



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



OCT 16 2014

Mr. Lance Ericksen
Chevron USA
PO Box 1392
Bakersfield, CA 93302

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # C-311
Project # 1140728**

Dear Mr. Ericksen:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. Chevron USA has requested Authority to Construct permits for seven new 85 MMBtu/hr natural gas-fired steam generators. Alternatively, 69 MMBtu/hr steam generators may be installed in place of the 85 MMBtu/hr units.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authorities to Construct with Certificates of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. 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.

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

Thank you for your cooperation in this matter.

Sincerely,


Arnaud Marjollet
Director of Permit Services

AM:dbt/ya

Enclosures

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

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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
New Steam Generators

Facility Name: Chevron USA
Mailing Address: PO Box 1392
Bakersfield, CA 93302
Contact Person: Lance Ericksen
Telephone: (661) 654-7145
Application #(s): C-311-254-0 through '260-0
Project #: 1140728
Deemed Complete: 3/18/14

Engineer: David Toril
Lead Engineer: Rich Karrs

RWK
10-8-14

I. Proposal

Chevron USA (CUSA) has requested Authority to Construct (ATC) permits for seven new 85 MMBtu/hr natural gas-fired steam generators. Alternatively, 69 MMBtu/hr steam generators may be installed in place of the 85 MMBtu/hr units.

CUSA received their Title V Permit on 9/30/01. This project is a Federal Major Modification; therefore, it is classified as a Title V significant modification pursuant to Rule 2520, Section 3.29, 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 permit.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (adopted 6/16/2011, effective 11/26/12)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4305	Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase III (3/17/05)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
Rule 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

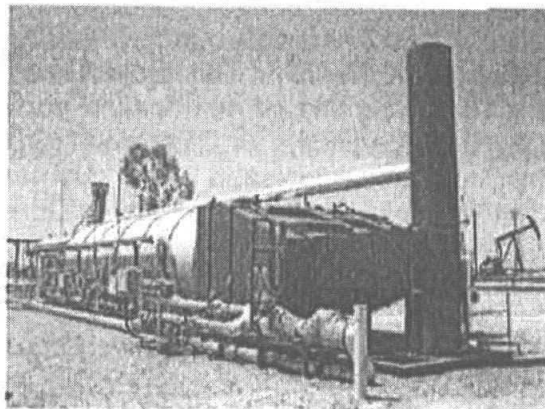
III. Project Location

The steam generators will be located at the Chevron 6C Steam Plant within the CUSA Coalinga Oilfield in the Fresno County Heavy oil Production Stationary Source in SW/4 Sec 6. T20S. R15E. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

CUSA uses steam generators to 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.

CUSA is proposing to install 7 natural gas-fired steam generators at their Coalinga 6C steam plant. A representative steam generator is shown below.



V. Equipment Listing

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR SG-6-1X WITH NORTH AMERICAN MODEL 4231-85 GLE LOW-NOX BURNER, OR EQUIVALENT, AND FLUE GAS RECIRCULATION

Pursuant to District Policy APR 1035 *Flexibility in Equipment Descriptions in ATCs*, some flexibility in the final specifications of the equipment will be allowed, as shown in the following proposed permit conditions:

- This Authority to Construct authorizes the installation of an 85 MMBtu/hr North American GLE burner or a 69 MMBtu/hr North American GLE burner, or equivalent. [District Rule 2201] Y
- 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] Y

- The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Y
- Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Y
- 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] Y

VI. Emission Control Technology Evaluation

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

The steam generators will be equipped with ultra-low-NO_x burners and FGR capable of achieving 7 ppmvd NO_x and 25 ppmvd CO @ 3% O₂, and will be fired exclusively on natural gas containing a sulfur content no greater than 1 grain-S/100 dscf.

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

Low NO_x Burner Technology

Low-NO_x burners reduce NO_x formation by producing lower flame temperatures (and longer flames) than conventional burners. Low-NO_x burners delay the mixing of fuel and air by introducing the fuel (or sometimes air) in multiple stages. In the first stage, the air-fuel mixture is fuel-rich in which the oxygen is consumed in reactions with the fuel, thereby limiting excess oxygen available to react with nitrogen to produce thermal NO_x.

The combustion zones in the secondary and tertiary stages are maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature, which in turn minimizes the reaction between excess oxygen and nitrogen. The North American burner incorporates patented internal mixing elements that pre-mix the fuel and air prior to combustion in the reaction zone. By completing a majority of the combustion in the burner reaction chamber, the low emissions of the burner are protected from process influences.

Flue Gas Recirculation Technology

The use of flue gas re-circulation (FGR) can reduce nitrogen oxides (NO_x) emissions by 60% to 70%. In an FGR system, a portion of the flue gas is re-circulated back to the inlet air. As flue gas is composed mainly of nitrogen and the products of combustion, it is much lower

in oxygen than the inlet air and contains virtually no combustible hydrocarbons to burn. Thus, flue gas is practically inert. The addition of an inert mass of gas to the combustion reaction serves to absorb heat without producing heat, thereby lowering the flame temperature. Since thermal NOx is formed by high flame temperatures, the lower flame temperatures produced by FGR serve to reduce thermal NOx.

VII. General Calculations

A. Assumptions

- Operating schedule is 24 hours/day and 8,760 hour/year (365 days)
- Burner maximum heat input rating = 85 MMBtu/hr
- Alternate burner maximum heat input = 69 MMBtu/hr
- Units fired on PUC quality natural gas with 1.0 grain-S/100 dscf
- Natural gas heating value: 1,000 Btu/scf
- F-Factor for Natural Gas @ 60°F: 8,578 dscf/MMBtu (40 CFR 60, Appendix B)
- During startup and shutdown periods (not to exceed 2 hrs each per occurrence) NOx emissions are < 0.1 MMBIU and CO emissions are < 0.084 lb/MMBtu

B. Emission Factors

Pollutant	Emission Factors (EF2)		Source
NO _x	0.0085 lb-NO _x /MMBtu	7 ppmvd NO _x (@ 3%O ₂)	Proposed and Rule 4320 limit (vendor guaranteed Appendix B)
SO _x	0.00285 lb SO _x /MMBtu*	1 gr S/100 scf	Proposed, District recognized EF for PUC quality gas.
PM ₁₀	0.0032 lb-PM ₁₀ /MMBtu**		Proposed
CO	0.0185 lb-CO/MMBtu	25 ppmv CO @3% O ₂	Proposed (vendor guaranteed Appendix B)
VOC	0.0055 lb-VOC/MMBtu		Proposed and AP-42 (7/98), Table 1.4-2

*(1 gr-S/100 scf)(lb/7000 gr)(scf/1000 btu)(2 lb-SO₂/lb-S)(10E6) = 0.00285 lb-SO_x/mmbtu

** Based on emissions testing documenting that natural gas fired steam generators have a PM₁₀ emission rate of 0.001 lb/MM Btu.

Startup/Shutdown (2 hr per occurrence)

Startup/Shutdown Emission Factors		
Pollutant	Emission Factors	Source
NO _x	0.1 lb/MMBtu	Proposed
CO	0.085 lb/MMBtu	Proposed

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since this is a new emissions unit, PE1 = 0 for all pollutants.

2. Post Project Potential to Emit (PE2)

The PE2 is calculated as shown below and summarized in the following table:

$$0.00285 \text{ lb-SOx/MMBtu} \times 85.0 \text{ MMBtu/hr} \times 24 \text{ hr/day} = 5.8 \text{ lb-SOx/day}$$

$$0.00285 \text{ lb-NOx/MMBtu} \times 85.0 \text{ MMBtu/hr} \times 8760 \text{ hr/day} = 2122 \text{ lb-SOx/yr}$$

PE2 (each 85 MMBtu/hr unit)			
	Daily Emissions (lb/day)	Annual Emissions (lb/year)	Total Annual Emissions for 7 Units (lb/year)
NO _x	48.5*	6,329	44,304
SO _x	5.8	2,122	14,854
PM ₁₀	6.5	2,383	16,679
CO	60.4*	13,775	96,425
VOC	11.2	4,095	28,667

*Daily PE with Startups/Shutdowns is calculated as shown below

$$\text{NO}_x = (0.0085 \text{ lb/MMBtu})(85 \text{ MMBtu/hr})(20 \text{ hrs/day}) + (0.1 \text{ lb/MMBtu})(85 \text{ MMBtu/hr})(4 \text{ hrs/day})$$

$$= 48.5 \text{ lb-NO}_x/\text{day}$$

PE2 (each 69 MMBtu/hr unit)			
	Daily Emissions (lb/day)	Annual Emissions (lb/year)	Total Annual Emissions for 7 Units (lb/year)
NO _x	39.3*	5137	35,964
SO _x	4.7	1,723	12,061
PM ₁₀	5.3	1,934	13,538
CO	53.1*	11,182	78,274
VOC	9.1	3,324	23,268

*Daily PE with Startups/Shutdowns is calculated as shown below

$$\text{NO}_x = (0.0085 \text{ lb/MMBtu})(69 \text{ MMBtu/hr})(20 \text{ hrs/day}) + (0.1 \text{ lb/MMBtu})(69 \text{ MMBtu/hr})(4 \text{ hrs/day})$$

$$= 39.3 \text{ lb-NO}_x/\text{day}$$

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

Pursuant to District Rule 2201, the 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 (AER) that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for all pollutants; therefore, SSPE1 calculations are not necessary.

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

Since facility emissions are already above the Offset and Major Source Thresholds for all pollutants; therefore, SSPE2 calculations are not necessary.

5. Major Source Determination

Rule 2201 Major Source Determination:

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

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase	>100					
PSD Major Source Thresholds	100	100	100	100	100	100
PSD Major Source ? (Y/N)	y					

As shown above, the facility is an existing major source for PSD for at least one pollutant. Therefore the facility is an existing major source for PSD.

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.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201. Since this is a new equipment, BE = PE1 = 0 for all pollutants.

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Since this facility is a major source for all pollutants, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	44,304	50,000	N
SO _x	14,854	80,000	N
PM ₁₀	16,679	30,000	N
VOC	28,667	50,000	N

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

Step 1

For new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project.

The project's combined total emission increases are compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO _x	44,304	0	Y
VOC	28,667	0	Y
PM ₁₀	16,679	30,000	N
PM _{2.5}	16,679	20,000	N
SO _x	14,854	80,000	N
NO _x *	44,304	80,000	N
SO _x *	14,854	80,000	N

*PM2.5 precursor

Since there is an increase in NO_x and VOC emissions, this project constitutes a Federal Major Modification, and no further analysis is required.

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀

I. Project Location Relative to Class 1 Area

As demonstrated in the "PSD Major Source Determination" Section above, the facility was determined to be an existing major source for PSD. Because the project is not located within 10 km of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Significance of Project Emission Increase Determination

a. Potential to Emit of attainment/unclassified pollutant for New or Modified Emission Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if total potential to emit from all new and modified units is below this threshold, no further analysis will be needed.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)					
	NO2	SO2	CO	PM	PM10
Total PE from New and Modified Units	22.2	7.4	48.2	8.3	8.3
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	n	n	n	n	n

As demonstrated above, because the post-project total potentials to emit from all new and modified emission units are below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

- 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 APE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*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.

a. New emissions units – PE > 2 lb/day

As seen in Section VII.C.2 of this evaluation, CUSA is proposing to install seven new steam generators each with a PE greater than 2 lb/day for NO_x, SO_x, PM₁₀, CO, and VOC.

BACT is triggered for NO_x, SO_x, PM₁₀, CO and VOC because the PEs are greater than 2 lbs/day and the SSPE for CO is greater than 200,000 lb/year.

2. BACT Guideline

Please note that BACT Guideline 1.2.1 (3/11/05) [Steam Generator (\geq 5 MMBtu/hr, Oilfield)] has been rescinded. The NO_x emission limit requirement of District Rule 4320 is lower than the Achieved-in-Practice requirement of BACT Guideline 1.2.1 (14 ppmv @ 3% O₂); therefore, a project specific BACT analysis will be performed to determine BACT for this project. More details regarding this are provided in Appendix C. Note that current BACT Guideline 1.2.1 was issued on 3/24/14, however, this project was deemed complete prior to 3/24/14 and is therefore not subject to the 3/24/14 BACT Guideline.

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (see Appendix C), BACT has been satisfied with the following:

- NO_x: 7 ppmvd @ 3% O₂
- SO_x: Natural gas treated to remove 95% by weight of sulfur compounds
- PM₁₀: Natural gas treated to remove 95% by weight of sulfur compounds
- CO: 25 ppmvd or less @ 3% O₂
- VOC: Gaseous fuel

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Post Project SSPE (SSPE2)	>20,000	>54,750	>29,200	>200,000	>20,000
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	Yes	Yes	Yes	Yes

2. Quantity of Offsets Required

As seen above, the facility is an existing NSR Major Source for NO_x, SO_x, PM₁₀, CO, VOC, and the SSPE2 is greater than the offset thresholds for these pollutants; therefore, offset calculations will be required for this project.

However, Section 4.6.1 of Rule 2201 states that emissions offsets are not required for increases in CO in attainment areas provided the applicant demonstrates to the satisfaction of the APCO that the Ambient Air Quality (AAQ) Standards are not violated in the areas to be affected, such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of AAQ Standards. The District performed an AAQ Analysis and determined that this project will not result in or contribute to a violation of an AAQ Standard for CO (see Appendix D). Therefore, CO offsets are not required for this project.

The quantity of offsets in pounds per year is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = $(\Sigma[PE2 - BE] + ICCE) \times DOR$, for all new or modified emissions units in the project,

Where,

PE2 = Post Project Potential to Emit, (lb/year)

BE = Baseline Emissions, (lb/year)

ICCE = Increase in Cargo Carrier Emissions, (lb/year)

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

otherwise,

BE = HAE

The facility is proposing to install new emissions units; therefore BE = 0. Also, there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

$$\text{Offsets Required (lb/year)} = ([\text{PE2} - \text{BE}] + \text{ICCE}) \times \text{DOR}$$

PE2 (NO_x) = 41,699 lb/year

BE (NO_x) = 0 lb/year

ICCE = 0 lb/year

The project is a Federal Major Modification for NO_x and VOC and therefore the correct offset ratio for NO_x and VOCs is 1.5:1.

The proposed SO_x and PM₁₀ ERCs were generated at a distance from the proposed equipment which subjects them to a distance offset ratio of 1.5:1.

As calculated in Section VII.C.6 above, the BE equals zero since the units are new Emissions Unit.

Offsets Required for the 85 MMBtu/hr Steam Generators (lb/year)							
	Total PE2 (total emissions for all 7 SGs)	BE	ICCE	Offsets Required (PE2 - BE - ICCE)	at offset ratio of 1.5:1	Offsets Required at 1.5:1 (lb/qr)	Offsets Required at 1.5:1 (lb/qr) for each SG
NO _x	44,304	0	0	44,304	66,456	16,614	2,373
SO _x	14,854	0	0	14,854	22,281	5,570	796
PM ₁₀	16,679	0	0	16,679	25,019	6,255	894
VOC	28,667	0	0	28,667	43,001	10,750	1,536

Offsets Required for the 69 MMBtu/hr Steam Generators (lb/year)							
	Total PE2 (total emissions for all 7 SGs)	BE	ICCE	Offsets Required (PE2 - BE - ICCE)	at offset ratio of 1.5:1	Offsets Required at 1.5:1 (lb/qr)	Offsets Required at 1.5:1 (lb/qr) for each SG
NO _x	35,964	0	0	35,964	53,946	13,487	1,927
SO _x	12,061	0	0	12,061	18,092	4,523	646
PM ₁₀	13,538	0	0	13,538	20,307	5,077	725
VOC	23,268	0	0	23,268	34,902	8,726	1,247

The applicant has stated that the facility plans to use the following ERC certificates which have available quarterly credits as follows:

NOx				
ERC	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
S-3735-2	10,725	11,266	11,808	11,808
S-2456-2	32,003	32,799	31,884	32,561
Total:	42,728	44,065	43,692	44,369
Offsets Required at 1.5:1	15,637	15,637	15,637	15,637

SOx				
ERC	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
S-2934-5	11,539	16,868	23,727	33,544
S-3082-5	15,520	13,060	10,088	5,442
Total:	27,059	29,928	33,815	38,986
Offsets Required at 1.5:1	5,570	5,570	5,570	5,570

PM10				
ERC	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
S-3082-5	15,520	13,060	10,088	5,442
S-4200-5	7,613	17,935	24,182	23,612
Total:	23,133	30,995	34,270	29,054
Offsets Required at 1.5:1	6,255	6,255	6,255	6,255

Interpollutant offset ratios for trades between SO_x and PM₁₀ are allowed pursuant to Rule 2201, Section 4.13.3.1.2. Pursuant to draft District policy APR 1430, SO_x ERCs may be used to offset PM₁₀ at an interpollutant ratio of 1.0 : 1.0. An interpollutant ratio of 1.0 : 1.0 for SO_x to PM₁₀ will be applied.

VOC				
ERC	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
S-3722-1	127,895	129,399	130,902	130,902
Total:	127,895	129,399	130,902	130,902
Offsets Required at 1.5:1	10,750	10,750	10,750	10,750

As seen above, the facility has sufficient credits to fully offset the quarterly emissions increases associated with this project.

Proposed Rule 2201 (offset) Conditions (for each steam generator):

- Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender NO_x emission reduction credits for the following quantity of emissions: 1st quarter – 2,373 lb, 2nd quarter – 2,373 lb, 3rd quarter – 2,373 lb, and fourth quarter – 2,373 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender NO_x emission reduction credits for the following quantity of emissions: 1st quarter – 1,927 lb, 2nd quarter – 1,927 lb, 3rd quarter – 1,927 lb, and fourth quarter – 1,927 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- ERC Certificate Numbers S-3735-2 and S-2456-2 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
- Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender SO_x emission reduction credits for the following quantity of emissions: 1st quarter – 796 lb, 2nd quarter – 796 lb, 3rd quarter – 796 lb, and fourth quarter – 796 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender SO_x emission reduction credits for the following quantity of emissions: 1st quarter – 646 lb, 2nd quarter – 646 lb, 3rd quarter – 646 lb, and fourth quarter – 646 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- ERC Certificate Numbers S-2934-5 and S-3082-5 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

- Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter – 894 lb, 2nd quarter – 894 lb, 3rd quarter – 894 lb, and fourth quarter – 894 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter – 725 lb, 2nd quarter – 725 lb, 3rd quarter – 725 lb, and fourth quarter – 725 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- ERC Certificate Numbers S3082-5 and S-4200-5 (or a certificate split from these certificates) shall be used to supply the required PM10 offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
- Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 1536 lb, 2nd quarter – 1536 lb, 3rd quarter – 1536 lb, and fourth quarter – 1536 lb.. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 1,247 lb, 2nd quarter – 1,247 lb, 3rd quarter – 1,247 lb, and fourth quarter – 1,247 lb.. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- ERC Certificate Numbers S-3722-1(or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

C. Public Notification

1. Applicability

Public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,

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

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

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

As demonstrated in Sections VII.C.7 and VII.C.8, this project is a Federal Major Modification. Therefore, public noticing for Federal Major Modification purposes is required.

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

c. Offset Threshold

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	>20,000	>20,000	20,000 lb/year	No
SO _x	>54,750	>54,750	54,750 lb/year	No
PM ₁₀	>29,200	>29,200	29,200 lb/year	No
CO	>200,000	>200,000	200,000 lb/year	No
VOC	>20,000	>20,000	20,000 lb/year	No

As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	PE2 (lb/year)	PE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	41,699	0	41,699	20,000 lb/year	Y
SO _x	14,854	0	14,854	20,000 lb/year	N
PM ₁₀	16,679	0	16,679	20,000 lb/year	N
CO	96,425	0	96,425	20,000 lb/year	Y
VOC	28,667	0	28,667	20,000 lb/year	Y

As demonstrated above, the SSIPEs for NO_x, CO and VOC were greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

e. Title V Significant Permit Modification

As shown in the Discussion of Rule 2520 below, this project constitutes a Title V significant modification. Therefore, public noticing for Title V significant modifications is required for this project.

2. Public Notice Action

As discussed above, public noticing is required for this project for triggering a Federal Major Modification, a Title V significant modification and for the NO_x, CO and VOC SSIPE exceeding of 20,000 lb/year. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

Proposed Rule 2201 (DEL) Conditions:

- Emission rates, except during startup and shutdown shall not exceed: NO_x (as NO_x): 7 ppmvd @ 3% O₂ or CO: 25 ppmvd @ 3% O₂ [District Rule 2201, 4305, 4306, and 4320] Y
- Emission rates shall not exceed any of the following: SO_x: 0.00285 lb/MMBtu; PM₁₀: 0.0032 lb/MMBtu; or VOC: 0.0055 lb/MMBtu. [District Rule 2201] Y
- Emissions rates shall not exceed 47.6 lb-NO_x/day or 5957lb-NO_x/yr; or 60.4 lb-CO/day or 13,775 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Y

E. Compliance Assurance

1. Source Testing

These units are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320 *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*. Source testing requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, District Rule 4320 of this evaluation.

2. Monitoring

As required by District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320 *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*, this unit is subject to monitoring requirements. Monitoring requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, District Rule 4320 of this evaluation.

3. Recordkeeping

As required by District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320 *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*, this unit is subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, District Rule 4320 of this evaluation.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to Appendix D of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_x, CO, and SO_x. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_x, CO, or SO_x.

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM₁₀ and PM_{2.5}.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Title I Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this facility is a new major source and this project does constitute a Title I modification, therefore this requirement is applicable. CUSA's compliance certification is included in Appendix E.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install steam generators.

Since the project will provide steam to be used at the same location, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII. C. 9. above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. A significant permit modification is defined as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

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

Rule 4001 New Source Performance Standards (NSPS)

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).

The subject steam generators have a rating of 85 MMBtu/hr and are fired on natural gas. Subpart Dc has no standards for gas-fired steam generators. Therefore the subject steam generators are not an affected facility and subpart Dc does not apply.

Rule 4101 Visible Emissions

Per Section 5.0, no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). As the steam generators are fired solely on natural gas and the TEOR system will result in fugitive emissions only, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. The following condition will remain listed on the facility-wide permit to ensure compliance:

- No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (11/15/01). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101]

Rule 4102 Nuisance

Rule 4102 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.

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (**Appendix E**), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

RMR Summary			
Categories	Seven Natural Gas Steam Generators (Units 254-0 thru 260-0)	Project Totals	Facility Totals
Prioritization Score	0.02	0.02	>1
Acute Hazard Index	0.00	0.00	0.01
Chronic Hazard Index	0.00	0.00	0.00
Maximum Individual Cancer Risk	9.64E-07	9.64E-07	1.60E-06
T-BACT Required?	No		
Special Permit Conditions?	Yes		

Discussion of T-BACT

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

F-Factor for NG: 8,578 dscf/MMBtu at 60 °F
 PM₁₀ Emission Factor: 0.005 lb-PM₁₀/MMBtu
 Percentage of PM as PM₁₀ in Exhaust: 100%
 Exhaust Oxygen (O₂) Concentration: 3%

$$\text{Excess Air Correction to F Factor} = \frac{20.9}{(20.9 - 3)} = 1.17$$

$$GL = \left(\frac{0.00352 \text{ lb-PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb-PM}} \right) / \left(\frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17 \right)$$

$$GL = 0.002 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$$

Therefore, compliance with the requirements of this rule is expected.

Rule 4301 Fuel Burning Equipment

Rule 4301 limits air contaminant emissions from fuel burning equipment as defined in the rule. Section 3.1 defines fuel burning equipment as "any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer".

Section 5.0 gives the requirements of the rule.

A person shall not discharge into the atmosphere combustion contaminants exceeding in concentration at the point of discharge, 0.1 grain per cubic foot of gas calculated to 12% of carbon dioxide at dry standard conditions.

A person shall not build, erect, install or expand any non-mobile fuel burning equipment unit unless the discharge into the atmosphere of contaminants will not and does not exceed any one or more of the following rates:

- 200 pound per hour of sulfur compounds, calculated as sulfur dioxide (SO₂)
- 140 pounds per hour of nitrogen oxides, calculated as nitrogen dioxide (NO₂)
- Ten pounds per hour of combustion contaminants as defined in Rule 1020 and derived from the fuel.

District Rule 4301 Limits			
Unit	NO ₂	Total PM	SO ₂
	0.008 x 85 = 0.68	0.0032 x 85 = 0.27	0.003 x 85 = 0.3
Rule Limit (lb/hr)	140	10	200

The particulate emissions from the steam generators will not exceed 0.1 gr/dscf at 12% CO₂ or 10 lb/hr. Further, the emissions of SO_x and NO_x will not exceed 200 lb/hr or 140 lb/hr, respectively.

Therefore, compliance with the requirements of this rule is expected.

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

The unit is natural gas-fired with a maximum heat input of 20.0 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4305, the unit is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2*.

In addition, the unit is also subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*.

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

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

The unit is natural gas-fired with a maximum heat input of 20.0 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, the unit is subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*.

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

Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr

Section 5.0 Requirements

Section 5.1 of the rule requires compliance with the NOx and CO emissions limits listed in Table 1 of Section 5.2 or payment of an annual emissions fee to the District as specified in Section 5.3 and compliance with the control requirements specified in Section 5.4; or as stated in Section 5.1.3, comply with the applicable Low-use Unit requirements of Section 5.5.

Section 5.2 NOx and CO Emission Limits

C. Oilfield Steam Generators

Rule 4320 Emissions Limits				
Category	Operated on gaseous fuel		Operated on liquid fuel	
	NO _x Limit	CO Limit	NO _x Limit	CO Limit
1. Units with a total rated heat input >20.0 MMBtu/hr	Standard Schedule 7 ppmv or 0.008 lb/MMBtu; or	400 ppmv @ 3% O ₂	40 ppmv or 0.052 lb/MMBtu	400 ppmv @ 3% O ₂
	Staged Enhanced Schedule Initial limit: 9 ppmv @ 3% O ₂ , 0.011 lb/MMBtu			
	Final limit: 5 ppmv @ 3% O ₂ , 0.0062 lb/MMBtu			

- The proposed NOx emission factor is 7 ppmv.

Therefore, compliance with Section 5.1 of District Rule 4320 is expected.

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

Section 5.3 Annual Fee Calculation

Applicant has proposed to meet the emissions limits requirements of Section 5.1 and therefore this section is not applicable.

Section 5.4 Particulate Matter Control Requirements

Section 5.4 of the rule requires one of four options for control of particulate matter: 1) combustion of PUC-quality natural gas, commercial propane, butane, or liquefied petroleum

gas, or a combination of such gases, 2) limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic, 3) install and properly operate an emission control system that reduces SO₂ emissions by at least 95% by weight; or limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% O₂ or 4) refinery units, which require modification of refinery equipment to reduce sulfur emissions, shall be in compliance with the applicable requirement in Section 5.4.1 no later than July 1, 2013.

The units have a sulfur emission limit of 0.00285 lb SO₂/MMBtu (1.0 gr S/100scf) and are authorized to combust natural/TEOR gas.

Therefore the units are in compliance with the SO_x/PM₁₀ requirements of Section 5.4.1.2 of the rule which states the following:

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

Compliance with the rule is expected.

Section 5.5 Low Use

Section 5.5 requires that units limited to less than or equal to 1.8 billion Btu per calendar year heat input pursuant to a District Permit to Operate tune the unit at least twice per calendar year, or if the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for that calendar year. No tune-up is required for any unit that is not operated during that calendar year; this unit may be test fired to verify availability of the unit for its intended use, but once the test firing is completed the unit shall be shutdown; or operate the unit in a manner that maintains exhaust oxygen concentrations at less than or equal to 3.00 percent by volume on a dry basis.

The subject steam generators are not low use units and therefore the requirements of Section 5.5 do not apply.

Section 5.6, Startup and Shutdown Provisions

Applicable emissions limits are not required during startup and shutdown provided the duration of each start-up or each shutdown shall not exceed two hours, the emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown or operator has submitted an application for a Permit to Operate condition to allow more than two hours for each start-up or each shutdown provided the operator meets all of the conditions specified in Sections 5.6.3.1 through 5.6.3.3. The following conditions are included on the ATCs to address the startup and shutdown emissions:

Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 2201, 4305, 4306, and 4320]

Emissions rates shall not exceed 47.6 lb-NO_x/day or 5957lb-NO_x/yr; or 60.4 lb-CO/day or 13,775 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320]

Section 5.7, Monitoring Provisions

Section 5.7 requires either use of a APCO approved Continuous Emissions Monitoring System (CEMS) for NO_x, CO, and oxygen, or implementation of an APCO-approved Alternate Monitoring System consisting of:

- 5.7.1.1 Periodic NO_x and CO exhaust emission concentrations,
- 5.7.1.2 Periodic exhaust oxygen concentration,
- 5.7.1.3 Flow rate of reducing agent added to exhaust,
- 5.7.1.4 Catalyst inlet and exhaust temperature,
- 5.7.1.5 Catalyst Inlet and exhaust oxygen concentration,
- 5.7.1.6 Periodic flue gas recirculation rate, or
- 5.7.1.7 Other operational characteristics.

In order to satisfy the requirements of District Rule 4320, the applicant has proposed to use pre-approved 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 incorporated into the permits in order to ensure compliance with the requirements of the proposed 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. 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]

5.7.6 Monitoring SO_x Emissions

Section 5.7.6.1 Operators complying with Sections 5.4.1.1 or 5.4.1.2 shall provide an annual fuel analysis to the District unless a more frequent sampling and reporting period is included in the Permit To Operate. Sulfur analysis shall be performed in accordance with the test methods in Section 6.2.

Section 5.7.6.2 Operators complying with Section 5.4.1.3 by installing and operating a control device with 95% SO_x reduction shall propose the key system operating parameters and frequency of the monitoring and recording. The monitoring option proposed shall be submitted for approval by the APCO.

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

Sulfur Monitoring

The following conditions will be included on the ATCs.

- 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] Y
- 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] Y
- When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Y
- 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] Y

Section 5.8, Compliance Determination

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

{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 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.

{2972} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320]

Section 5.8.3 Continuous Emissions Monitoring System (CEMS) emissions measurements shall be averaged over a period of 15 consecutive minutes to demonstrate compliance with the applicable emission limits. Any 15-consecutive-minute block average CEMS measurement exceeding the applicable emission limits shall constitute a violation. The steam generator is not equipped with CEMs and therefore this section is not applicable.

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

{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 For emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit.

{2980} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320]

Section 6.1 Recordkeeping

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

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

{2983} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4306, 4308, and 4320]

Section 6.1.1 requires that a unit operated under the exemption of Section 4.2 shall monitor and record, for each unit, the cumulative annual hours of operation. The units are not Section 4.2 exempt and therefore these records are not required,

Section 6.1.2 requires the operator of any unit that is subject to the requirements of Section 5.5 shall record the amount of fuel use at least on a monthly basis for each unit. On and after the applicable compliance schedule specified in Section 7.0, in the event that such unit exceeds the applicable annual heat input limit specified in Section 5.5, the unit shall be brought into full compliance with this rule as specified in Section 5.2 Table 1. The units are not low use and therefore these records are not necessary.

Section 6.1.3 The operator of any unit subject to Section 5.5.1 or Section 6.3.1 shall maintain records to verify that the required tune-up and the required monitoring of the operational characteristics of the unit have been performed.

Section 6.1.4 The operator performing start-up or shutdown of a unit shall keep records of the duration of start-up or shutdown.

Section 6.1.5 The operator of any unit firing on liquid fuel during a PUC-quality natural gas curtailment period pursuant to Section 5.4.2 shall record the sulfur content of the fuel, amount of fuel used, and duration of the natural gas curtailment period. The unit is not authorized to combust liquid fuel. Therefore this section is not applicable.

Section 6.2, Test Methods

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

Pollutant	Units	Test Method Required
NO _x	ppmv	EPA Method 7E or ARB Method 100
NO _x	lb/MMBtu	EPA Method 19
CO	ppmv	EPA Method 10 or ARB Method 100
Stack Gas O ₂	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2
Stack Gas Moisture Content	%	EPA Method 4
Oxides of sulfur		EPA Method 6C, EPA Method 8, or ARB Method 100
Total Sulfur as Hydrogen Sulfide (H ₂ S) Content		EPA Method 11 or EPA Method 15, as appropriate.
Sulfur Content of Liquid Fuel		ASTM D 6920-03 or ASTM D 5453-99

The following test method conditions are included on the ATCs:

- 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, VOC (ppmv) - EPA Method 25A or 25B, or ARB Method 100. [District Rule 2201, 4305, 4306, 4320] Y

Section 6.2.8.2. The SO_x emission control system efficiency shall be determined using the following:

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

where:

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

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

The units are not equipped with a SO₂ scrubber. Therefore this section is not applicable.

Section 6.3 Compliance Testing

Section 6.3.1 requires that this unit be tested to determine compliance with the applicable requirements of section 5.2 not less than once every 12 months (no more than 30 days before or after the required annual source test date). Upon demonstrating compliance on two

consecutive compliance source tests, the following source test may be deferred for up to thirty-six months.

Section 6.3.1.1 Units that demonstrate compliance on two consecutive 12-month source tests may defer the following 12-month source test for up to 36 months (no more than 30 days before or after the required 36-month source test date). During the 36-month source testing interval, the operator shall tune the unit in accordance with the provisions of Section 5.5.1, and shall monitor, on a monthly basis, the unit's operational characteristics recommended by the manufacturer to ensure compliance with the applicable emission limits specified in Section 5.2.

Section 6.3.1.2 Tune-ups required by Sections 5.5.1 and 6.3.1 do not need to be performed for units that operate and maintain an APCO approved CEMS or an APCO approved Alternate Monitoring System where the applicable emission limits are periodically monitored. Applicant has proposed to monitor the emissions of NO_x and CO Alternate Monitoring Scheme "A" and therefore tuning is not required.

Section 6.3.1.3 If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits specified in Section 5.2, the source testing frequency shall revert to at least once every 12 months.

The following conditions are included on the ATC:

{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]

{3467} Source testing to measure NO_x and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320]

{3468} Source testing to measure NO_x and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320]
{110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Sections 6.3.2.1 through 6.3.2.7 address the requirements of group testing which is not applicable for this project.

Section 6.4, Emission Control Plan (ECP)

Section 6.4.1 requires that the operator of any unit shall submit to the APCO for approval an Emissions Control Plan according to the compliance schedule in Section 7.0 of District Rule 4320.

The proposed unit will be in compliance with the emissions limits listed in Table 1, Section 5.1 of this rule and with periodic monitoring and source testing requirements. Therefore, this current application for the new proposed unit satisfies the requirements of the Emission Control Plan, as listed in Section 6.4 of District Rule 4320. No further discussion is required.

Section 7.0, Compliance Schedule

Section 7.0 indicates that an operator with multiple units at a stationary source shall comply with this rule in accordance with the schedule specified in Table 1, Section 5.2 of District Rule 4320.

The units will be in compliance with the emissions limits listed in Table 1, Section 5.2 of this rule, and periodic monitoring and source testing as required by District Rule 4320. Therefore, requirements of the compliance schedule, as listed in Section 7.1 of District Rule 4306, are satisfied. No further discussion is required.

Conclusion

Conditions are included on the ATCs in order to ensure compliance with each section of this rule, see attached draft permit(s). Therefore, compliance with District Rule 4320 requirements is expected.

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 the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = \frac{nRT}{P}$$

With:

N = moles SO₂

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

P (Standard Pressure) = 14.7 psi

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

$$\frac{0.00285 \text{ lb-SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 2.0 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 2.0 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with the requirements of this rule is expected

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

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

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

The District determined that no other agency has broader discretionary approval power over the project and that the District is the first agency to act on the project, therefore establishing the District as the Lead Agency for the project (CEQA Guidelines §15051(b)).

The District prepared an Initial Study which demonstrates that through a combination of project design elements, permit conditions, and mitigation measures, project specific environmental impacts will be less than significant. A Mitigated Negative declaration and Notice of intent to Adopt was prepared and is being circulated for public review from September 12, 2014 to October 13, 2014 and comment pursuant to CCR §15072 et seq. The issuance of the Authority to Construct (ATC) constitutes the final decision to approve the project and the ATC will not be issued until the District has approved the final environmental document. Pursuant to CEQA Guidelines §15075 a Notice of Determination will be filed within five (5) days of the issuance of the ATC.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATCs C-311-254-0 through '260-0 subject to the permit conditions on the attached draft ATC in Appendix F.

X. Billing Information

Annual Permit Fees		
Fee Schedule	Fee Description	Annual Fee
3020-02 H	85 MMBtu/hr	\$1030

Appendixes

- A: Quarterly Net Emissions Change (QNEC)
- B: Burner Vendor Emission Guarantee
- C: Top Down BACT Analysis
- D: HRA and AAQA
- E: Compliance Certification
- F: Draft ATCs

APPENDIX A
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

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

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

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

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$$PE2_{\text{quarterly}} = PE2_{\text{annual}} + 4 \text{ quarters/year}$$

$$PE1_{\text{quarterly}} = PE1_{\text{annual}} + 4 \text{ quarters/year}$$

85 MMBtu/hr Steam Generator Quarterly NEC [QNEC] C-311-254-0 through '260-0					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	6,329	1,582	0	0	1,582
SO _x	2122	531	0	0	531
PM ₁₀	2383	596	0	0	596
CO	13,775	3,444	0	0	3,444
VOC	4,095	1,024	0	0	1,024

69 MMBtu/hr Steam Generator Quarterly NEC [QNEC] C-311-254-0 through '260-0					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	5,137	1,284	0	0	1,284
SO _x	1,723	431	0	0	431
PM ₁₀	1,934	484	0	0	484
CO	11,182	2,796	0	0	2,796
VOC	3,324	831	0	0	831

Permit #: C-311-254-0	Last Updated
Facility: CHEVRON USA INC	08/15/2014 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	6329.0	2122.0	2383.0	13775.0	4095.0
Daily Emis. Limit (lb/Day)	48.5	5.8	6.5	60.4	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1582.0	531.0	596.0	3444.0	1024.0
Q2:	1582.0	531.0	596.0	3444.0	1024.0
Q3:	1582.0	531.0	596.0	3444.0	1024.0
Q4:	1582.0	531.0	596.0	3444.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	Y	N
Offset Ratio	1.5	1.5	1.5		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	2373.0	796.0	894.0		1536.0
Q2:	2373.0	796.0	894.0		1536.0
Q3:	2373.0	796.0	894.0		1536.0
Q4:	2373.0	796.0	894.0		1536.0

Permit #: C-311-255-0	Last Updated
Facility: CHEVRON USA INC	08/15/2014 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	6329.0	2122.0	2383.0	13775.0	4095.0
Daily Emis. Limit (lb/Day)	48.5	5.8	6.5	60.4	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1582.0	531.0	596.0	3444.0	1024.0
Q2:	1582.0	531.0	596.0	3444.0	1024.0
Q3:	1582.0	531.0	596.0	3444.0	1024.0
Q4:	1582.0	531.0	596.0	3444.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	Y	N
Offset Ratio	1.5	1.5	1.5		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	2373.0	796.0	894.0		1536.0
Q2:	2373.0	796.0	894.0		1536.0
Q3:	2373.0	796.0	894.0		1536.0
Q4:	2373.0	796.0	894.0		1536.0

Permit #: C-311-256-0	Last Updated
Facility: CHEVRON USA INC	08/15/2014 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	6329.0	2122.0	2383.0	13775.0	4095.0
Daily Emis. Limit (lb/Day)	48.5	5.8	6.5	60.4	11.2
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Q3:	1582.0	531.0	596.0	3444.0	1024.0
Q4:	1582.0	531.0	596.0	3444.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	Y	N
Offset Ratio	1.5	1.5	1.5		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	2373.0	796.0	894.0		1536.0
Q2:	2373.0	796.0	894.0		1536.0
Q3:	2373.0	796.0	894.0		1536.0
Q4:	2373.0	796.0	894.0		1536.0

Permit #: C-311-257-0	Last Updated
Facility: CHEVRON USA INC	08/15/2014 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	6329.0	2122.0	2383.0	13775.0	4095.0
Daily Emis. Limit (lb/Day)	48.5	5.8	6.5	60.4	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1582.0	531.0	596.0	3444.0	1024.0
Q2:	1582.0	531.0	596.0	3444.0	1024.0
Q3:	1582.0	531.0	596.0	3444.0	1024.0
Q4:	1582.0	531.0	596.0	3444.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	Y	N
Offset Ratio	1.5	1.5	1.5		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	2373.0	796.0	894.0		1536.0
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Q3:	2373.0	796.0	894.0		1536.0
Q4:	2373.0	796.0	894.0		1536.0

Permit #: C-311-258-0	Last Updated
Facility: CHEVRON USA INC	08/15/2014 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	6329.0	2122.0	2383.0	13775.0	4095.0
Daily Emis. Limit (lb/Day)	48.5	5.8	6.5	60.4	11.2
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Q3:	1582.0	531.0	596.0	3444.0	1024.0
Q4:	1582.0	531.0	596.0	3444.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	Y	N
Offset Ratio	1.5	1.5	1.5		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	2373.0	796.0	894.0		1536.0
Q2:	2373.0	796.0	894.0		1536.0
Q3:	2373.0	796.0	894.0		1536.0
Q4:	2373.0	796.0	894.0		1536.0

Permit #: C-311-259-0 Last Updated
Facility: CHEVRON USA INC 08/15/2014 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	6329.0	2122.0	2383.0	13775.0	4095.0
Daily Emis. Limit (lb/Day)	48.5	5.8	6.5	60.4	11.2
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Q3:	1582.0	531.0	596.0	3444.0	1024.0
Q4:	1582.0	531.0	596.0	3444.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	Y	N
Offset Ratio	1.5	1.5	1.5		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	2373.0	796.0	894.0		1536.0
Q2:	2373.0	796.0	894.0		1536.0
Q3:	2373.0	796.0	894.0		1536.0
Q4:	2373.0	796.0	894.0		1536.0

Permit #: C-311-260-0	Last Updated
Facility: CHEVRON USA INC	08/15/2014 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	6329.0	2122.0	2383.0	13775.0	4095.0
Daily Emis. Limit (lb/Day)	48.8	5.8	6.5	60.4	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1582.0	531.0	596.0	3444.0	1024.0
Q2:	1582.0	531.0	596.0	3444.0	1024.0
Q3:	1582.0	531.0	596.0	3444.0	1024.0
Q4:	1582.0	531.0	596.0	3444.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	Y	N
Offset Ratio	1.5	1.5	1.5		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	2373.0	796.0	894.0		1536.0
Q2:	2373.0	796.0	894.0		1536.0
Q3:	2373.0	796.0	894.0		1536.0
Q4:	2373.0	796.0	894.0		1536.0

APPENDIX B
Burner Vendor Emission Guarantee



North American

Manufacturing Company, Ltd.

4488 East 71st Street Cleveland, OH 44106-5600 USA
Tel 216.271.6000 Fax 216.641.7882 email: sales@namfg.com

August 6, 2008

Chevron North America
Exploration & Production Company
San Joaquin Valley Strategic Business Unit
9525 Camino Media
Bakersfield, CA 93311

Attention: Mr. John Gruber
Air Specialist Engineer

SUBJECT: Emission Guarantee for 62.5 and 85 MM Btu/hr GLE Combustion Systems

Dear Mr. Gruber,

We have reviewed the information that you have provided in the e-mails dated July 31, and August 4, 2008 on the fuels to be fired and the operational/dimensional parameters of the steam generators (both 62.5 and 85 MM Btu/hr units) to be covered in this guarantee of emission performance. Based on this information we can make the following emission guarantees for the two different size 4231-GLE Combustion Systems being considered.

The Guaranteed Emission Levels for these afore mentioned 4231-GLE Combustion Systems installed on standard sized 50,000 lb/hr (62.5 MM Btu/hr HHV gross heat input) and the 70,000 lb/hr (85 MM Btu/hr HHV gross heat input) generators in new or as new condition and outfitted with fully operational Flue Gas Recirculation (FGR) Systems is described as follows:

Guaranteed Emissions

NO_x

The burner generated NO_x, for either size unit, is guaranteed not to exceed:

- 7 ppmvd corrected to 3% O₂ subject to the conditions and limitations identified below.

Note: We understand that you wish to target 5.5 ppmdv, dry volume basis corrected to 3% O₂, as the emission value desired during low NO_x tuning in order to allow yourself a 1.5 ppmdv cushion below the required limit of 7 ppmdv to allow for some variability in daily emission performance and accuracy in portable emission monitors used to tune the burner.

CO

The burner generated CO, for either size unit, is guaranteed not to exceed:

- 25 ppmvd corrected to 3% O₂ subject to the conditions and limitations below.

VOC

The burner generated VOC, for either size unit, is guaranteed not to exceed:

- 0.0055 lb VOC/MMBtu at either 62.5 or 85 MMBtu/hr subject to the conditions and limitations below. These emission values are based on concentration of 13 ppmvd as methane equivalent corrected to 3% O₂, in the flue gas.

The following conditions were also considered in identifying the above emissions guarantee:

1. The system will fire one of the specified Fuel Gases from your email of 7/31/08, having a heating value of between 916 and 1076 BTU/R³ HHV.
2. A fully functional & automatic FGR flow control system based on oxygen level in the vitiated combustion air providing up to 40% FGR by volume is required.
3. The final steam generator FGR and Excess Air rates will be set by North American in order to achieve the desired compliance targets.
4. The steam generators are to be of standard size with the 50,000 lb/hr (62.5 MM Btu/hr) units having a furnace dimension of 9'-6" ID X 38'-8" long and the 70,000 lb/hr (85 MM Btu/hr) units having a furnace dimension of 11'-3" ID X 38'-8" long (Inside the tube bundle). These correspond to the dimensions supplied in your email of 8/04/08 with an additional 7" subtracted from the internal diameter to account for the tube bundle.
5. The above emissions are based on firing either the Model 4231-62.5-GLE or the 4231-85-GLE Combustion Systems controlled by the proprietary patented algorithms in the embedded 8379 CMS code provided with the burner by North American and a fully functional "mass flow control" fuel and air ratio system with Stack O₂ trim.
6. We can meet this emission guarantee contingent upon proper installation in a 50,000 lb/hr or 70,000 lb/hr steam generator in good clean (as new) condition and properly operated.
7. Combustion air will be between 32°F – 120°F inlet temperature and 20.9% oxygen for emissions testing purposes. Combustion system fuel/air ratio will be varied on a mass flow basis based on this inlet temperature to ensure emissions compliance across all operating conditions.
8. The combustion air fan must be sufficient to deliver the required combination of FGR and Excess Air at the maximum firing rate.
9. The guarantee is valid over a 3:1 turndown from the high fire rating.
10. The emissions data will be obtained from a sample port at a point downstream of the exit of the burner reaction chamber.
11. The test data will be extracted from a single point and time averaged.

APPENDIX C
Top Down BACT Analysis

Top Down BACT Analysis for the Steam Generator

Oxides of nitrogen (NO_x) are generated from the high temperature combustion of the natural gas fuel. A majority of the NO_x emissions are formed from the high temperature reaction of nitrogen and oxygen in the inlet air. The rest of the NO_x emissions are formed from the reaction of fuel-bound nitrogen with oxygen in the inlet air.

1. BACT Analysis for NO_x Emissions:

a. Step 1 - Identify all control technologies

The District adopted District Rule 4320 on October 16, 2008. The NO_x emission limit requirements in District Rule 4320 are lower than the BACT limits of the 3/11/05 determination for rescinded BACT guideline 1.2.1 and the application was deemed complete prior to issuance of current 3/24/14 BACT guideline 1.2.1; therefore a project specific BACT analysis will be performed to determine BACT for this project. District Rule 4320 includes a compliance option that limits oilfield steam generators with heat input ratings greater than 20 MMBtu/hr to 7 ppm @ 3% O₂. This emission limit is Achieved in Practice control technology for the BACT analysis. District Rule 4320 also contains an enhanced schedule option that allows applicants additional time to meet the requirements of the rule. The enhanced schedule NO_x emission limit requirement is 5 ppmv @ 3% O₂. Since this is an enhanced option in the rule, it will be considered the Technologically Feasible control technology for the BACT analysis.

The 3/11/05 BACT Clearinghouse guideline 1.2.1 has been rescinded. Therefore a new BACT analysis is required. The following are possible control technologies:

- 1) 5 ppmvd @ 3% O₂ with SCR
- 2) 7 ppmvd @ 3% O₂.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

- 1) 5 ppmvd @ 3% O₂ with SCR
- 2) 7 ppmvd @ 3% O₂

d. Step 4 - Cost Effectiveness Analysis

A cost effective analysis is required for technologically feasible control options that are not proposed. The applicant is proposing a NO_x limit of 7 ppmvd @ 3% O₂; therefore, a cost effective analysis is required for the 5 ppmvd @ 3% O₂ option (SCR).

SCR Cost Effectiveness Analysis

Assumptions:

Industry standard (IS) assumed to be a NO_x emission rate of 15 ppmv @ 3% O₂ in accordance with District Rule 4306.

A unit's maximum emissions are defined by the burner size multiplied by the emissions factor and a maximum annual operating schedule of 8,760 hr/year.

Calculations:

Industry Standard NO_x Emissions = 85 MMBtu/hr x 0.018 lb/MMBtu x 8,760 hrs/year
= 13,403 lb/year

Tech. Feasible NO_x Emissions = 85 MMBtu/hr x 0.006 lb/MMBtu x 8,760 hrs/year
= 4,468 lb/year

Selective Catalytic Reduction system (Detailed costs follow the BACT Analysis Section):

Capital Cost (provided by PCL Industrial Services, Inc. with this project): **\$745,000** (includes all purchased equipment, taxes, freight, and installation of SCR for an 85.0 MMBtu/hr unit).

Equivalent Annual Capital Cost (Capital Recovery):

$$A = P \frac{i(1+i)^n}{(1+i)^n - 1} \quad \text{where;}$$

A = Equivalent Annual Control Equipment Capital Cost

P = Present value of the control equipment, including installation cost

i = Interest rate (use 10%, or demonstrate why alternate is more representative of the specific operation).

n = equipment life (assume 10 years or demonstrate why alternate is more representative of the specific operation)

Where:

P = \$745,000

i = 10%,

n = 10 years

A = \$121,212

Operating costs are estimated by PCL Industrial Services to be \$125,000/yr resulting in the following total annualized cost:

$$\$121,212 + \$125,000 = \$246,212$$

NO_x Reduction due to Selective Catalytic Reduction system:

Total reduction = Emissions_{15 ppm} – Emissions_{8 ppm}

Total reduction = 13,403 lb/year – 4,468 lb/year

Total reduction = 8,935 lb/year = 4.47 ton NO_x per year

Cost effectiveness:

Cost effectiveness = \$246,212/ 4.47 tpy

Cost effectiveness = \$55,081/ ton

The cost effectiveness is greater than the \$24,500/ton cost effectiveness threshold of the District BACT policy. Therefore the use of SCR with ammonia injection is not cost effective and is not required as BACT.

e. Step 5 - Select BACT

BACT for NO_x emissions from this oil field steam generator is a NO_x limit of 7 ppmvd @ 3% O₂. The applicant has proposed to install an oil field steam generator with a NO_x limit of 7 ppmvd @ 3% O₂; therefore BACT for NO_x emissions is satisfied.

2. BACT Analysis for SO_x Emissions:

Oxides of sulfur (SO_x) emissions occur from the combustion of the sulfur, which is present in the fuel.

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.2.1, 1st quarter 2005, identifies for achieved in practice BACT for SO_x emissions from oil field steam generators ≥5 MMBtu/hr as follows:

- 1) Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO₂ scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO₂ at stack O₂

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

- 1) Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO₂ scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO₂ at stack O₂

d. Step 4 - Cost Effectiveness Analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

The applicant has proposed to combust natural gas with a fuel sulfur content not exceed 1 gr-S/100 dsfc; therefore BACT for SO_x emissions is satisfied.

3. BACT Analysis for PM₁₀ Emissions:

Particulate matter (PM₁₀) emissions result from the incomplete combustion of various elements in the fuel.

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.2.1, 1st quarter 2005, identifies for achieved in practice BACT for PM₁₀ emissions from oil field steam generators ≥ 5 MMBtu/hr as follows:

- 1) Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO₂ scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO₂ at stack O₂

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

- 1) Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO₂ scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO₂ at stack O₂

d. Step 4 - Cost Effectiveness Analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

The applicant has proposed to combust natural gas with a fuel sulfur content not to exceed 1 gr-S/100 dscf; therefore BACT for PM₁₀ emissions is satisfied.

4. BACT Analysis for CO Emissions:

Carbon monoxide (CO) emissions are generated from the incomplete combustion of air and fuel.

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.2.1, 1st quarter 2005, identifies for achieved in practice BACT for CO emissions from oil field steam generators ≥ 5 MMBtu/hr as follows:

- 1) 50 ppmvd @ 3% O₂

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically Infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

- 1) 50 ppmvd @ 3% O₂

d. Step 4 - Cost Effectiveness Analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for CO emissions from an oil field steam generator is a CO limit of 50 ppmvd @ 3% O₂. The applicant has proposed to install oil field steam generators with a CO limit of 25 ppmvd @ 3% O₂; therefore BACT for CO emissions is satisfied.

5. BACT Analysis for VOC Emissions:

Volatile organic compounds (VOC) emissions are generated from the incomplete combustion of the fuel.

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.2.1, 1st quarter 2005, identifies for achieved in practice BACT for VOC emissions from oil field steam generators ≥ 5 MMBtu/hr as follows:

- 1) Gaseous fuel

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

- 1) Gaseous fuel

d. Step 4 - Cost effectiveness analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for VOC emissions from an oil field steam generator is gaseous fuel. The applicant has proposed to install oil field steam generators fired on gaseous fuel; therefore BACT for VOC emissions is satisfied.

APPENDIX D
HRA and AAQA

San Joaquin Valley Air Pollution Control District

Risk Management Review

To: David Toril – Permit Services
 From: Cheryl Lawler – Technical Services
 Date: April 28, 2014
 Facility Name: Chevron USA
 Location: SW/4 Sec6, T20S, R15E, Fresno County
 Application #(s): C-311-254-0 thru 260-0
 Project #: C-1140728

A. RMR SUMMARY

RMR Summary			
Categories	Seven Natural Gas Steam Generators (Units 254-0 thru 260-0)	Project Totals	Facility Totals
Prioritization Score	0.02	0.02	>1
Acute Hazard Index	0.00	0.00	0.01
Chronic Hazard Index	0.00	0.00	0.00
Maximum Individual Cancer Risk	9.64E-07	9.64E-07	1.60E-06
T-BACT Required?	No		
Special Permit Conditions?	Yes		

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Units 254-0 thru 260-0

- {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
N

B. RMR REPORT

I. Project Description

Technical Services received a request on April 16, 2014, to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the installation of seven 85 MMBtu/hr natural gas steam generators.

II. Analysis

For the Risk Management Review, toxic emissions from the generators were calculated using 2001 Ventura County Air Pollution Control District emission factors for natural gas fired external combustion. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks from the proposed project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The project prioritization score was less than 1.0 (see RMR Summary Table), however, facilitywide cumulative prioritization scores totaled to greater than 1.0. Therefore, a refined Health Risk Assessment was required and performed for the project. AERMOD was used with point source parameters outlined below and concatenated 5-year meteorological data from Turk to determine maximum dispersion factors at the nearest residential and business receptors. The dispersion factors were input into the HARP model to calculate the Chronic and Acute Hazard Indices and the Carcinogenic Risk.

The following parameters were used for the review:

Analysis Parameters			
Source Type	Point	Closest Receptor (m)	1280
Stack Height (m)	5.88	Closest Receptor Type	Residence & Business
Stack Diameter (m)	0.91	Project Location Type	Rural
Stack Gas Temperature (K)	383	Natural Gas Rates (each generator)	0.085 mmscf/hr 744.6 mmscf/yr
Stack Gas Velocity (m/s)	16.1		

Technical Services also performed modeling for criteria pollutants CO, NO_x, SO_x, and PM₁₀, as well as the RMR. Emission rates used for criteria pollutant modeling for each generator were: 37.7 lb/day CO, 16.3 lb/day NO_x, 5.8 lb/day SO_x, and 6.5 lb/day PM₁₀.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Values are in µg/m³

Seven Natural Gas Steam Generators	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass ²	X	X	X	Pass
SO _x	Pass	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass	Pass

*Results were taken from the attached PSD spreadsheet.

¹The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

²The project was compared to the 1-hour NO₂ National Ambient Air Quality Standard that became effective on April 12, 2010, using the District's approved procedures.

III. Conclusions

The criteria modeling runs indicate the emissions from the proposed equipment will not cause or significantly contribute to a violation of a State or National AAQS.

The acute and chronic indices are below 1.0; and the maximum individual cancer risk associated with the project is $9.64E-07$, which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on Page 1 of this report must be included for this project's units.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

APPENDIX E
Compliance Certification



Donald Puckett
General Manager - Operations

San Joaquin Valley SBU
Chevron North America
Exploration and Production
P. O. Box 1392

February 26, 2014

Mr. Seyed Sadredin
San Joaquin Valley Air Pollution Control District
34946 Flyover Court
Bakersfield, CA 93308

RE: Statewide Compliance Certification

Dear Mr. Sadredin:

As required under District Rule 2201, Subsection 4.15.2 and Section 173(a)(3) of the Clean Air Act, 42 U.S.C. Section 7503, Chevron U.S.A. Inc. hereby submits this letter of certification regarding statewide compliance as of this date.

Based on reasonable inquiry and to the best of my knowledge and belief, the major stationary sources, as defined in the jurisdiction where the facilities are located, that are owned or operated by Chevron U.S.A. Inc. in the State of California as listed below are subject to emission limitations and are in compliance or on a schedule for compliance with all applicable emission limitations and standards under the Clean Air Act:

- El Segundo Refinery
- Richmond Refinery
- Banta Marketing Terminal
- Huntington Beach Marketing Terminal
- Montebello Marketing Terminal
- Sacramento Marketing Terminal
- Van Nuys Marketing Terminal
- Cross Valley Carneras Gas Compressor Facility in Kern County
- Kettleman City Pump Station in Kings County
- 27G Pump Station in Kern County

- San Joaquin Valley Business Unit:
 - Fresno County Heavy Oil Source (Coalinga)
 - Fresno County Natural Gas Source (Coalinga)
 - Kern County Central Heavy Oil Source (Kern River)
 - Kern County Western Heavy Oil Source (Midway Sunset & Cymric)
 - Kern County Western Light Oil Source (Midway Sunset, Cymric & Lost Hills)
 - Kern County Western Gas Source (Cymric & Lost Hills)
 - San Ardo (Monterey County)

- **Global Power (Joint Venture Facilities):**
 - **Coalinga Cogeneration Company in Fresno County**
 - **Kern River Cogeneration Company in Kern County**
 - **Mid-Set Cogeneration Company in Kern County**
 - **Salinas River Cogeneration Company in Monterey County**
 - **Sargent Canyon Cogeneration Company in Monterey County**
 - **Sunrise Power Company LLC in Kern County**
 - **Sycamore Cogeneration Company in Kern County**

Please telephone Martin Lundy at (661) 654-7142 or Daniel Beck at (661) 654-7141 if there are questions.

Sincerely,



Donald Puckett
General Manager - Operations

APPENDIX F
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: C-311-254-0

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

LOCATION: HEAVY OIL PRODUCTION
UTM 10S 734,027E 4,007,848N COALINGA
FRESNO COUNTY, CA 93210

SECTION: SW6 TOWNSHIP: 20S RANGE: 15E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR SG-6-1X WITH NORTH AMERICAN MODEL 4231-85 GLE LOW-NOX BURNER, OR EQUIVALENT, AND FLUE GAS RECIRCULATION

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 Rule 2201] 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. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2373 lb, 2nd quarter - 2373 lb, 3rd quarter - 2373 lb, and fourth quarter - 2373 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-6950 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 2080, 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

Arnaud Marjolle, Director of Permit Services
C-311-254-0: Exp 25 2014 7:11AM - TORID - Final Inspection NOT Required

4. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1,927 lb, 2nd quarter - 1,927 lb, 3rd quarter - 1,927 lb, and fourth quarter - 1,927 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below [District Rule 2201] Federally Enforceable Through Title V Permit
5. ERC Certificate Numbers S-3735-2 and S-2456-2 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 796 lb, 2nd quarter - 796 lb, 3rd quarter - 796 lb, and fourth quarter - 796 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 646 lb, 2nd quarter - 646 lb, 3rd quarter - 646 lb, and fourth quarter - 646 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule] Federally Enforceable Through Title V Permit
8. ERC Certificate Numbers S-2934-5 and S-3082-5 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 894 lb, 2nd quarter - 894 lb, 3rd quarter - 894 lb, and fourth quarter - 894 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 725 lb, 2nd quarter - 725 lb, 3rd quarter - 725 lb, and fourth quarter - 725 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
11. ERC Certificate Numbers S3082-5 and S-4200-5 (or a certificate split from these certificates) shall be used to supply the required PM10 offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1536 lb, 2nd quarter - 1536 lb, 3rd quarter - 1536 lb, and fourth quarter - 1536 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,247 lb, 2nd quarter - 1,247 lb, 3rd quarter - 1,247 lb, and fourth quarter - 1,247 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

14. ERC Certificate Numbers S-3722-1 (or a certificate split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
15. This Authority to Construct authorizes the installation of an 85 MMBtu/hr North American GLE burner or a 69 MMBtu/hr North American GLE burner, or equivalent. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
17. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
19. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
20. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
21. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
22. 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
23. The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
24. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Emission rates, except during startup and shutdown shall not exceed: NO_x (as NO_x): 7 ppmvd @ 3% O₂ or CO: 25 ppmvd @ 3% O₂ [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Emission rates shall not exceed any of the following: SO_x: 0.00285 lb/MMBtu; PM₁₀: 0.0032 lb/MMBtu; or VOC: 0.0055 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
27. (If 85 MMBtu/hr burner installed use this condition.) Emissions rates shall not exceed 48.5 lb-NO_x/day or 6,329 lb-NO_x/yr; or 60.4 lb-CO/day or 13,775 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. (If 69 MMBtu/hr burner installed use this condition.) Emissions rates shall not exceed 37.3 lb-NO_x/day or 5,137 lb-NO_x/yr; or 53.1 lb-CO/day or 11,182 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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 4320] Federally Enforceable Through Title V Permit
30. A source test to demonstrate compliance with NO_x, CO and VOC emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
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 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
34. 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, VOC (ppmv) - EPA Method 25A or 25B, or ARB Method 100. [District Rule 2201, 4305, 4306, 4320] 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, 4306 and 4320] Federally Enforceable Through Title V Permit
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
37. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
39. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] 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 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] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

41. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, 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. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
42. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
43. 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] Federally Enforceable Through Title V Permit
44. 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] Federally Enforceable Through Title V Permit
45. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
46. 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] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-255-0

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

LOCATION: HEAVY OIL PRODUCTION
UTM 10S 734,027E 4,007,848N COALINGA
FRESNO COUNTY, CA 93210

SECTION: SW6 TOWNSHIP: 20S RANGE: 15E

EQUIPMENT DESCRIPTION:
85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR SG-6-1X WITH NORTH AMERICAN MODEL 4231-85 GLE
LOW-NOX BURNER, OR EQUIVALENT, AND FLUE GAS RECIRCULATION

ISSUANCE DATE: DRAFT
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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 Rule 2201] 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. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2373 lb, 2nd quarter - 2373 lb, 3rd quarter - 2373 lb, and fourth quarter - 2373 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadradin, Executive Director, APOO

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Arnaud Marjolle, Director of Permit Services

C-311-255-0 - Sep 25 2014, 3:11 PM - TORID - Joint Inspection NOT Required

4. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1,927 lb, 2nd quarter - 1,927 lb, 3rd quarter - 1,927 lb, and fourth quarter - 1,927 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below [District Rule 2201] Federally Enforceable Through Title V Permit
5. ERC Certificate Numbers S-3735-2 and S-2456-2 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 796 lb, 2nd quarter - 796 lb, 3rd quarter - 796 lb, and fourth quarter - 796 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 646 lb, 2nd quarter - 646 lb, 3rd quarter - 646 lb, and fourth quarter - 646 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule] Federally Enforceable Through Title V Permit
8. ERC Certificate Numbers S-2934-5 and S-3082-5 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 894 lb, 2nd quarter - 894 lb, 3rd quarter - 894 lb, and fourth quarter - 894 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 725 lb, 2nd quarter - 725 lb, 3rd quarter - 725 lb, and fourth quarter - 725 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
11. ERC Certificate Numbers S3082-5 and S-4200-5 (or a certificate split from these certificates) shall be used to supply the required PM10 offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1536 lb, 2nd quarter - 1536 lb, 3rd quarter - 1536 lb, and fourth quarter - 1536 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,247 lb, 2nd quarter - 1,247 lb, 3rd quarter - 1,247 lb, and fourth quarter - 1,247 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

14. ERC Certificate Numbers S-3722-1(or a certificate split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
15. This Authority to Construct authorizes the installation of an 85 MMBtu/hr North American GLE burner or a 69 MMBtu/hr North American GLE burner, or equivalent. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
17. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
19. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
20. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
21. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
22. 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.
23. The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
24. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Emission rates, except during startup and shutdown shall not exceed: NO_x (as NO_x): 7 ppmvd @ 3% O₂ or CO: 25 ppmvd @ 3% O₂ [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Emission rates shall not exceed any of the following: SO_x:0.00285 lb/MMBtu; PM₁₀: 0.0032 lb/MMBtu; or VOC: 0.0055 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
27. (If 85 MMBtu/hr burner installed use this condition.) Emissions rates shall not exceed 48.5 lb-NO_x/day or 6,329 lb-NO_x/yr; or 60.4 lb-CO/day or 13,775 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. (If 69 MMBtu/hr burner installed use this condition.) Emissions rates shall not exceed 37.3 lb-NO_x/day or 5,137 lb-NO_x/yr; or 53.1 lb-CO/day or 11,182 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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 4320] Federally Enforceable Through Title V Permit
30. A source test to demonstrate compliance with NO_x, CO and VOC emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
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 2201, 4305, 4306 and 4320] 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; SOx - 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, VOC (ppmv) - EPA Method 25A or 25B, or ARB Method 100. [District Rule 2201, 4305, 4306, 4320] 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, 4306 and 4320] Federally Enforceable Through Title V Permit
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
37. 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 analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. If the NOx or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
39. All NOx, CO, and O2 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 NOx, CO, and O2 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 sample 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 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
40. The permittee shall maintain records of: (1) the date and time of NOx, CO and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

41. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, 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. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
42. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
43. 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] Federally Enforceable Through Title V Permit
44. 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] Federally Enforceable Through Title V Permit
45. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
46. 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] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District Inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-256-0

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

LOCATION: HEAVY OIL PRODUCTION
UTM 10S 734,027E 4,007,848N COALINGA
FRESNO COUNTY, CA 93210

SECTION: SW6 TOWNSHIP: 20S RANGE: 16E

EQUIPMENT DESCRIPTION:
85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR SG-8-1X WITH NORTH AMERICAN MODEL 4231-85 GLE
LOW-NOX BURNER, OR EQUIVALENT, AND FLUE GAS RECIRCULATION

ISSUANCE DATE: DRAFT
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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 Rule 2201] 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. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2373 lb, 2nd quarter - 2373 lb, 3rd quarter - 2373 lb, and fourth quarter - 2373 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2080, 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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Arnaud Marjolle, Director of Permit Services
C-311-256-0; Sep 26 2011 7:48 AM - TORID - Joint Inspection NOT Required

4. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1,927 lb, 2nd quarter - 1,927 lb, 3rd quarter - 1,927 lb, and fourth quarter - 1,927 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below [District Rule 2201] Federally Enforceable Through Title V Permit
5. ERC Certificate Numbers S-3735-2 and S-2456-2 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 796 lb, 2nd quarter - 796 lb, 3rd quarter - 796 lb, and fourth quarter - 796 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 646 lb, 2nd quarter - 646 lb, 3rd quarter - 646 lb, and fourth quarter - 646 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule] Federally Enforceable Through Title V Permit
8. ERC Certificate Numbers S-2934-5 and S-3082-5 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 894 lb, 2nd quarter - 894 lb, 3rd quarter - 894 lb, and fourth quarter - 894 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 725 lb, 2nd quarter - 725 lb, 3rd quarter - 725 lb, and fourth quarter - 725 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
11. ERC Certificate Numbers S3082-5 and S-4200-5 (or a certificate split from these certificates) shall be used to supply the required PM10 offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1536 lb, 2nd quarter - 1536 lb, 3rd quarter - 1536 lb, and fourth quarter - 1536 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,247 lb, 2nd quarter - 1,247 lb, 3rd quarter - 1,247 lb, and fourth quarter - 1,247 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

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14. ERC Certificate Numbers S-3722-1 (or a certificate split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public notice requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
15. This Authority to Construct authorizes the installation of an 85 MMBtu/hr North American GLE burner or a 69 MMBtu/hr North American GLE burner, or equivalent. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
17. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
19. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
20. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
21. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
22. 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
23. The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
24. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Emission rates, except during startup and shutdown shall not exceed: NO_x (as NO_x): 7 ppmvd @ 3% O₂ or CO: 25 ppmvd @ 3% O₂ [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Emission rates shall not exceed any of the following: SO_x: 0.00285 lb/MMBtu; PM₁₀: 0.0032 lb/MMBtu; or VOC: 0.0055 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
27. (If 85 MMBtu/hr burner installed use this condition.) Emissions rates shall not exceed 48.5 lb-NO_x/day or 6,329 lb-NO_x/yr; or 60.4 lb-CO/day or 13,775 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. (If 69 MMBtu/hr burner installed use this condition.) Emissions rates shall not exceed 37.3 lb-NO_x/day or 5,137 lb-NO_x/yr; or 53.1 lb-CO/day or 11,182 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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 4320] Federally Enforceable Through Title V Permit
30. A source test to demonstrate compliance with NO_x, CO and VOC emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
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 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
34. 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, VOC (ppmv) - EPA Method 25A or 25B, or ARB Method 100. [District Rule 2201, 4305, 4306, 4320] 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, 4306 and 4320] Federally Enforceable Through Title V Permit
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
37. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
39. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] 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 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] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

41. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, 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. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
42. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
43. 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] Federally Enforceable Through Title V Permit
44. 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] Federally Enforceable Through Title V Permit
45. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
46. 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] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-257-0

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

LOCATION: HEAVY OIL PRODUCTION
UTM 10S 734,027E 4,007,848N COALINGA
FRESNO COUNTY, CA 93210

SECTION: SW8 TOWNSHIP: 20S RANGE: 16E

EQUIPMENT DESCRIPTION:
85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR SG-6-1X WITH NORTH AMERICAN MODEL 4231-85 GLE
LOW-NOX BURNER, OR EQUIVALENT, AND FLUE GAS RECIRCULATION

ISSUANCE DATE: DRAFT
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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 Rule 2201] 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. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2373 lb, 2nd quarter - 2373 lb, 3rd quarter - 2373 lb, and fourth quarter - 2373 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCD

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Arnaud Marjelle, Director of Permit Services

C-311-257-0, Sep 26 2011 7:18AM - TORO - Joint Inspection NOT Required

4. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1,927 lb, 2nd quarter - 1,927 lb, 3rd quarter - 1,927 lb, and fourth quarter - 1,927 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below [District Rule 2201] Federally Enforceable Through Title V Permit
5. ERC Certificate Numbers S-3735-2 and S-2456-2 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 796 lb, 2nd quarter - 796 lb, 3rd quarter - 796 lb, and fourth quarter - 796 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 646 lb, 2nd quarter - 646 lb, 3rd quarter - 646 lb, and fourth quarter - 646 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule] Federally Enforceable Through Title V Permit
8. ERC Certificate Numbers S-2934-5 and S-3082-5 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 894 lb, 2nd quarter - 894 lb, 3rd quarter - 894 lb, and fourth quarter - 894 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 725 lb, 2nd quarter - 725 lb, 3rd quarter - 725 lb, and fourth quarter - 725 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
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12. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1536 lb, 2nd quarter - 1536 lb, 3rd quarter - 1536 lb, and fourth quarter - 1536 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,247 lb, 2nd quarter - 1,247 lb, 3rd quarter - 1,247 lb, and fourth quarter - 1,247 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

14. ERC Certificate Numbers S-3722-1 (or a certificate split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
15. This Authority to Construct authorizes the installation of an 85 MMBtu/hr North American GLE burner or a 69 MMBtu/hr North American GLE burner, or equivalent. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
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18. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
19. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
20. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
21. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
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24. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Emission rates, except during startup and shutdown shall not exceed: NO_x (as NO_x): 7 ppmvd @ 3% O₂ or CO: 25 ppmvd @ 3% O₂ [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
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29. 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 4320] Federally Enforceable Through Title V Permit
30. A source test to demonstrate compliance with NO_x, CO and VOC emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
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 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
34. 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, VOC (ppmv) - EPA Method 25A or 25B, or ARB Method 100. [District Rule 2201, 4305, 4306, 4320] 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, 4306 and 4320] Federally Enforceable Through Title V Permit
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
37. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
39. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] 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 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] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

41. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, 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. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
42. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
43. 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] Federally Enforceable Through Title V Permit
44. 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] Federally Enforceable Through Title V Permit
45. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
46. 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] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-258-0

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

LOCATION: HEAVY OIL PRODUCTION
UTM 10S 734,027E 4,007,848N COALINGA
FRESNO COUNTY, CA 93210

SECTION: SW6 TOWNSHIP: 20S RANGE: 16E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR SG-6-1X WITH NORTH AMERICAN MODEL 4231-86 GLE LOW-NOX BURNER, OR EQUIVALENT, AND FLUE GAS RECIRCULATION

ISSUANCE DATE: DRAFT

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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 Rule 2201] 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. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2373 lb, 2nd quarter - 2373 lb, 3rd quarter - 2373 lb, and fourth quarter - 2373 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-6960 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

Arnaud Marjolla, Director of Permit Services

C-311-258-0; Sep 25, 2014 7:18AM - TORID - Joint Inspection NOT Required

4. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1,927 lb, 2nd quarter - 1,927 lb, 3rd quarter - 1,927 lb, and fourth quarter - 1,927 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below [District Rule 2201] Federally Enforceable Through Title V Permit
5. ERC Certificate Numbers S-3735-2 and S-2456-2 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 796 lb, 2nd quarter - 796 lb, 3rd quarter - 796 lb, and fourth quarter - 796 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 646 lb, 2nd quarter - 646 lb, 3rd quarter - 646 lb, and fourth quarter - 646 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule] Federally Enforceable Through Title V Permit
8. ERC Certificate Numbers S-2934-5 and S-3082-5 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 894 lb, 2nd quarter - 894 lb, 3rd quarter - 894 lb, and fourth quarter - 894 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 725 lb, 2nd quarter - 725 lb, 3rd quarter - 725 lb, and fourth quarter - 725 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
11. ERC Certificate Numbers S3082-5 and S-4200-5 (or a certificate split from these certificates) shall be used to supply the required PM10 offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1536 lb, 2nd quarter - 1536 lb, 3rd quarter - 1536 lb, and fourth quarter - 1536 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,247 lb, 2nd quarter - 1,247 lb, 3rd quarter - 1,247 lb, and fourth quarter - 1,247 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

14. ERC Certificate Numbers S-3722-1 (or a certificate split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
15. This Authority to Construct authorizes the installation of an 85 MMBtu/hr North American GLE burner or a 69 MMBtu/hr North American GLE burner, or equivalent. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
17. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
19. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
20. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
21. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
22. 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
23. The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
24. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Emission rates, except during startup and shutdown shall not exceed: NO_x (as NO_x): 7 ppmvd @ 3% O₂ or CO: 25 ppmvd @ 3% O₂ [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Emission rates shall not exceed any of the following: SO_x: 0.00285 lb/MMBtu; PM₁₀: 0.0032 lb/MMBtu; or VOC: 0.0055 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
27. (If 85 MMBtu/hr burner installed use this condition.) Emissions rates shall not exceed 48.5 lb-NO_x/day or 6,329 lb-NO_x/yr; or 60.4 lb-CO/day or 13,775 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. (If 69 MMBtu/hr burner installed use this condition.) Emissions rates shall not exceed 37.3 lb-NO_x/day or 5,137 lb-NO_x/yr; or 53.1 lb-CO/day or 11,182 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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 4320] Federally Enforceable Through Title V Permit
30. A source test to demonstrate compliance with NO_x, CO and VOC emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
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 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
34. 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, VOC (ppmv) - EPA Method 25A or 25B, or ARB Method 100. [District Rule 2201, 4305, 4306, 4320] 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, 4306 and 4320] Federally Enforceable Through Title V Permit
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
37. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
39. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] 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 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] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

41. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, 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. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
42. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
43. 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] Federally Enforceable Through Title V Permit
44. 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] Federally Enforceable Through Title V Permit
45. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
46. 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] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: C-311-259-0

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

LOCATION: HEAVY OIL PRODUCTION
UTM 10S 734,027E 4,007,848N COALINGA
FRESNO COUNTY, CA 93210

SECTION: SW6 TOWNSHIP: 20S RANGE: 15E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR SG-6-1X WITH NORTH AMERICAN MODEL 4231-85 GLE LOW-NOX BURNER, OR EQUIVALENT, AND FLUE GAS RECIRCULATION

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 Rule 2201] 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. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2373 lb, 2nd quarter - 2373 lb, 3rd quarter - 2373 lb, and fourth quarter - 2373 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2080, 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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Arnaud Marjolle, Director of Permit Services

C-311-259-0: Rep 28 2014 7:18AM - TORID: Joint Inspection NOT Required

4. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1,927 lb, 2nd quarter - 1,927 lb, 3rd quarter - 1,927 lb, and fourth quarter - 1,927 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below [District Rule 2201] Federally Enforceable Through Title V Permit
5. ERC Certificate Numbers S-3735-2 and S-2456-2 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 796 lb, 2nd quarter - 796 lb, 3rd quarter - 796 lb, and fourth quarter - 796 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 646 lb, 2nd quarter - 646 lb, 3rd quarter - 646 lb, and fourth quarter - 646 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule] Federally Enforceable Through Title V Permit
8. ERC Certificate Numbers S-2934-5 and S-3082-5 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 894 lb, 2nd quarter - 894 lb, 3rd quarter - 894 lb, and fourth quarter - 894 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 725 lb, 2nd quarter - 725 lb, 3rd quarter - 725 lb, and fourth quarter - 725 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
11. ERC Certificate Numbers S3082-5 and S-4200-5 (or a certificate split from these certificates) shall be used to supply the required PM10 offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1536 lb, 2nd quarter - 1536 lb, 3rd quarter - 1536 lb, and fourth quarter - 1536 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,247 lb, 2nd quarter - 1,247 lb, 3rd quarter - 1,247 lb, and fourth quarter - 1,247 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

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14. ERC Certificate Numbers S-3722-1(or a certificate split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
15. This Authority to Construct authorizes the installation of an 85 MMBtu/hr North American GLE burner or a 69 MMBtu/hr North American GLE burner, or equivalent. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
17. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
19. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
20. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
21. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
22. 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
23. The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
24. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules: 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Emission rates, except during startup and shutdown shall not exceed: NO_x (as NO_x): 7 ppmvd @ 3% O₂ or CO: 25 ppmvd @ 3% O₂ [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Emission rates shall not exceed any of the following: SO_x: 0.00285 lb/MMBtu; PM10: 0.0032 lb/MMBtu; or VOC: 0.0055 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
27. (If 85 MMBtu/hr burner installed use this condition.) Emissions rates shall not exceed 48.5 lb-NO_x/day or 6,329 lb-NO_x/yr; or 60.4 lb-CO/day or 13,775 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. (If 69 MMBtu/hr burner installed use this condition.) Emissions rates shall not exceed 37.3 lb-NO_x/day or 5,137 lb-NO_x/yr; or 53.1 lb-CO/day or 11,182 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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 4320] Federally Enforceable Through Title V Permit
30. A source test to demonstrate compliance with NO_x, CO and VOC emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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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 (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
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 2201, 4305, 4306 and 4320] 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; SOx - 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, VOC (ppmv) - EPA Method 25A or 25B, or ARB Method 100. [District Rule 2201, 4305, 4306, 4320] 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, 4306 and 4320] Federally Enforceable Through Title V Permit
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
37. 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 analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. If the NOx or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
39. All NOx, CO, and O2 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 NOx, CO, and O2 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 sample 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 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
40. The permittee shall maintain records of: (1) the date and time of NOx, CO and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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41. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, 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. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
42. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
43. 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] Federally Enforceable Through Title V Permit
44. 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] Federally Enforceable Through Title V Permit
45. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
46. 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] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
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PERMIT NO: C-311-260-0

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

LOCATION: HEAVY OIL PRODUCTION
UTM 10S 734,027E 4,007,848N COALINGA
FRESNO COUNTY, CA 93210

SECTION: SW8 TOWNSHIP: 20S RANGE: 15E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR SG-8-1X WITH NORTH AMERICAN MODEL 4231-85 GLE LOW-NOX BURNER, OR EQUIVALENT, AND FLUE GAS RECIRCULATION

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 Rule 2201] 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. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2373 lb, 2nd quarter - 2373 lb, 3rd quarter - 2373 lb, and fourth quarter - 2373 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5956 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Sayed Sadredin, Executive Director APCO

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Arnaud Marjolis, Director of Permit Services

C-311-260-0: Sep 23 2014 7:18AM - TORID: Joint Inspection NOT Required

4. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1,927 lb, 2nd quarter - 1,927 lb, 3rd quarter - 1,927 lb, and fourth quarter - 1,927 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below [District Rule 2201] Federally Enforceable Through Title V Permit
5. ERC Certificate Numbers S-3735-2 and S-2456-2 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 796 lb, 2nd quarter - 796 lb, 3rd quarter - 796 lb, and fourth quarter - 796 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 646 lb, 2nd quarter - 646 lb, 3rd quarter - 646 lb, and fourth quarter - 646 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule] Federally Enforceable Through Title V Permit
8. ERC Certificate Numbers S-2934-5 and S-3082-5 (or a certificate split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 894 lb, 2nd quarter - 894 lb, 3rd quarter - 894 lb, and fourth quarter - 894 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 725 lb, 2nd quarter - 725 lb, 3rd quarter - 725 lb, and fourth quarter - 725 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
11. ERC Certificate Numbers S3082-5 and S-4200-5 (or a certificate split from these certificates) shall be used to supply the required PM10 offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Prior to operating equipment under this Authority to Construct, with a 85 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1536 lb, 2nd quarter - 1536 lb, 3rd quarter - 1536 lb, and fourth quarter - 1536 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Prior to operating equipment under this Authority to Construct, with a 69 MMBtu/hr burner, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,247 lb, 2nd quarter - 1,247 lb, 3rd quarter - 1,247 lb, and fourth quarter - 1,247 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

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14. ERC Certificate Numbers S-3722-1 (or a certificate split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
15. This Authority to Construct authorizes the installation of an 85 MMBtu/hr North American GLE burner or a 69 MMBtu/hr North American GLE burner, or equivalent. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
17. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
19. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
20. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
21. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
22. 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
23. The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
24. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Emission rates, except during startup and shutdown shall not exceed: NO_x (as NO_x): 7 ppmvd @ 3% O₂ or CO: 25 ppmvd @ 3% O₂ [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Emission rates shall not exceed any of the following: SO_x: 0.00285 lb/MMBtu; PM₁₀: 0.0032 lb/MMBtu; or VOC: 0.0055 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
27. (If 85 MMBtu/hr burner installed use this condition.) Emissions rates shall not exceed 48.5 lb-NO_x/day or 6,329 lb-NO_x/yr; or 60.4 lb-CO/day or 13,775 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. (If 69 MMBtu/hr burner installed use this condition.) Emissions rates shall not exceed 37.3 lb-NO_x/day or 5,137 lb-NO_x/yr; or 53.1 lb-CO/day or 11,182 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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 4320] Federally Enforceable Through Title V Permit
30. A source test to demonstrate compliance with NO_x, CO and VOC emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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31. 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 (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
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 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
34. 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, VOC (ppmv) - EPA Method 25A or 25B, or ARB Method 100. [District Rule 2201, 4305, 4306, 4320] 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, 4306 and 4320] Federally Enforceable Through Title V Permit
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
37. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
39. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] 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 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] Federally Enforceable Through Title V Permit

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41. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, 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. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
42. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
43. 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] Federally Enforceable Through Title V Permit
44. 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] Federally Enforceable Through Title V Permit
45. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
46. 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] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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