf unless SOx emissions are reduced by 95% or to 9 ppmv SOx @ 3% O2 in the exhaust with scrubber. [District Rule 4320]
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 4320. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
28. 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
29. 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
30. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
31. 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. Compliance with SOx emission limits shall be demonstrated within 60 days of initial operation under this ATC. [District Rules 2201 and 4320]
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. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; and Stack gas moisture content - EPA Method 4. [District Rules 1081, 4305, 4306 and 4320] 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_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
36. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
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_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
39. Permittee shall maintain with the permit a current listing of all TEOR and TVC gas systems providing vapors 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. 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. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO_x emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO_x emission limit listed in Rule 4320. [District Rule 4320]
42. {4253} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such 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 and Rule 4320]
43. All records shall be maintained 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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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
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PERMIT NO: S-1141-55-30

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

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: NE22 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS/TVC GAS FIRED STRUTHERS STEAM GENERATOR #105 (SN 81-37411-16, NB 1027, DIS 39622-90) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN GLE MAGNA FLAME LOW NOX BURNER, O2 CONTROLLER, SO2 SCRUBBER, AND VAPOR PIPING FROM TEOR AND TVC SYSTEMS: LIMIT NOX TO 9 PPM @ 3% O2 (0.011 LB-NOX/MMBTU) OR TO 12 PPMV @ 3% O2 (0.014 LB-NOX/MMBTU) & FUEL GAS SULFUR CONTENT TO 5 GR-S/100 SCF OR REDUCE SOX BY 95% VIA SCRUBBING OR TO AN OUTLET CONCENTRATION NOT EXCEEDING 9 PPMV SO2 @ 3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

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

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

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

S-1141-55-30 : May 13 2010 4:17PM -- GOUHGD : Joint Inspection NOT Required

6. This Authority to Construct shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
7. {518} All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
8. 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
9. {521} Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
10. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
11. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228; total sulfur: ASTM D1072; ASTM D3246, double GC for H₂S and mercaptans or ASTM D6228; and methane content: ASTM D1945. [District Rule 4320]
12. In months where PUC quality gas is burned, the permittee shall maintain records on a calendar month basis of the volume of PUC quality natural gas and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is greater or less than 50%. [District Rule 4320]
13. Each fuel source shall be tested semi-annually for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which semi-annual testing may resume. [District Rules 2520, 9.3.2 and 4320, 5.7.6]
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.4.2, 4305, 6.2.1 and 4320] Federally Enforceable Through Title V Permit
15. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rules 2520, 9.3.2 and 4320]
16. If the unit is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rules 2520, 9.3.2 and 4320]
17. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
19. {534} Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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20. {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
21. {1678} This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
22. Permit unit shall include TEOR/TVC/natural gas-fired steam generator with North American burner, O2 controller, FGR, SO2 scrubber shared with S-1141-52, '-53, '-60, and '-61 and vapor piping from TEOR operations. [District NSR Rule] Federally Enforceable Through Title V Permit
23. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, TVC gas flowmeter, and flue gas oxygen monitor. [District NSR Rule and 4305] Federally Enforceable Through Title V Permit
24. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
25. The scrubber shall be equipped with a differential pressure gauge to indicate the pressure drop across the unit. The gauge shall be maintained in good working condition at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
26. Scrubber liquid supply (at inlet to scrubber) shall have an operational pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit
27. Scrubber liquid supply (at inlet to scrubber) shall have an operational flow meter. [District NSR Rule] Federally Enforceable Through Title V Permit
28. Scrubber sprays and/or nozzles shall be maintained as required to achieve compliance with emission limits. [District NSR Rule] Federally Enforceable Through Title V Permit
29. Dissolved and suspended solids and condensed organics shall not exceed 20% of the scrubbing stream. [District NSR Rule] Federally Enforceable Through Title V Permit
30. Scrubber stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA test methods. [District Rule 1081] Federally Enforceable Through Title V Permit
31. Scrubber shall be equipped with recirculation liquor pH indicator and pump discharge pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit
32. Steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork shall have no detectible leaks. [District NSR Rule] Federally Enforceable Through Title V Permit
33. Scrubber recirculation liquor pH shall be maintained between 6.2 and 7.5. [District NSR Rule] Federally Enforceable Through Title V Permit
34. Scrubber recirculation liquor pH shall be maintained only with soda ash unless District approval is granted for substitution. [District NSR Rule] Federally Enforceable Through Title V Permit
35. 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 has occurred within the previous 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
36. If the unit is operated with the scrubber, compliance source testing for SOx shall be conducted not less than once every 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
37. Permittee shall maintain with the permit a current listing of all TEOR and TVC systems providing vapors 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

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38. Records required by this permit shall be retained at the facility for a period of no less than 5 years and shall be made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
39. Emission rates shall not exceed any of the following: PM10: 0.005 lb/MMBtu, SO_x (as SO₂): 0.040 lb/MMBtu, VOC: 0.003 lb/MMBtu or CO: 1.4 ppmv @ 3% O₂. [District Rules 2201, 4305 and 4320] Federally Enforceable Through Title V Permit
40. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 1.4 ppmvd CO @ 3% O₂ or 0.002 lb-CO/MMBtu. [District Rules 2201 and 4320]
41. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu and 1.4 ppmvd CO @ 3% O₂ or 0.002 lb-CO/MMBtu. [District Rules 2201 and 4320]
42. The applicable NO_x and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or greater than or equal to 50% by volume PUC quality gas). Permittee shall maintain supporting records that determine the type of fuel combusted. [District Rules 2201 and 4320]
43. During start-up and shutdown periods, emissions from the steam generator shall not exceed the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 4320]
44. Fuel gas sulfur shall not exceed 5 g-S/100 scf unless SO_x is reduced by 95% or to 9 ppmv SO₂ @ 3%O₂ in the exhaust with scrubber. [District Rule 4320]
45. 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 exceeding 2 hours. [District Rule 4320]
46. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4306 and 4320]
47. The acceptable range of positions of the FGR control valve and fuel firing rates shall be established by testing this unit or other representative units, as approved by the District. The acceptable ranges shall be maintained during operation at levels for which compliance with applicable NO_x and CO emission rates have been demonstrated through source testing. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
48. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. The NO_x limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (greater than or equal to 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NO_x and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
49. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (greater than or equal to 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NO_x and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320]

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50. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 1.4 ppmvd CO @ 3% O₂ or 0.002 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six(36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 1.4 ppmvd CO @ 3% O₂ or 0.002 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320]
51. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
52. 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
53. 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
54. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, PM₁₀ - EPA Method 5, SO_x (lb/MMBtu) - ARB Method 100 and EPA method 19. [District Rules 1081, 4305 and 4320] Federally Enforceable Through Title V Permit
55. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects. [District NSR Rule] Federally Enforceable Through Title V Permit
56. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4320] Federally Enforceable Through Title V Permit
57. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4320] Federally Enforceable Through Title V Permit
58. 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 4320] Federally Enforceable Through Title V Permit
59. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4320] Federally Enforceable Through Title V Permit
60. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

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61. 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 NOx and CO. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
62. Scrubber pressure drop shall be observed and recorded weekly during operation of this unit. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
63. Records of scrubber pressure drop shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
64. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
65. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
66. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
67. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
68. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
69. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
70. Permittee shall consume no more than 6290 barrels per day of oil on a daily maximum average and no more than 5700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
71. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
72. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
73. Permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

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74. Permittee shall not discharge into the atmosphere SO₂ in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
75. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO₂, and furnish the District and the EPA a written report of the results of such tests. The tests for SO₂ shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
76. Permittee shall not discharge into the atmosphere NO_x in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
77. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO_x, and furnish the District and the EPA written report of the results of such tests. The tests for NO_x shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
78. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
79. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO_x. In no event shall EPA set a higher emission limit for NO_x. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
80. Performance tests for the emission of NO_x and SO₂ shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

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