



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



NOV 25 2014

Mr. Gregory Pritchett
Chevron U.S.A, Inc.
PO Box 1392
Bakersfield, CA 93302

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1131
Project # S-1140568

Dear Mr. Pritchett:

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. The project consists of six new steam generators.

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:WJ/st

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
Install Six New Steam Generators

Facility Name: Chevron U.S.A., Inc. Date: 11/19/14
Mailing Address: P.O. Box 1392, Bakersfield, CA Engineer: William Jones
93302 Lead Engineer: Allan Philips *ASURR AGE*

Contact Person: Kris Rickards

Telephone: 661-654-7796

NOV 20 2014

Fax:

E-Mail: Kristopher.Rickards@chevron.com

Application #(s): S-1131-1134-0, '-1135-0, '-1136-0, '-1137-0, '-1138-0, and '-1139-0

Project #: S-1140568

Deemed Complete: 3/3/14

I. Proposal

Chevron U.S.A., Inc. (Chevron) has requested an Authority to Construct (ATC) permit for the installation of five new 85.0 MMBtu/hr. natural gas-fired steam generators, in addition to relocating an existing 62.5 MMBtu/hr. gas-fired steam generator S-2010-288-0 from Chevron facility S-2010 to S-1131 Kern River Oil Field. The proposed units will be allowed to operate at multiple specified locations within the Chevron Kern River Oil Field, Facility S-1131.

Chevron has requested a 60-day "initial commissioning" period. The initial commission period, proposed in this project, is that one-time group of tuning and adjustment procedures that is necessary for the all newly constructed steam generators that begins at first firing and ends with the unit having demonstrated the contracted for performance and emissions specifications, not to exceed 135 hours of actual burner operation. A periodic refractory curing period is the time required to gradually increase the firing rate and internal temperature of a unit to thermally temper and set the optimal properties of new refractory material, not to exceed 30 hours total of actual burner operation per occurrence.

The proposed steam generators will trigger Best Available Control Technology (BACT), offsets, and public notice.

Chevron received their Title V Permit on December 31, 2002. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Chevron must apply to administratively amend their Title V permit.

The draft ATC(s) are included in **Appendix A.**

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4304	Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters (10/19/95)
Rule 4305	Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase III (10/16/08)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr. (10/16/08)
Rule 4351	Boilers, Steam Generators and Process Heaters – Phase 1 (8/21/03)
Rule 4406	Sulfur Compounds From Oil-Field Steam Generators – Kern County (12/17/92)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)	
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines	

III. Project Location

The proposed equipment will be allowed to operate at the following three locations:

- SE ¼, Section 25, Township 28E, Range 27E (Fee A lease)
- SE ¼, Section 13, Township 28E, Range 28E (Angus Lease)
- SE ¼, Section 31, Township 28E, Range 28E (ANO Lease)

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

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

V. Equipment Listing

New Equipment Description:

- S-1131-1134-0: 85 MMBTU/HR. NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL 4231-85-GLE LOW-NOX BURNER ASSEMBLY, OR EQUIVALENT LOW-NOX BURNER, WITH FLUE GAS RECIRCULATION, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS
- S-1131-1135-0: 85 MMBTU/HR. NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL 4231-85-GLE LOW-NOX BURNER ASSEMBLY, OR EQUIVALENT LOW-NOX BURNER, WITH FLUE GAS RECIRCULATION, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS
- S-1131-1136-0: 85 MMBTU/HR. NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL 4231-85-GLE LOW-NOX BURNER ASSEMBLY, OR EQUIVALENT LOW-NOX BURNER, WITH FLUE GAS RECIRCULATION, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS
- S-1131-1137-0: 85 MMBTU/HR. NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL 4231-85-GLE LOW-NOX BURNER ASSEMBLY, OR EQUIVALENT LOW-NOX BURNER, WITH FLUE GAS RECIRCULATION, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS
- S-1131-1138-0: 85 MMBTU/HR. NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL 4231-85-GLE LOW-NOX BURNER ASSEMBLY, OR EQUIVALENT LOW-NOX BURNER, WITH FLUE GAS RECIRCULATION, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS
- S-1131-1139-0: 62.5 MMBTU/HR. NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL 4231-85-GLE LOW-NOX BURNER ASSEMBLY, OR EQUIVALENT LOW-NOX BURNER, WITH FLUE GAS RECIRCULATION, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

VI. Emission Control Technology Evaluation

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

NO_x is the major pollutant of concern when burning natural gas. NO_x formation is either due to thermal fixation of atmospheric nitrogen in the combustion air (thermal NO_x) or due to conversion of chemically bound nitrogen in the fuel (fuel NO_x). Due to the low fuel nitrogen content of natural gas, nearly all NO_x emissions are thermal NO_x. Formation of thermal NO_x is affected by four

furnace zone factors: (1) nitrogen concentration, (2) oxygen concentration, (3) peak temperature, and (4) time of exposure at peak temperature.

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

VII. General Calculations

A. Assumptions

- The maximum operating schedule is 24 hours per day (per applicant)
- Steam generators are fired solely on natural gas (limited to 1 gr-S/100 dscf, per applicant)
- Maximum Heat Input: 85.0 MMBtu/hr. for units S-1131-1134-0, '-1135-0, '-1136-0, '-1137-0, and '-1138-0. (per applicant)
- Maximum Heat Input: 62.5.0 MMBtu/hr. for unit S-1131-1139-0. (per applicant)
- Annual potential to emit is calculated based on 8,760 hours of operation per year
- EPA F-factor for natural gas is 8,578 dscf/MMBtu (40 CFR 60, Appendix B)
- Molar Specific Volume of a gas @ 60 °F is 379.5 ft³/lb-mol
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice)
- The applicant and the District concur that emissions during initial commissioning will exceed 2.0 lb./day for all air contaminants, thus BACT for initial commissioning is required.

B. Emission Factors

Pollutant	Emission Factors (EF)		Source
NO _x	0.008 lb.-NO _x /MMBtu	7 ppmv NO _x (@ 3%O ₂)	Rule 4320, Table 1 Category C.2.a
SO _x	0.00285 lb. SO _x /MMBtu	1 gr-S/100 dscf	Applicant Proposed (PUC Quality Gas)
PM ₁₀	0.003 lb-PM ₁₀ /MMBtu	- -	Applicant Proposed*
PM _{2.5}	0.003 lb-PM _{2.5} /MMBtu	- -	AP-42 Table 1.4-2, Footnote c**
CO	0.018 lb.-CO/MMBtu	25 ppmv CO (@3% O ₂)	Burner Manufacturer
VOC	0.0055 lb.-VOC/MMBtu	- -	AP-42 (07/98) Table 1.4-2

*Factor used is based on startup emissions source testing of Kern Front Units S-1326-385 and '-390

**According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

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)

Emissions are calculated with the following equation and summarized on the following table (emissions are identical for each steam generator):

$$PE2 = EF \text{ (lb./MMBtu)} \times \text{Heat Input (MMBtu)} \times \text{Operating Schedule (hours)}$$

Units S-1131-1134 through '1138 Emissions:

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.008	85	24	16.3
SO _x	0.00285	85	24	5.8
PM ₁₀	0.003	85	24	6.1
CO	0.018	85	24	36.7
VOC	0.0055	85	24	11.2

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	85	8,760	5,957
SO _x	0.00285	85	8,760	2,122
PM ₁₀	0.003	85	8,760	2,234
CO	0.018	85	8,760	13,403
VOC	0.0055	85	8,760	4,095

Unit S-1131-1139-0 Emissions:

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.008	62.5	24	12.0
SO _x	0.00285	62.5	24	4.3
PM ₁₀	0.003	62.5	24	4.5
CO	0.018	62.5	24	27.0
VOC	0.0055	62.5	24	8.3

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	62.5	8,760	4,380
SO _x	0.00285	62.5	8,760	1,560
PM ₁₀	0.003	62.5	8,760	1,643
CO	0.018	62.5	8,760	9,855
VOC	0.0055	62.5	8,760	3,011

Summary Daily PE2						
Unit	Pollutant Lb./Day					
	NO _x	VOC	SO _x	CO	PM	PM ₁₀
S-1131-1134-0	16.3	11.2	5.8	36.7	6.1	6.1
S-1131-1135-0	16.3	11.2	5.8	36.7	6.1	6.1
S-1131-1136-0	16.3	11.2	5.8	36.7	6.1	6.1
S-1131-1137-0	16.3	11.2	5.8	36.7	6.1	6.1
S-1131-1138-0	16.3	11.2	5.8	36.7	6.1	6.1
S-1131-1139-0	12.0	8.3	4.3	27.0	4.5	4.5

Summary Annual PE2						
Unit	Pollutant Lb./Year					
	NOx	VOC	SOx	CO	PM	PM ₁₀
S-1131-1134-0	5,957	4,095	2,122	13,403	2,234	2,234
S-1131-1135-0	5,957	4,095	2,122	13,403	2,234	2,234
S-1131-1136-0	5,957	4,095	2,122	13,403	2,234	2,234
S-1131-1137-0	5,957	4,095	2,122	13,403	2,234	2,234
S-1131-1138-0	5,957	4,095	2,122	13,403	2,234	2,234
S-1131-1139-0	4,380	3,011	1,560	9,855	1,643	1,643

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 VOC emissions; therefore, SSPE1 calculations are not necessary.

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

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

Since facility emissions are already above the Offset and Major Source Thresholds for VOC emissions, SSPE2 calculations are not necessary.

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)

- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

This source is an existing Major Source for NO_x, SO_x, PM₁₀, CO and VOC emissions and will remain a Major Source for NO_x, SO_x, PM₁₀, CO and VOC.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not 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)						
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀
Estimated Facility PE before Project Increase	>250	>250	>250	>250	>250	>250
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	Y	Y	Y	Y	Y	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 these steam generators are new emissions units, 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 source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the SB 288 Major Modification calculation.

Therefore this project is not an SB 288 Major Modification.

Since this facility is a major source for NO_x, VOC, PM₁₀, or SO_x 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	34,165	50,000	No
SO _x	12,170	80,000	No
PM ₁₀	12,813	30,000	No
VOC	23,486	50,000	No

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.

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the Federal Major Modification determination.

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 *	34,165	0	Yes
VOC*	23,486	0	Yes
PM ₁₀	12,813	30,000	No
PM _{2.5}	12,813	20,000	No
SO _x	12,170	80,000	No

*If there is any emission increases in NO_x or VOC, this project is a Federal Major Modification and no further analysis is required.

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

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

Rule 2410 applies to pollutants for which the District is in attainment or for unclassified, pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

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

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source or not (See Section VII.C.5 of this document).

In the case the facility is an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project results in a PSD significant increase.

In the case the facility is NOT an existing PSD Major Source but is an existing source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

In the case the facility is new source, the second step of the PSD evaluation is to determine if this new facility will become a new PSD major Source as a result of the project and if so, to determine which pollutant will result in a PSD significant increase.

I. Project Location Relative to Class 1 Area

As demonstrated in the "PSD Major Source Determination" Section above, the facility was determined to be a 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	17.1	6.1	38.4	6.4	6.4
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 E**.

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 AIPE 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, Chevron is proposing to install five new steam generators 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 SSPE2 for CO is greater than 200,000 lb. /year.

b. Relocation of emissions units – PE > 2 lb. /day

As discussed in Section I above, there is an emissions unit being relocated from one stationary source to another and as seen in Section VII.C.2 above, the emissions unit has a PE greater than 2 lb./day for NO_x, SO_x, PM₁₀, CO, and VOC. Therefore, BACT is triggered for NO_x, SO_x, PM₁₀, VOC and CO only since the PEs are greater than 2 lb./day. since the SSPE2 for CO is greater than 200,000 lb./year, as demonstrated in Section VII.C.5 above.

c. Modification of emissions units – AIPE > 2 lb. /day

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Section VII.C.8 above, this project does constitute a Major Federal Modification for NO_x and VOC emissions; therefore, BACT is triggered for NO_x and VOC.

2. BACT Guideline

Please note that BACT Guideline 1.2.1 [Steam Generator (≥ 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; therefore a project specific BACT analysis will be performed to determine BACT for this project. More details regarding this are provided in **Appendix B**.

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 B**), BACT has been satisfied with the following:

NO_x: 7 ppmvd @ 3% O₂
SO_x: Fired on PUC quality natural gas
PM₁₀: Fired on PUC quality natural gas
CO: 25 ppmvd @ 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
SSPE2	>20,000	>54,750	>29,200	>200,000	>20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Y	Y	Y	Y	Y

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for SO_x, PM₁₀, CO, VOC, and NO_x. Therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year for NO_x, SO_x, PM₁₀, CO, and VOC 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) = (Σ[PE2 – BE] + ICCE) x 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 six new emissions units; therefore BE = 0. Also, there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

Unit S-1131-1139-0 VOC emissions:

This unit is being transferred from facility S-2010, where offsets were originally provided for VOC emissions. Per section 4.6.7 of District Rule 2201, offsets are not required VOC emission emitted from this unit.

Units S-1131-1134 through -1139:

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

ICCE = 0 lb./year (for all units)

PE2 Post Project Potential to Emit, (lb./year)					
Unit No.	Pollutant				
	NOx	VOC	SOx	CO	PM
S-1131-1134-0	5,957	4,095	2,122	13,403	2,234
S-1131-1135-0	5,957	4,095	2,122	13,403	2,234
S-1131-1136-0	5,957	4,095	2,122	13,403	2,234
S-1131-1137-0	5,957	4,095	2,122	13,403	2,234
S-1131-1138-0	5,957	4,095	2,122	13,403	2,234
S-1131-1139-0	4,380	3,011	1,560	9,855	1,643

BE Baseline Emissions, (lb./year)	
Unit No.	Pollutant

	NO _x	VOC	SO _x	CO	PM
S-1131-1134-0	0	0	0	0	0
S-1131-1135-0	0	0	0	0	0
S-1131-1136-0	0	0	0	0	0
S-1131-1137-0	0	0	0	0	0
S-1131-1138-0	0	0	0	0	0
S-1131-1139-0	0	3,011	0	0	0

Offsets Required [PE2 – BE] (lb./yr.)					
Unit No.	Pollutant				
	NO _x	VOC	SO _x	CO	PM
S-1131-1134-0	5,957	4,095	2,122	13,403	2,234
S-1131-1135-0	5,957	4,095	2,122	13,403	2,234
S-1131-1136-0	5,957	4,095	2,122	13,403	2,234
S-1131-1137-0	5,957	4,095	2,122	13,403	2,234
S-1131-1138-0	5,957	4,095	2,122	13,403	2,234
S-1131-1139-0	4,380	0	1,560	9,855	1,643
Total	34,165	20,477	12,170	76,870	12,813

As demonstrated in the preceding calculation:

For units S-1131-1134-0, '-1135-0, '-1136-0, '-1137-0, and '-1138-0:

- NO_x, PM₁₀, SO_x and VOC offsets are required
- CO offsets are not required (no violation of an Ambient Air Quality Standard)

For units S-1131-1139-0:

- NO_x, PM₁₀, and SO_x offsets are required
- CO offsets are not required (no violation of an Ambient Air Quality Standard)

NO_x:

Since this project results in a Federal Major Modification for NO_x the distance offset ratio (DOR) for these pollutants will be equal to 1.5 (per Rule 2201, Section 4.8.1). Chevron has proposed the following ERCs:

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
ERC #S-3208-2	28,667	29,255	29,842	29,842
Generated at:	Facility S-1770			
DOR	1.5 (Federal Major Modification)			

No prior reservations

Total Offsets Required (at 1.5:1 distance offset ratio):

Permit No.	NO _x Offsets Required (lb./qtr.)			
	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
S-1131-1134-0	2,234	2,234	2,234	2,234
S-1131-1135-0	2,234	2,234	2,234	2,234
S-1131-1136-0	2,234	2,234	2,234	2,234
S-1131-1137-0	2,234	2,234	2,234	2,234
S-1131-1138-0	2,234	2,234	2,234	2,234
S-1131-1139-0	1,643	1,643	1,643	1,643
Sum =	12,813	12,813	12,813	12,813

Offsets Reserved in PAS (at discussed offset ratios):

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
ERC #S3208-2	12,813	12,813	12,813	12,813

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

SO_x:

Since this project does not result in a Federal Major Modification for SO_x, the distance offset ratio (DOR) for these pollutants will be equal to 1.0 for ERC's generated at the same source (per Rule 2201, Section 4.8.1). Chevron has proposed the following ERCs:

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
ERC #S-3154-5	22,988	23,243	23,499	23,499
Generated at:	Facility S-1131			
DOR	1.0 ERCs were generated at the same source			
No prior reservations				

Total Offsets Required (at 1:1 distance offset ratio):

Permit No.	SO _x Offsets Required (lb./qtr.)			
	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
S-1131-1134-0	531	531	531	531
S-1131-1135-0	531	531	531	531
S-1131-1136-0	531	531	531	531
S-1131-1137-0	531	531	531	531
S-1131-1138-0	531	531	531	531
S-1131-1139-0	390	390	390	390
Sum =	3,045	3,045	3,045	3,045

Offsets Reserved in PAS (at discussed offset ratios):

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
ERC #S-3154-4	3,045	3,045	3,045	3,045

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

PM₁₀:

Per section 4.13.3 of Rule 2201; Interpollutant offsets between PM₁₀ and PM₁₀ precursors may be allowed. Chevron has proposed to offset the required PM₁₀ emission using SO_x ERCs. Since this project does not result in a Federal Major Modification for PM₁₀, the distance offset ratio (DOR) for these pollutants will be equal to 1.0 for ERC's generated at the same source (per Rule 2201, Section 4.8.4).

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
ERC #S-3154-5	22,988	23,243	23,499	23,499
Generated at:	Facility S-1131			
DOR	1.0 ERCs were generated at the same source			
No prior reservations				

Total Offsets Required (at 1:1 distance offset ratio):

Permit No.	PM ₁₀ Offsets Required (lb./qtr.)			
	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
S-1131-1134-0	559	559	559	559
S-1131-1135-0	559	559	559	559
S-1131-1136-0	559	559	559	559
S-1131-1137-0	559	559	559	559
S-1131-1138-0	559	559	559	559
S-1131-1139-0	411	411	411	411
Sum =	3,206	3,206	3,206	3,206

Offsets Reserved in PAS (at discussed offset ratios):

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
ERC #S-3154-5	3,206	3,206	3,206	3,206

As seen above, Chevron has sufficient SO_x credits to fully offset the quarterly PM₁₀ emissions increases associated with this project.

VOC:

Since this project results in a Federal Major Modification for VOC the distance offset ratio (DOR) for these pollutants will be equal to 1.5 (per Rule 2201, Section 4.8.1).

Chevron has proposed the following ERCs:

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
ERC #S-3737-1	104,915	106,191	107,557	107,578
Generated at:	Facility S-1127			
DOR	1.5 (Federal Major Modification)			
No prior reservations				

Total Offsets Required (at 1.5:1 distance offset ratio):

Permit No.	VOC Offsets Required (lb./qtr.)			
	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
S-1131-1134-0	1,536	1,536	1,536	1,536
S-1131-1135-0	1,536	1,536	1,536	1,536
S-1131-1136-0	1,536	1,536	1,536	1,536
S-1131-1137-0	1,536	1,536	1,536	1,536
S-1131-1138-0	1,536	1,536	1,536	1,536
Sum =	7,680	7,680	7,680	7,680

Offsets Reserved in PAS (at discussed offset ratios):

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
ERC #S-3737-1	7,680	7,680	7,680	7,680

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

Proposed Rule 2201 (offset) Conditions:

Units S-1131-1134-0, through -1138-0:

- Prior to operating equipment under this Authority to Construct, permittee shall surrender NO_x emission reduction credits for the following quantity of emissions: 1st quarter – 2,234 lb., 2nd quarter - 2,234 lb., 3rd quarter - 2,234 lb., and fourth quarter - 2,234 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, permittee shall surrender SO_x emission reduction credits for the following quantity of SO_x emissions: 1st quarter – 531 lb., 2nd quarter - 531 lb., 3rd quarter - 531 lb., and fourth quarter – 531 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, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 1,536 lb., 2nd quarter - 1,536 lb., 3rd quarter - 1,536 lb., and fourth quarter - 1,536 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, permittee shall surrender SO_x emission reduction credits for the following quantity of emissions to offset PM₁₀ requirements: 1st quarter – 559 lb., 2nd quarter - 559 lb., 3rd quarter - 559 lb., and fourth quarter – 559 lb. *These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 and 4.13.3 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]*
- ERC Certificate Numbers S-3208-2(NO_x), S-3737-1 (VOC), and S-3154-5(SO_x) (or certificates 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]

Unit S-1131-1139-0:

- Prior to operating equipment under this Authority to Construct, permittee shall surrender NO_x emission reduction credits for the following quantity of emissions: 1st quarter – 1,643 lb., 2nd quarter – 1,643 lb., 3rd quarter – 1,643 lb., and fourth quarter – 1,643 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, permittee shall surrender SO_x emission reduction credits for the following quantity of SO_x emissions: 1st quarter – 390 lb., 2nd quarter - 390 lb., 3rd quarter - 390 lb., and fourth quarter – 390 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, permittee shall surrender SO_x emission reduction credits for the following quantity of emissions to*

offset PM10 requirements: 1st quarter – 411 lb., 2nd quarter - 411 lb., 3rd quarter - 411 lb., and fourth quarter – 411 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 and 4.13.3 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

- ERC Certificate Numbers S-3208-2(NOX), and S-3154-5(SOX) (or certificates 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 SSPE 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. There are no new emissions units with a PE greater than 100 pounds during any one day associated with this project. Therefore public noticing is not required for this project for PE > 100 lb. /day.

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	SSPE2 (lb./year)	SSPE1 (lb./year)	SSIPE (lb./year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	>20,000	>20,000	34,164	20,000 lb./year	Yes
SO _x	>54,750	>54,750	12,171	20,000 lb./year	No
PM ₁₀	>29,200	>29,200	12,812	20,000 lb./year	No
CO	>200,000	>200,000	76,869	20,000 lb./year	Yes
VOC	>20,000	>20,000	23,488	20,000 lb./year	Yes

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.

2. Public Notice Action

As discussed above, public noticing is required for this project for SSIPEs for NO_x, CO, and VOC were greater than 20,000 lb./yr, and for Federal Major Modification purposes. 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.

For the proposed steam generators, the DELs are stated in the form of emission factors (lb./MMBtu), the maximum burner rating, and the maximum operational time of 24 hours per day.

Proposed Rule 2201 (DEL) Conditions:

All units:

- The unit shall only be fired on PUC-quality natural gas with a maximum sulfur content of 1.0 gr S/100scf. [District Rules 2201, 4320, and 4801]
- Emission rates shall not exceed: PM10: 0.003 lb./MMBtu, VOC: 0.0055 lb./MMBtu, NOx (as NO2): 7 ppmvd NOx @ 3% O2, or CO: 25 ppmv @ 3% O2. [District Rules 2201, 4305, 4306, 4320, and 4351]

E. Compliance Assurance

1. Source Testing

These steam generators are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr.* Source testing requirements, in accordance with these rules will be discussed in Section VIII of this evaluation.

2. Monitoring

These steam generators are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr.* Monitoring requirements, in accordance with these rules will be discussed in Section VIII of this evaluation.

3. Recordkeeping

These steam generators are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr.* Recordkeeping, in accordance with these rules will be discussed in Section VIII 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 C** 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. Chevron's compliance certification is included in **Appendix G**.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install six steam generators in order to produce steam for injection into wells at a nearby location.

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 shall not implement the changes requested until the final permit is issued.

Rule 4001 New Source Performance Standards (NSPS)

40 CFR Part 60, Subpart Dc 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 ratings of 85 MMBtu/hr. , and 62.5 MMBtu/hr. and are fired on natural gas. Subpart Dc has no standards for gas-fired steam generators. Therefore the requirements of these sections do not apply to these units.

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 and tank vapor recovery 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:

All units:

- 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. 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 C**), 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:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
S-1131-1134-0	1.73E-07	No
S-1131-1135-0	1.73E-07	No
S-1131-1136-0	1.73E-07	No
S-1131-1137-0	1.73E-07	No
S-1131-1138-0	1.73E-07	No
S-1131-1139-0	1.27E-07	No

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.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in **Appendix C** of this report, the emissions increases for this project was determined to be less than significant.

All units:

- {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

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: 0.003 lb-PM10/MMBtu
 Percentage of PM as PM10 in Exhaust: 100%
 Exhaust Oxygen (O₂) Concentration: 3%
 Excess Air Correction to F Factor = $20.9/(20.9 - 3) = 1.17$

$$GL = \left(\frac{0.003 \text{ lb} - PM}{MMBtu} \right) * \left(\frac{7,000 \text{ grain}}{\text{lb} - PM} \right) / \left(\frac{8,578 \text{ ft}^3}{MMBtu} * 1.17 \right)$$

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

Therefore, compliance with District Rule 4201 requirements is expected. Additionally, particulate matter emissions from the steam generators are already limited by Rule 2201 to a value less than or equal to the rule limit of 0.1 grain per cubic foot of gas at dry standard conditions. Therefore the following condition, previously discussed, will ensure compliance with this rule:

All Units:

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

Rule 4301 Fuel Burning Equipment

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

District Rule 4301 Limits (lb./hr.)			
Pollutant	NO ₂	Total PM	SO ₂
Steam Generators S-1131-1134 through '1138	0.68	0.26	0.24
Steam Generator S-1131-1139	0.5	0.19	0.18
Rule Limit (lb./hr.)	140	10	200

The above table indicates compliance with the maximum lb./hr. emissions in this rule; therefore, the following condition, previously discussed, will ensure compliance with this rule:

All Units:

- The unit shall only be fired on PUC-quality natural gas with a maximum sulfur content of 1.0 gr S/100scf. [District Rules 2201, 4320, and 4801]
- Emission rates shall not exceed: PM₁₀: 0.003 lb./MMBtu, VOC: 0.0055 lb./MMBtu, NO_x (as NO₂): 7 ppmvd NO_x @ 3% O₂, or CO: 25 ppmv @ 3% O₂. [District Rules 2201, 4201, 4301, 4305, 4306, and 4320]

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

This rule provides equipment tuning procedures for boilers, steam generators and process heaters to control visible emissions and emissions of both nitrogen oxides (NO_x) and carbon monoxide (CO).

These units follow District approved Alternate Monitoring scheme A, where the applicable emission limits will be periodically monitored for compliance with Rule 4320; therefore, Chevron will not be required to perform tuning in accordance with the procedures of this Rule.

Rule 4305 Boilers, Steam Generators and Process Heaters – Phase II

These steam generators are gas-fired with a maximum heat input of 85 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, these units are also subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*.

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

Rule 4306 Boilers, Steam Generators and Process Heaters – Phase III

These steam generators are gas-fired with a maximum heat input of greater than 5 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, the unit is subject to District Rule 4306.

In addition, these units are also subject to *District Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr.*

Since the 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 the requirements of District Rule 4306.

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

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

These steam generators are rated at greater than 5 MMBtu/hr. heat input. Therefore this rule applies.

Section 5.1 NOx Emission Limits

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

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

Section 5.2.1 states that on and after the indicated Compliance Deadline units shall not be operated in a manner which exceeds the applicable NO_x limit specified in Table 1 of this rule.

These units are fired on >50% PUC quality gas and have a maximum heat input of 62.5 and 85.0 MMBtu/hr.; therefore, the applicable emission limit category Section 5.2, Table 1, Category C.2.a from District Rule 4320 applies as follows:

Table 1: NOx Emission Limits			
C. Oilfield Steam Generators			
Category	NO _x Limit	Authority to Construct	Compliance Deadline
2. Units with a total rated heat input >20.0 MMBtu/hr.	a) Standard Schedule 7 ppmv or 0.008 lb./MMBtu; or	July 1, 2009	July 1, 2010
	b) Staged Enhanced Schedule Initial Limit 9 ppmv or 0.011 lb./MMBtu; and	July 1, 2011	July 1, 2012
	Final Limit 5 ppmv or 0.0062 lb./MMBtu	January 1, 2013	January 1, 2014

Chevron has proposed to comply with Rule 4320 by limiting the burners to 7 ppm-NO_x @ 3% O₂ (or 0.008 lb.-NO_x/MMBtu). The following conditions will be listed on the ATCs to ensure compliance:

All units:

- Emission rates shall not exceed: PM₁₀: 0.003 lb./MMBtu, VOC: 0.0055 lb./MMBtu, NO_x (as NO₂): 7 ppmvd NO_x @ 3% O₂, or CO: 25 ppmv @ 3% O₂. [District Rules 2201, 4201, 4301, 4305, 4306, and 4320]

Section 5.4 Particulate Matter Control Requirements

Section 5.4.1 requires that the operator shall comply with one of the following requirements:

- 5.4.1.1 On and after the applicable NO_x Compliance Deadline specified in Section 5.2 Table 1, operators shall fire units exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;

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

Chevron will address the particulate matter by limiting the fuel sulfur content to 1 gr-S/100 dscf in addition to firing the steam generator solely on PUC-quality natural gas :

All units:

- The unit shall only be fired on PUC-quality natural gas with a maximum sulfur content of 1.0 gr S/100scf. [District Rules 2201, 4320, and 4801]

Compliance with section 5.4 is expected.

Section 5.5 applies to low –use unit therefor it does not apply to this project.

Section 5.6 Startup and Shutdown Provisions

Section 5.6 states that on and after the full compliance deadline specified in Section 5.0, the applicable emission limits of Sections 5.2 Table 1 and 5.5.2 shall not apply during start-up or shutdown provided an operator complies with the requirements specified in Sections 5.6.1 through 5.6.5. Chevron has requested that the following conditions be placed on the permit:

All units:

- Except during start-up and shutdown periods, emissions shall not exceed either of the following limits: 7 ppmvd NOx (as NO₂) @ 3 % O₂ – equivalent to 0.0085 lb. /MMBtu, or 25 ppmvd CO @ 3% O₂ – equivalent to 0.0185 lb. /MMBtu. [District Rules 2201, 4305, 4306 and 4320]
- During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb.- NOx /MMBtu, or 0.084 lb. CO /MMBtu. [District Rule 2201]
- Duration of start-up or shutdown shall not exceed two hours per each occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shut down periods. [District Rule 4305, 4306, 4320]
- Start-up is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to

ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4305, 4306, 4320]

Section 5.7 Monitoring Provisions

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

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

All units:

- {4063} The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Measurement shall be made with the FGR system in the mode of operation (closed or open) in which it was used in the preceding 30 days. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]
- {4064} If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320]
- {4065} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]

- {4066} The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320]

Section 5.7.6 requires operators complying with Sections 5.4.1.1 or 5.4.1.2 to provide an annual fuel analysis to the District unless a more frequent sampling and reporting period is included in the Permit to Operate. Sulfur analysis shall be performed in accordance with the test methods in Section 6.2. The following condition will ensure compliance:

All units:

- 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]

The following condition will be listed on the ATCs to ensure compliance with the reporting section of this requirement:

All units:

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

Section 5.8 Compliance Determination

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

All units:

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

Section 5.8.2 requires that all emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0.

Therefore, the following permit condition will be listed on the ATCs as follows:

All units:

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

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

All units:

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

Section 5.8.5 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following permit condition will be listed on the ATCs as follows:

All units:

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

Section 6.1 Recordkeeping

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

All units:

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

Section 6.2, Test Methods

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

Pollutant	Units	Test Method Required
NO _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 permit conditions will be listed on the permits as follows:

All units:

- 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 h_hv (MMBtu) -ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 1081, 4305, 4306, 4320, and 4351]

Section 6.3, Compliance Testing

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

All units

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

Section 7.0, Compliance Schedule

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

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

Conclusion

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

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

This rule applies to boilers, steam generators, and process heaters at NO_x Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. The steam generators in this project are all located east of Interstate 5 in Fresno, Kings, or Kern counties; therefore this rule is applicable.

In addition, these units are also subject to *District Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr.*

Since the emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4351 requirements, compliance with District Rule 4320 requirements will satisfy the requirements of District Rule 4306. The following condition will ensure compliance with District Rule 4351:

All units:

- Emission rates shall not exceed: PM10: 0.003 lb./MMBtu, VOC: 0.0055 lb./MMBtu, NOx (as NO2): 7 ppmvd NOx @ 3% O2, or CO: 25 ppmv @ 3% O2. [District Rules 2201, 4201, 4301, 4305, 4306, 4320, and 4351]

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

This rule limits sulfur compound emissions to 0.11 lb./MMBtu for existing steam generators located in Kern County. An existing steam generator is defined as one that had an ATC or PTO prior to September 12, 1979. This project involves new steam generators and steam generators installed after September 12, 1979 only. Therefore, this rule is not applicable.

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.

In addition, the steam generators are also subject to District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process heaters Greater than 5.0 MMBTU/hr.* Since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4801 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4801. Therefore the following condition, previously discussed, will ensure compliance with this rule:

All units:

- The unit shall only be fired on PUC-quality natural gas with a maximum sulfur content of 1.0 gr S/100scf. [District Rules 2201, 4320, and 4801]

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.

District Lead Agency – Negative or Mitigated Negative Declaration

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)). An Initial Study was prepared, which identified impact on air quality, biological resources, and cultural resources as the project's potential significant environmental effects.

The District's engineering evaluation of the project (this document) and the Initial Study demonstrates that compliance with District rules and permit conditions and Project design elements would reduce and mitigate the project's potential environmental impacts to less than significant. Consistent with CEQA Guidelines §15070, a Proposed Mitigated Negative Declaration was prepared and released for public review from November 14, 2014 to December 15, 2014.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC S-1131-1134-0, '-1135-0, '-1136-0, '-1137-0, '-1138-0, and '-1139-0 subject to the permit conditions on the attached draft ATC in **Appendix A**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1131-1134-0	3020-02-H	85 MMBtu/hr.	\$1030.00
S-1131-1135-0	3020-02-H	85 MMBtu/hr.	\$1030.00
S-1131-1136-0	3020-02-H	85 MMBtu/hr.	\$1030.00
S-1131-1137-0	3020-02-H	85 MMBtu/hr.	\$1030.00
S-1131-1138-0	3020-02-H	85 MMBtu/hr.	\$1030.00
S-1131-1139-0	3020-02-H	62.5 MMBtu/hr.	\$1030.00

Appendixes

- A: Draft ATC & Emissions Profiles
- B: BACT Analysis
- C: Health Risk Assessment and Ambient Air Quality Analysis Summary
- D: SSPE1 Calculations
- E: Quarterly Net Emissions Change (QNEC)
- F: CEQA GHG: Project Specific Analysis
- G: Statewide Compliance Statement and Title V Compliance Certification Form

APPENDIX A
Draft ATC & Emissions Profiles

**San Joaquin Valley
Air Pollution Control District**

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1131-1134-0

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

LOCATION: HEAVY OIL CENTRAL
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL 4231-85-GLE LOW-NOX BURNER ASSEMBLY, OR EQUIVALENT LOW-NOX BURNER, WITH FLUE GAS RECIRCULATION, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

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. This generator is permitted to operate at the following locations: SE ¼, Section 25, Township 28E, Range 27E, the SE ¼, Section 13, Township 28E, Range 28E, and the SE ¼, Section 31, Township 28E, Range 28E(MDBM). [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2,234 lb., 2nd quarter - 2,234 lb., 3rd quarter - 2,234 lb., and fourth quarter - 2,234 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 (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

Arnaud Marjollet, Director of Permit Services

S-1131-1134-0 : Nov 21 2014 11:14AM - JONESW : Joint Inspection NOT Required

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

6. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of SOx emissions: 1st quarter - 531 lb., 2nd quarter - 531 lb., 3rd quarter - 531 lb., and fourth quarter - 531 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, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,536 lb., 2nd quarter - 1,536 lb., 3rd quarter - 1,536 lb., and fourth quarter - 1,536 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
8. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of emissions to offset PM10 requirements: 1st quarter - 559 lb., 2nd quarter - 559 lb., 3rd quarter - 559 lb., and fourth quarter - 559 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 and 4.13.3 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
9. ERC Certificate Numbers S-3208-2(NOx), S-3737-1 (VOC), and S-3154-5(SOX) (or certificates 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
10. This Authority to Construct authorizes the installation of an 85 MMBtu/hr North American GLE burner or equivalent. Approval of any other equivalent burner 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
11. 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 other relevant operational characteristics. [District Rule 2201] Federally Enforceable Through Title V Permit
12. A burner is not equivalent if any of the emission factors or the maximum heat input rating is greater than those authorized in this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
13. 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]
14. This unit shall be fired on PUC quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Fuel gas shall not contain more than 1 grain of total sulfur per 100 standard cubic feet or 0.00285 lb/MMBtu. [District Rule 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
16. 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
17. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
18. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
19. During the 60-day shakedown period, the operator shall operate the burner with the maximum FGR setting that can be accommodated by the specific commissioning activity being undertaken, perform expeditious completion of commissioning activities, and shall use good work practice standards to minimize emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Except during startup and shutdown periods, and the 60-day shakedown period, emissions shall not exceed either of the following limits: 7 ppmvd NOx (as NO2) @ 3% O2 (0.0085 lb/MMBtu), 0.003 lb PM10/MMBtu, 25 ppmvd CO @ 3% O2 (0.0185 lb/MMBtu) or 12 ppmvd VOC @ 3% O2 (0.0055 lb VOC/MMBtu). [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. During the 60-day shakedown period, emissions shall not exceed any of the following limits: 15 ppmvd NO_x (as NO₂) @ 3% O₂ (0.018 lb/MMBtu), 0.0032 lb PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ (0.037 lb/MMBtu) or 12 ppmvd VOC @ 3% O₂ (0.0055 lb VOC/MMBtu). [District Rule 2201] Federally Enforceable Through Title V Permit
22. During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
24. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
25. 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
26. If either the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. All 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 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
28. 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
29. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
30. Source testing to measure 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

CONDITIONS CONTINUE ON NEXT PAGE

31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. 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
32. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6A, 6B, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D1072, D3031, D4084 D3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588, PM₁₀ - EPA Methods 5, 201A, and/or 202, CARB Method 5, or any combination of these PM₁₀ methods with both filterable and condensable PM₁₀ measured. [District Rules 1081, 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. Each fuel source shall be tested semi-annually for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which semi-annual testing may resume. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1131-1135-0

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

LOCATION: HEAVY OIL CENTRAL
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL 4231-85-GLE LOW-NOX BURNER ASSEMBLY, OR EQUIVALENT LOW-NOX BURNER, WITH FLUE GAS RECIRCULATION, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

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. This generator is permitted to operate at the following locations: SE ¼, Section 25, Township 28E, Range 27E, the SE ¼, Section 13, Township 28E, Range 28E, and the SE ¼, Section 31, Township 28E, Range 28E(MDBM). [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2,234 lb., 2nd quarter - 2,234 lb., 3rd quarter - 2,234 lb., and fourth quarter - 2,234 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 (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

Amaud Marjolle, Director of Permit Services

S-1131-1135-0: Nov 21 2014 11:14AM - JONESW : Joint Inspection NOT Required

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6. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of SOx emissions: 1st quarter - 531 lb., 2nd quarter - 531 lb., 3rd quarter - 531 lb., and fourth quarter - 531 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, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,536 lb., 2nd quarter - 1,536 lb., 3rd quarter - 1,536 lb., and fourth quarter - 1,536 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
8. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of emissions to offset PM10 requirements: 1st quarter - 559 lb., 2nd quarter - 559 lb., 3rd quarter - 559 lb., and fourth quarter - 559 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 and 4.13.3 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
9. ERC Certificate Numbers S-3208-2(NOx), S-3737-1 (VOC), and S-3154-5(SOX) (or certificates 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
10. This Authority to Construct authorizes the installation of an 85 MMBtu/hr North American GLE burner or equivalent. Approval of any other equivalent burner 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
11. 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 other relevant operational characteristics. [District Rule 2201] Federally Enforceable Through Title V Permit
12. A burner is not equivalent if any of the emission factors or the maximum heat input rating is greater than those authorized in this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
13. 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] Federally Enforceable Through Title V Permit
14. This unit shall be fired on PUC quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Fuel gas shall not contain more than 1 grain of total sulfur per 100 standard cubic feet or 0.00285 lb/MMBtu. [District Rule 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
16. 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
17. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
18. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
19. During the 60-day shakedown period, the operator shall operate the burner with the maximum FGR setting that can be accommodated by the specific commissioning activity being undertaken, perform expeditious completion of commissioning activities, and shall use good work practice standards to minimize emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Except during startup and shutdown periods, and the 60-day shakedown period, emissions shall not exceed either of the following limits: 7 ppmvd NOx (as NO2) @ 3% O2 (0.0085 lb/MMBtu), 0.003 lb PM10/MMBtu, 25 ppmvd CO @ 3% O2 (0.0185 lb/MMBtu) or 12 ppmvd VOC @ 3% O2 (0.0055 lb VOC/MMBtu). [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. During the 60-day shakedown period, emissions shall not exceed any of the following limits: 15 ppmvd NO_x (as NO₂) @ 3% O₂ (0.018 lb/MMBtu), 0.0032 lb PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ (0.037 lb/MMBtu) or 12 ppmvd VOC @ 3% O₂ (0.0055 lb VOC/MMBtu). [District Rule 2201] Federally Enforceable Through Title V Permit
22. During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
24. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
25. 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
26. If either the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. All 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 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
28. 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
29. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
30. Source testing to measure 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

CONDITIONS CONTINUE ON NEXT PAGE

31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. 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
32. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6A, 6B, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D1072, D3031, D4084 D3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588, PM₁₀ - EPA Methods 5, 201A, and/or 202, CARB Method 5, or any combination of these PM₁₀ methods with both filterable and condensable PM₁₀ measured. [District Rules 1081, 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. Each fuel source shall be tested semi-annually for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which semi-annual testing may resume. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1131-1136-0

ISSUANCE DATE: DRAFT

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

LOCATION: HEAVY OIL CENTRAL
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL 4231-85-GLE LOW-NOX BURNER ASSEMBLY, OR EQUIVALENT LOW-NOX BURNER, WITH FLUE GAS RECIRCULATION, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

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. This generator is permitted to operate at the following locations: SE ¼, Section 25, Township 28E, Range 27E, the SE ¼, Section 13, Township 28E, Range 28E, and the SE ¼, Section 31, Township 28E, Range 28E(MDBM). [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2,234 lb., 2nd quarter - 2,234 lb., 3rd quarter - 2,234 lb., and fourth quarter - 2,234 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 (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

Arnaud Marjollet, Director of Permit Services

S-1131-1136-0 : Nov 21 2014 11:14AM - JONESW : Joint Inspection NOT Required

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

6. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of SOx emissions: 1st quarter - 531 lb., 2nd quarter - 531 lb., 3rd quarter - 531 lb., and fourth quarter - 531 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, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,536 lb., 2nd quarter - 1,536 lb., 3rd quarter - 1,536 lb., and fourth quarter - 1,536 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
8. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of emissions to offset PM10 requirements: 1st quarter - 559 lb., 2nd quarter - 559 lb., 3rd quarter - 559 lb., and fourth quarter - 559 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 and 4.13.3 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
9. ERC Certificate Numbers S-3208-2(NOx), S-3737-1 (VOC), and S-3154-5(SOX) (or certificates 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
10. This Authority to Construct authorizes the installation of an 85 MMBtu/hr North American GLE burner or equivalent. Approval of any other equivalent burner 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
11. 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 other relevant operational characteristics. [District Rule 2201] Federally Enforceable Through Title V Permit
12. A burner is not equivalent if any of the emission factors or the maximum heat input rating is greater than those authorized in this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
13. 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] Federally Enforceable Through Title V Permit
14. This unit shall be fired on PUC quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Fuel gas shall not contain more than 1 grain of total sulfur per 100 standard cubic feet or 0.00285 lb/MMBtu. [District Rule 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
16. 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
17. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
18. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
19. During the 60-day shakedown period, the operator shall operate the burner with the maximum FGR setting that can be accommodated by the specific commissioning activity being undertaken, perform expeditious completion of commissioning activities, and shall use good work practice standards to minimize emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Except during startup and shutdown periods, and the 60-day shakedown period, emissions shall not exceed either of the following limits: 7 ppmvd NOx (as NO2) @ 3% O2 (0.0085 lb/MMBtu), 0.003 lb PM10/MMBtu, 25 ppmvd CO @ 3% O2 (0.0185 lb/MMBtu) or 12 ppmvd VOC @ 3% O2 (0.0055 lb VOC/MMBtu). [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. During the 60-day shakedown period, emissions shall not exceed any of the following limits: 15 ppmvd NO_x (as NO₂) @ 3% O₂ (0.018 lb/MMBtu), 0.0032 lb PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ (0.037 lb/MMBtu) or 12 ppmvd VOC @ 3% O₂ (0.0055 lb VOC/MMBtu). [District Rule 2201] Federally Enforceable Through Title V Permit
22. During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
24. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
25. 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
26. If either the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. All 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 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
28. 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
29. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
30. Source testing to measure 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

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31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. 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
32. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6A, 6B, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D1072, D3031, D4084 D3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588, PM₁₀ - EPA Methods 5, 201A, and/or 202, CARB Method 5, or any combination of these PM₁₀ methods with both filterable and condensable PM₁₀ measured. [District Rules 1081, 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. Each fuel source shall be tested semi-annually for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which semi-annual testing may resume. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1131-1137-0

ISSUANCE DATE: DRAFT

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

LOCATION: HEAVY OIL CENTRAL
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL 4231-85-GLE LOW-NOX BURNER ASSEMBLY, OR EQUIVALENT LOW-NOX BURNER, WITH FLUE GAS RECIRCULATION, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

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. This generator is permitted to operate at the following locations: SE ¼, Section 25, Township 28E, Range 27E, the SE ¼, Section 13, Township 28E, Range 28E, and the SE ¼, Section 31, Township 28E, Range 28E(MDBM). [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2,234 lb., 2nd quarter - 2,234 lb., 3rd quarter - 2,234 lb., and fourth quarter - 2,234 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 (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

Arnaud Marjolle, Director of Permit Services

S-1131-1137-0 : Nov 21 2014 11:15AM -- JONESW : Joint Inspection NOT Required

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6. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of SOx emissions: 1st quarter - 531 lb., 2nd quarter - 531 lb., 3rd quarter - 531 lb., and fourth quarter - 531 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, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,536 lb., 2nd quarter - 1,536 lb., 3rd quarter - 1,536 lb., and fourth quarter - 1,536 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
8. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of emissions to offset PM10 requirements: 1st quarter - 559 lb., 2nd quarter - 559 lb., 3rd quarter - 559 lb., and fourth quarter - 559 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 and 4.13.3 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
9. ERC Certificate Numbers S-3208-2(NOx), S-3737-1 (VOC), and S-3154-5(SOX) (or certificates 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
10. This Authority to Construct authorizes the installation of an 85 MMBtu/hr North American GLE burner or equivalent. Approval of any other equivalent burner 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
11. 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 other relevant operational characteristics. [District Rule 2201] Federally Enforceable Through Title V Permit
12. A burner is not equivalent if any of the emission factors or the maximum heat input rating is greater than those authorized in this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
13. 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] Federally Enforceable Through Title V Permit
14. This unit shall be fired on PUC quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Fuel gas shall not contain more than 1 grain of total sulfur per 100 standard cubic feet or 0.00285 lb/MMBtu. [District Rule 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
16. 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
17. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
18. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
19. During the 60-day shakedown period, the operator shall operate the burner with the maximum FGR setting that can be accommodated by the specific commissioning activity being undertaken, perform expeditious completion of commissioning activities, and shall use good work practice standards to minimize emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Except during startup and shutdown periods, and the 60-day shakedown period, emissions shall not exceed either of the following limits: 7 ppmvd NOx (as NO2) @ 3% O2 (0.0085 lb/MMBtu), 0.003 lb PM10/MMBtu, 25 ppmvd CO @ 3% O2 (0.0185 lb/MMBtu) or 12 ppmvd VOC @ 3% O2 (0.0055 lb VOC/MMBtu). [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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21. During the 60-day shakedown period, emissions shall not exceed any of the following limits: 15 ppmvd NOx (as NO₂) @ 3% O₂ (0.018 lb/MMBtu), 0.0032 lb PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ (0.037 lb/MMBtu) or 12 ppmvd VOC @ 3% O₂ (0.0055 lb VOC/MMBtu). [District Rule 2201] Federally Enforceable Through Title V Permit
22. During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
24. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
25. 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
26. If either the NOx or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. All 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 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
28. 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
29. A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
30. Source testing to measure 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

CONDITIONS CONTINUE ON NEXT PAGE

31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. 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
32. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6A, 6B, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D1072, D3031, D4084 D3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588, PM₁₀ - EPA Methods 5, 201A, and/or 202, CARB Method 5, or any combination of these PM₁₀ methods with both filterable and condensable PM₁₀ measured. [District Rules 1081, 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. Each fuel source shall be tested semi-annually for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which semi-annual testing may resume. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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**San Joaquin Valley
Air Pollution Control District**

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1131-1138-0

ISSUANCE DATE: DRAFT

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

LOCATION: HEAVY OIL CENTRAL
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL 4231-85-GLE LOW-NOX BURNER ASSEMBLY, OR EQUIVALENT LOW-NOX BURNER, WITH FLUE GAS RECIRCULATION, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

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. This generator is permitted to operate at the following locations: SE ¼, Section 25, Township 28E, Range 27E, the SE ¼, Section 13, Township 28E, Range 28E, and the SE ¼, Section 31, Township 28E, Range 28E(MDBM). [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2,234 lb., 2nd quarter - 2,234 lb., 3rd quarter - 2,234 lb., and fourth quarter - 2,234 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 (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

Arnaud Marjollet, Director of Permit Services

S-1131-1138-0: Nov 21 2014 11:15AM - JONESW : Joint Inspection NOT Required

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6. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of SOx emissions: 1st quarter - 531 lb., 2nd quarter - 531 lb., 3rd quarter - 531 lb., and fourth quarter - 531 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, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,536 lb., 2nd quarter - 1,536 lb., 3rd quarter - 1,536 lb., and fourth quarter - 1,536 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
8. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of emissions to offset PM10 requirements: 1st quarter - 559 lb., 2nd quarter - 559 lb., 3rd quarter - 559 lb., and fourth quarter - 559 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 and 4.13.3 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
9. ERC Certificate Numbers S-3208-2(NOx), S-3737-1 (VOC), and S-3154-5(SOX) (or certificates 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
10. This Authority to Construct authorizes the installation of an 85 MMBtu/hr North American GLE burner or equivalent. Approval of any other equivalent burner 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
11. 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 other relevant operational characteristics. [District Rule 2201] Federally Enforceable Through Title V Permit
12. A burner is not equivalent if any of the emission factors or the maximum heat input rating is greater than those authorized in this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
13. 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] Federally Enforceable Through Title V Permit
14. This unit shall be fired on PUC quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Fuel gas shall not contain more than 1 grain of total sulfur per 100 standard cubic feet or 0.00285 lb/MMBtu. [District Rule 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
16. 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
17. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
18. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
19. During the 60-day shakedown period, the operator shall operate the burner with the maximum FGR setting that can be accommodated by the specific commissioning activity being undertaken, perform expeditious completion of commissioning activities, and shall use good work practice standards to minimize emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Except during startup and shutdown periods, and the 60-day shakedown period, emissions shall not exceed either of the following limits: 7 ppmvd NOx (as NO2) @ 3% O2 (0.0085 lb/MMBtu), 0.003 lb PM10/MMBtu, 25 ppmvd CO @ 3% O2 (0.0185 lb/MMBtu) or 12 ppmvd VOC @ 3% O2 (0.0055 lb VOC/MMBtu). [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. During the 60-day shakedown period, emissions shall not exceed any of the following limits: 15 ppmvd NO_x (as NO₂) @ 3% O₂ (0.018 lb/MMBtu), 0.0032 lb PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ (0.037 lb/MMBtu) or 12 ppmvd VOC @ 3% O₂ (0.0055 lb VOC/MMBtu). [District Rule 2201] Federally Enforceable Through Title V Permit
22. During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
24. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
25. 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
26. If either the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. All 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 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
28. 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
29. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
30. Source testing to measure 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

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CONDITIONS CONTINUE ON NEXT PAGE

31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. 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
32. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6A, 6B, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D1072, D3031, D4084 D3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588, PM₁₀ - EPA Methods 5, 201A, and/or 202, CARB Method 5, or any combination of these PM₁₀ methods with both filterable and condensable PM₁₀ measured. [District Rules 1081, 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. Each fuel source shall be tested semi-annually for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which semi-annual testing may resume. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1131-1139-0

ISSUANCE DATE: DRAFT

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

LOCATION: HEAVY OIL CENTRAL
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL 4231-85-GLE LOW-NOX BURNER ASSEMBLY, OR EQUIVALENT LOW-NOX BURNER, WITH FLUE GAS RECIRCULATION, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

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. This generator is permitted to operate at the following locations: SE ¼, Section 25, Township 28E, Range 27E, the SE ¼, Section 13, Township 28E, Range 28E, and the SE ¼, Section 31, Township 28E, Range 28E(MDBM). [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1,643 lb., 2nd quarter - 1,643 lb., 3rd quarter - 1,643 lb., and fourth quarter - 1,643 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 (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

S-1131-1139-0: Nov 21 2014 11:15AM - JONESW : Joint Inspection NOT Required

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

6. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of SOx emissions: 1st quarter - 390 lb., 2nd quarter - 390 lb., 3rd quarter - 390 lb., and fourth quarter - 390 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, permittee shall surrender SOx emission reduction credits for the following quantity of emissions to offset PM10 requirements: 1st quarter - 411 lb., 2nd quarter - 411 lb., 3rd quarter - 411 lb., and fourth quarter - 411 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 and 4.13.3 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
8. ERC Certificate Numbers S-3208-2(NOx), and S-3154-5(SOX) (or certificates 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. This Authority to Construct authorizes the installation of an 62.5 MMBtu/hr North American GLE burner or equivalent. Approval of any other equivalent burner 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
10. 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 other relevant operational characteristics. [District Rule 2201] Federally Enforceable Through Title V Permit
11. A burner is not equivalent if any of the emission factors or the maximum heat input rating is greater than those authorized in this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
12. 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] Federally Enforceable Through Title V Permit
13. This unit shall be fired on PUC quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Fuel gas shall not contain more than 1 grain of total sulfur per 100 standard cubic feet or 0.00285 lb/MMBtu. [District Rule 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
15. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
16. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
17. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
18. During the 60-day shakedown period, the operator shall operate the burner with the maximum FGR setting that can be accommodated by the specific commissioning activity being undertaken, perform expeditious completion of commissioning activities, and shall use good work practice standards to minimize emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Except during startup and shutdown periods, and the 60-day shakedown period, emissions shall not exceed either of the following limits: 7 ppmvd NOx (as NO2) @ 3% O2 (0.0085 lb/MMBtu), 0.003 lb PM10/MMBtu, 25 ppmvd CO @ 3% O2 (0.0185 lb/MMBtu) or 12 ppmvd VOC @ 3% O2 (0.0055 lb VOC/MMBtu). [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. During the 60-day shakedown period, emissions shall not exceed any of the following limits: 15 ppmvd NOx (as NO2) @ 3% O2 (0.018 lb/MMBtu), 0.0032 lb PM10/MMBtu, 50 ppmvd CO @ 3% O2 (0.037 lb/MMBtu) or 12 ppmvd VOC @ 3% O2 (0.0055 lb VOC/MMBtu). [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
23. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
24. 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
25. If either the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. 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 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent 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
28. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
29. Source testing to measure 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

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CONDITIONS CONTINUE ON NEXT PAGE

30. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. 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
31. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
33. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
34. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6A, 6B, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D1072, D3031, D4084 D3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588, PM₁₀ - EPA Methods 5, 201A, and/or 202, CARB Method 5, or any combination of these PM₁₀ methods with both filterable and condensable PM₁₀ measured. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
36. Each fuel source shall be tested semi-annually for sulfur content and higher heating value. If a fuel content test fails to show compliance, weekly testing is required until compliance is demonstrated for 8 consecutive weeks, after which semi-annual testing may resume. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
37. Permit S-2010-288-0 shall be cancelled upon implementation of this ATC [District Rule 2201] Federally Enforceable Through Title V Permit

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Permit #: S-1131-1134-0	Last Updated
Facility: CHEVRON USA INC	10/20/2014 JONESW

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	5957.0	2122.0	2234.0	13403.0	4095.0
Daily Emis. Limit (lb/Day)	16.3	5.8	6.1	36.7	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1489.0	531.0	559.0	3351.0	1024.0
Q2:	1489.0	531.0	559.0	3351.0	1024.0
Q3:	1489.0	531.0	559.0	3351.0	1024.0
Q4:	1489.0	531.0	559.0	3351.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	Y	N
Offset Ratio	1.5	1.0	1.0		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	2234.0	531.0	559.0		1536.0
Q2:	2234.0	531.0	559.0		1536.0
Q3:	2234.0	531.0	559.0		1536.0
Q4:	2234.0	531.0	559.0		1536.0

Permit #: S-1131-1135-0	Last Updated
Facility: CHEVRON USA INC	10/20/2014 JONESW

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	5957.0	2122.0	2234.0	13403.0	4095.0
Daily Emis. Limit (lb/Day)	16.3	5.8	6.1	36.7	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1489.0	531.0	559.0	3351.0	1024.0
Q2:	1489.0	531.0	559.0	3351.0	1024.0
Q3:	1489.0	531.0	559.0	3351.0	1024.0
Q4:	1489.0	531.0	559.0	3351.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	Y	N
Offset Ratio	1.5	1.0	1.0		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	2234.0	531.0	559.0		1536.0
Q2:	2234.0	531.0	559.0		1536.0
Q3:	2234.0	531.0	559.0		1536.0
Q4:	2234.0	531.0	559.0		1536.0

Permit #: S-1131-1136-0	Last Updated
Facility: CHEVRON USA INC	10/20/2014 JONESW

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	5957.0	2122.0	2234.0	13403.0	4095.0
Daily Emis. Limit (lb/Day)	16.3	5.8	6.1	36.7	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1489.0	531.0	559.0	3351.0	1024.0
Q2:	1489.0	531.0	559.0	3351.0	1024.0
Q3:	1489.0	531.0	559.0	3351.0	1024.0
Q4:	1489.0	531.0	559.0	3351.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	Y	N
Offset Ratio	1.5	1.0	1.0		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	2234.0	531.0	559.0		1536.0
Q2:	2234.0	531.0	559.0		1536.0
Q3:	2234.0	531.0	559.0		1536.0
Q4:	2234.0	531.0	559.0		1536.0

Permit #: S-1131-1137-0	Last Updated
Facility: CHEVRON USA INC	10/20/2014 JONESW

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	5957.0	2122.0	2234.0	13403.0	4095.0
Daily Emis. Limit (lb/Day)	16.3	5.8	6.1	36.7	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1489.0	531.0	559.0	3351.0	1024.0
Q2:	1489.0	531.0	559.0	3351.0	1024.0
Q3:	1489.0	531.0	559.0	3351.0	1024.0
Q4:	1489.0	531.0	559.0	3351.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	Y	N
Offset Ratio	1.5	1.0	1.0		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	2234.0	531.0	559.0		1536.0
Q2:	2234.0	531.0	559.0		1536.0
Q3:	2234.0	531.0	559.0		1536.0
Q4:	2234.0	531.0	559.0		1536.0

Permit #: S-1131-1138-0	Last Updated
Facility: CHEVRON USA INC	10/20/2014 JONESW

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	5957.0	2122.0	2234.0	13403.0	4095.0
Daily Emis. Limit (lb/Day)	16.3	5.8	6.1	36.7	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1489.0	531.0	559.0	3351.0	1024.0
Q2:	1489.0	531.0	559.0	3351.0	1024.0
Q3:	1489.0	531.0	559.0	3351.0	1024.0
Q4:	1489.0	531.0	559.0	3351.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	Y	N
Offset Ratio	1.5	1.0	1.0		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	2234.0	531.0	559.0		1536.0
Q2:	2234.0	531.0	559.0		1536.0
Q3:	2234.0	531.0	559.0		1536.0
Q4:	2234.0	531.0	559.0		1536.0

Permit #: S-1131-1139-0	Last Updated
Facility: CHEVRON USA INC	10/20/2014 JONESW

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	4380.0	1560.0	1643.0	9855.0	3011.0
Daily Emis. Limit (lb/Day)	12.0	4.3	4.5	27.0	8.3
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1095.0	390.0	411.0	2464.0	753.0
Q2:	1095.0	390.0	411.0	2464.0	753.0
Q3:	1095.0	390.0	411.0	2464.0	753.0
Q4:	1095.0	390.0	411.0	2464.0	753.0
Check if offsets are triggered but exemption applies	N	N	N	Y	Y
Offset Ratio	1.5	1.0	1.0		
Quarterly Offset Amounts (lb/Qtr)					
Q1:	1643.0	390.0	411.0		
Q2:	1643.0	390.0	411.0		
Q3:	1643.0	390.0	411.0		
Q4:	1643.0	390.0	411.0		

APPENDIX B: BACT Analysis

BACT guideline and BACT Analysis

This project was deemed complete on 3/3/14. At that time, BACT Guideline 1.2.1 had been rescinded, and District Rule 4320 *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters greater than 5.0 MMBtu/hr.* was serving as the current BACT Guideline. This BACT analysis is therefore based on Rule 4320.

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.

1. BACT Analysis for NO_x emissions:

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.

a. Step 1 - Identify all control technologies

Rule 4320 identifies the following control technologies:

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

b. Step 2 - Eliminate technologically infeasible options

All of the above identified control options are technologically feasible.

c. Step 3 - Rank remaining options by control effectiveness

1. 5 ppmvd NO_x @ 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 option (SCR).

The SCR Cost Effectiveness Analysis data is from project S-1123645. For this analysis we can assume that there is an equal SCR costs for the 85 and 62.5 MMBtu/hr. steam generators (this was also assumed for project S-1327, 1114465 (ATCs S-1327-162-0 through -164-0).

The District Standard Emissions for steam generators is 7 ppmv NO_x 3% O₂
The Cost-effectiveness Threshold for NO_x is \$24,500 per ton.

Using most conservative burner size (85 MMBtu/hr.)

$$\begin{aligned} \text{District Standard NO}_x \text{ Emissions} &= 85 \text{ MMBtu/hr.} \times 0.0085 \text{ lb. /MMBtu} \times 8,760 \text{ hr.} \\ \text{/year} &= 6,329 \text{ lb. /year} \end{aligned}$$

Tech. Feasible NO_x Emissions = 85 MMBtu/hr. x 0.006 lb. /MMBtu x 8,760 hr. /year
= 4,463 lb. /year

Total reduction = Emissions (15 ppmv) – Emissions (5 ppmv)
Total reduction = 6,329 lb. /yr. – 4,463 lb. /yr.
Total reduction = 1,866 lb. /yr. = 0.93 ton/yr.

Annualized Capital Cost

Capital Cost (PCL): (includes all purchased equipment, taxes, freight, and installation of SCR for an 85 MMBtu/hr. unit) – detailed costs follow.

Total Estimated Capital Cost: \$785,000 (From District approved Project S-1123645)

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 = \$785,000
i = 10%,

n = 10 years

A = \$127,720/yr.

Annual Operating Cost

Electrical Costs

75 HP ID Fan 55.8 kW

19% ammonia vaporizers 10.0 kW

Ammonia injection pump 3 HP 2.2 kW

68kW x 24 hours x 365 days x \$ 0.10 /kW = \$59,570.

Chemical Costs

19% aqueous ammonia delivered = \$29,200.

Maintenance / Spare Parts

5 hr. week / \$ 60 / 52 weeks = \$15,600

Spare parts / CEMS / cal gasses = \$ 25,600

Total Operating Costs = \$ 129,970.

Total annualized cost = \$127,720/yr. + \$129,970/yr.

= \$257,690

Cost effectiveness (worst case 85 MMBtu/hr. SG, most tons reduced):

Cost effectiveness = \$257,690/ 0.93 tpy

Cost effectiveness = \$277,086/ 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 these 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

Rule 4320 identifies Achieved-in-Practice BACT for SO_x emissions from oil field steam generators ≥ 20 MMBtu/hr. as follows:

1. Fired on PUC quality natural gas, commercial propane, and/or commercial LPG;
2. Limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet,
3. Install and properly operate an emission control system that reduces SO₂ emissions by at least 95% by weight; or
4. limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% 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. Fired on PUC quality natural gas, commercial propane, and/or commercial LPG;
2. Limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet,
3. Install and properly operate an emission control system that reduces SO₂ emissions by at least 95% by weight; or
4. limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% O₂.

d. Step 4 - Cost Effectiveness Analysis

All of the control technologies in the ranking list from Step 3 have 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 SO_x emissions from this oil field steam generator is natural gas fuel with a sulfur content ≤ 1 gr-S/100 scf.

The applicant has proposed to install an oil field steam generator fired on natural gas or LPG with ≤ 1 gr-S/100 scf; 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

Rule 4320 identifies Achieved-in-Practice BACT for SO_x emissions from oil field steam generators ≥ 20 MMBtu/hr. as follows:

1. Fired on PUC quality natural gas, commercial propane, and/or commercial LPG;
2. Limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet,
3. Install and properly operate an emission control system that reduces SO₂ emissions by at least 95% by weight; or
4. Limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% 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. Fired on PUC quality natural gas, commercial propane, and/or commercial LPG;
2. Limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet,
3. Install and properly operate an emission control system that reduces SO₂ emissions by at least 95% by weight; or
4. Limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% 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 PM₁₀ emissions from these oil field steam generators is natural gas fuel with a sulfur content ≤ 1 gr-S/100 scf.

The applicant has proposed to install an oil field steam generators fired on natural gas or LPG with a sulfur content ≤ 1 gr-S/100 scf; therefore BACT for PM₁₀ emissions is satisfied.

4. BACT Analysis for CO Emissions:

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

a. Step 1 - Identify all control technologies

Achieved in practice BACT for CO emissions from oil field steam generators ≥ 20 MMBtu/hr. is as follows:

- 1) 25 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) 25 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 this oil field steam generator is a CO limit of 25 ppmvd @ 3% O₂. The applicant has proposed to install an oil field steam generator 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

Achieved in practice BACT for VOC emissions from oil field steam generators is:

- 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 this oil field steam generator is gaseous fuel. The applicant has proposed to install an oil field steam generator fired on gaseous fuel; therefore BACT for PM₁₀ emissions is satisfied.

BACT Analysis for 60-Day Shakedown Period

Commissioning Process Description

Steam generator commissioning operations are required due to the installation of a new unit or required due to a physical change to an existing emission unit. Commissioning operations can be divided into three phases which consist of: safety testing, refractory curing and emissions tuning as explained below.

Safety testing is required by the National Fire Prevention Association to ensure that safety systems will operate properly in the event of a system upset. Safety checks take up to 24 hours to complete and are done with the steam generator firing at approximately one third of rated capacity and without FGR operating.

New refractory material must be cured over an extended period of time before the affected unit can be utilized for normal steam generating activities. For the curing process, the refractory material is progressively exposed to higher and higher temperatures over a period that ranges from as little as 8 hours to 30 hours, depending on the type and amount of refractory material installed. This is accomplished by firing the steam generator on progressively higher fuel rates during the curing process.

After a steam generator is safety tested and its refractory material cured it must be tuned to meet its NO_x emission limit. This can take up to 80 hours.

During these periods of initial commissioning, NO_x emissions may reach 15 ppmv and CO 50 ppmv at 3% O₂. Other criteria pollutants (SO_x, PM₁₀ and VOC) are expected to be emitted at the same levels during initial commissioning as they are during steady state operation.

BACT Analysis for NO_x Emissions during commissioning Period:

1. BACT Analysis for NO_x Emissions:

Step 1 - Identify All Possible Control Technologies

1. SCR
2. Operation of the low NO_x burner with the maximum FGR that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities Good work practices and limit commissioning period to 135 hours after first firing.

Step 2 - Eliminate Technologically Infeasible Options

There are no infeasible options to eliminate.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. SCR
2. Operation of the low NO_x burner with the maximum FGR that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities and use of good work practice standard to minimize emissions

Step 4 - Cost Effectiveness Analysis

In project S1120161, it was determined that the use of SCR was not cost effective in steady state operation. Based on the high cost effectiveness of > \$70,000/ton of NO_x controlled, the short time frame allowed for initial commissioning activities and the small potential increases in NO_x emissions that may occur during these activities, it can be concluded that the use of SCR for initial commissioning is likewise not cost effective.

Step 5 - Select BACT for NO_x Emissions during commissioning Period:

1. Operation of the low NO_x burner with the maximum FGR that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities and use of good work practice standard to minimize emissions

Step 6 - The following conditions will be added to the proposed ATCs:

- For a newly installed steam generator or steam generator completing a burner of refractory brick replacement, the commissioning period is the time required to complete the necessary safety checks, curing of refractory brick and the performance tuning of the burner and attendant systems to achieve compliance with the emission limits required by the permit. The commissioning period begins upon first firing of the new or overhauled unit and shall not extend beyond 135 hour of the first firing. [District Rule 2201] N
- Operator shall limit emissions during the initial commissioning period to the extent possible by following good work practices and completing all work in an expeditious manner. Operator shall keep a record of the specific activities and their duration that are undertaken as part of the initial commissioning period and shall make the records available for District inspection upon request. [District Rule 2201] N

BACT Analysis for VOC Emissions:

Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 3rd quarter 2010, identifies achieved in practice and technologically feasible BACT for Steam Generator ≥ 5 MMbtu/hr., at an oil field as follows:

1. Gaseous fuel - achieved in practice

Step 2 - Eliminate Technologically Infeasible Options

There are no infeasible options to eliminate.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Gaseous fuel - achieved in practice

Step 4 - Cost Effectiveness Analysis

Only one control technology identified and this technology is achieved in practice, therefore, cost effectiveness analysis not necessary.

Step 5 - Select BACT for VOC

The use of gaseous fuel (natural gas) is selected as BACT for VOC emissions.

BACT Analysis for PM₁₀ and SO_x Emissions:

Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 3rd quarter 2010, identifies achieved in practice and technologically feasible BACT for Steam Generator ≥ 5 MMBtu/hr., at an oil field 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 - achieved in practice

Step 2 - Eliminate Technologically Infeasible Options

There are no infeasible options to eliminate.

Step 3 - Rank Remaining Control Technologies 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 - achieved in practice

Step 4 - Cost Effectiveness Analysis

Only one control technology is identified, and this technology is achieved in practice, therefore, cost effectiveness analysis not necessary.

Step 5 - Select BACT for SO_x and PM₁₀

The use of natural gas as a primary fuel with a sulfur content not to exceed 0.75 gr-S/100 scf with no back up fuel is selected as BACT for SO_x and PM₁₀ emissions.

BACT Analysis for CO Emissions:

Step 1 - Identify all control technologies

For steam generators of this class and category of source, the District has required units in a steady state operation to meet an achieved in practice BACT emissions level of 50 ppmv. Units with low-NOx burners have consistently demonstrated CO emissions levels in steady state operation of low single digits.

CO emissions below 50 ppmv are expected, but cannot be absolutely assumed for all commissioning activities. As has previously been explained, given the operational flexibility required to complete initial commissioning activities, it is not practical or necessary to specify emissions limits.

The following have been identified as possible controls or work practice standards that may be employed to reduce emissions of CO during initial commissioning:

1. Operation of the low-NOx burner with the maximum FGR that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities and use of good work practice standard to minimize emissions

Step 2 - Eliminate Technologically Infeasible Options

The above listed technology is technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Operation of the low NOx burner with the maximum FGR that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities and use of good work practice standard to minimize emissions

Step 4 - Cost Effectiveness Analysis

Only one control technology has been identified and this technology is considered achieved in practice, therefore, cost effectiveness analysis not necessary.

Step 5 - Select BACT for CO

1. Operation of the low NOx burner with the maximum FGR that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities and use of good work practice standards to minimize emissions.

APPENDIX C:
Health Risk Assessment And Ambient Air Quality Analysis
Summary

San Joaquin Valley Air Pollution Control District

Risk Management Review

To: William Jones – Permit Services

From: Cheryl Lawler – Technical Services

Date: September 17, 2014

Facility Name: Chevron USA Inc.

Location: Angus, FeeA, & ANO Sites, Bakersfield

Application #(s): S-1131-1134-0 thru 1139-0

Project #: S-1140568

A. RMR SUMMARY

RMR Summary				
Categories	Five Natural Gas Steam Generators (Units 1134-0 thru 1138-0)	One Natural Gas Steam Generator (Unit 1139-0)	Project Totals	Facility Totals
Prioritization Score	0.00 each	0.00	0.02	>1
Acute Hazard Index	0.00 each	0.00	0.01	0.36
Chronic Hazard Index	0.00 each	0.00	0.00	0.54
Maximum Individual Cancer Risk	1.73E-07 each	1.27E-07	9.92E-07	4.77E-06
T-BACT Required?	No	No		
Special Permit Conditions?	Yes	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 1134-0, 1135-0, 1136-0, 1137-0, 1138-0, 1139-0

- {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 September 15, 2014, to perform an Ambient Air Quality Analysis (AAQA) and a Risk Management Review (RMR) for the installation of five 85 MMBtu/hr. and one 62.5 MMBtu/hr. natural gas steam generators. The generators are used during enhanced oil production in the Kern River Oil Field at three different locations (Angus, FeeA, & ANO); therefore, the applicant would like to ability to operate all six generators at all three locations.

II. Analysis

For the Risk Management Review, Technical Services modeled all six generators at each of the three locations separately. The location that provided the worst case results for the RMR was the FeeA site; therefore, all risks found at this site were used for this project. Toxic emissions from the generators were calculated using Ventura County emission factors for natural gas 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 prioritization scores were less than 1.0 (see RMR Summary Table); however, the cumulative facility wide prioritization scores totaled to greater than 1.0. Therefore, a refined Health Risk Assessment was required and performed. AERMOD was used, with point source parameters outlined below, and concatenated 5-year meteorological data from Bakersfield to determine maximum dispersion factors at the nearest residential and business receptors. These dispersion factors were input into the HARP model to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters			
Source Types	Point		
Stack Heights (m)	6.1	Stack Gas Temperatures (K)	383
Stack Diameters (m)	0.91	Stack Gas Velocities (m/sec)	10.22
Natural Gas Process Rates (mmscf) Units 1134-0 thru 1138-0	0.085 hr. 744.6 yr.	Natural Gas Process Rates (mmscf) Unit 1139-0	0.0625 hr. 547.5 yr.
Closest Receptor Distance (m)	1006	Project Location	Rural
Closest Receptor Type	Business		

Technical Services also performed modeling for criteria pollutants CO, NO_x, SO_x, and PM₁₀; as well as the RMR. All six generators were again modeled at each of the three locations separately to ensure that each location does not cause a violation of a State or National AAQS. For Units 1134-0 thru 1138-0 each, the emission rates used for criteria pollutant modeling were 1.5 lb./hr. CO, 0.7 lb./hr. NO_x, 0.2 lb./hr. SO_x, and 0.3 lb./hr. PM₁₀. For Unit 1139-0, the emission rates used for criteria pollutant modeling were 1.13 lb./hr. CO, 0.5 lb./hr. NO_x, 0.17 lb./hr. SO_x, and 0.19 lb./hr. PM₁₀.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*
Values are in $\mu\text{g}/\text{m}^3$

Six NG Generators	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass	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 spreadsheets.

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

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.

For each unit, the acute and chronic indices are below 1.0; and the maximum individual cancer risk associated with each unit 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 the proposed 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.

Attachments

RMR Request Form & Attachments
Project Email
Prioritization
Risk Results
AAQA Results
Facility Summary

APPENDIX D: SSPE1 Calculations

Detailed SSPE Report

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	1131	0	2						0
S	1131	62	29	9855	1560	2738	20258	3833	1
S	1131	63	24	9855	1560	2738	20258	3285	1
S	1131	64	24	9855	1560	2738	20258	3285	1
S	1131	65	25	19710	548	2738	15878	3285	2
S	1131	66	23	9855	1560	2738	20258	3285	1
S	1131	67	24	9855	1560	2738	20258	3285	1
S	1131	68	23	9855	1560	2738	20258	3285	1
S	1131	69	23	9855	1560	2738	20258	3285	1
S	1131	70	23	9855	1560	2738	20258	3285	1
S	1131	73	23	9855	1560	2738	20258	3285	1
S	1131	77	23	19710	561735	59130	15878	3285	2
S	1131	78	29	9855	7829	59130	20258	3285	1
S	1131	82	26	9855	561735	59130	15878	3285	1
S	1131	94	27	19710	561735	59130	15878	3285	2
S	1131	95	23	9855	561735	59130	15878	3285	1
S	1131	98	26	9855	561735	59130	15878	3285	1
S	1131	99	26	9855	561735	59130	15878	3285	0
S	1131	262	9					0	0
S	1131	448	6					308	0
S	1131	460	5						0
S	1131	509	5						0
S	1131	529	5						0
S	1131	530	5						0
S	1131	531	5						0
S	1131	592	4						0

Thursday, September 11, 2014

Page 1 of 5

Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

<i>Region</i>	<i>Facility</i>	<i>Unit</i>	<i>Mod</i>	<i>NOx</i>	<i>SOx</i>	<i>PM10</i>	<i>CO</i>	<i>VOC</i>	<i>Number of Outstanding ATCs</i>
S	1131	594	8						0
S	1131	598	24	0	0	0	0	43216	3
S	1131	599	8						0
S	1131	600	4						0
S	1131	601	4						0
S	1131	602	4						0
S	1131	603	8						0
S	1131	606	8	0	0	0	0	96996	0
S	1131	608	21	0	0	0	0	438	0
S	1131	610	8						0
S	1131	613	19	0	0	0	0	0	0
S	1131	615	8						0
S	1131	619	8						0
S	1131	620	8						0
S	1131	621	8						0
S	1131	622	4						0
S	1131	623	8						0
S	1131	625	8						0
S	1131	626	8						0
S	1131	627	8						0
S	1131	628	8						0
S	1131	629	11	0	0	0	0	2409	0
S	1131	630	11	0	0	0	0	2154	0
S	1131	631	8						0
S	1131	632	8						0
S	1131	633	8						0
S	1131	634	8						0
S	1131	635	8						0
S	1131	636	4						0

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Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	1131	638	11	0	0	0	0	2701	0
S	1131	641	11	0	0	0	0	2227	0
S	1131	650	11	0	0	0	0	2628	0
S	1131	651	11	0	0	0	0	2811	0
S	1131	652	4						0
S	1131	663	4						0
S	1131	670	4						0
S	1131	671	4						0
S	1131	716	19	0	0	0	0		0
S	1131	724	4	0	0	0	0	620	0
S	1131	833	3	3	0	0	1	0	0
S	1131	858	12	19710	561662	59787	15732	3103	2
S	1131	859	13	9855	561735	59678	15878	3285	0
S	1131	877	22	9855	7829	42048	11315	1533	0
S	1131	879	22	9855	7829	7118	20258	1533	1
S	1131	880	16	9855	7829	7008	16644	1533	0
S	1131	881	17	9855	7829	7118	20258	1533	0
S	1131	883	17	9855	7829	7118	16425	1533	0
S	1131	884	19	9855	7829	7118	20258	1533	0
S	1131	885	28	0	0	0	0	10669	1
S	1131	886	21	0	0	0	0	1935	0
S	1131	891	20	0	0	0	0	1935	0
S	1131	892	20	0	0	0	0	1935	0
S	1131	903	19	0	0	0	0	73402	0
S	1131	908	20	9855	7829	7118	20258	1533	0
S	1131	909	19	0	0	0	0	113844	0
S	1131	912	7	9855	1560	7665	20258	1643	0
S	1131	917	13	0	0	0	0	77417	0
S	1131	932	13	0	0	0	0	74314	0

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Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

<i>Region</i>	<i>Facility</i>	<i>Unit</i>	<i>Mod</i>	<i>NOx</i>	<i>SOx</i>	<i>PM10</i>	<i>CO</i>	<i>VOC</i>	<i>Number of Outstanding ATCs</i>
S	1131	941	13	8672	44326	22404	7950	1686	0
S	1131	943	13	10530	7290	6750	2970	630	2
S	1131	944	12	0	0	0	0	41501	0
S	1131	958	10	0	0	0	0	74022	0
S	1131	966	13	8672	44326	16863	7950	1686	0
S	1131	976	10						0
S	1131	987	10	9855	7829	24090	12593	2738	0
S	1131	992	10	19710	28470	15878	12593	2738	3
S	1131	993	9	19710	13304	3449	7665	2300	3
S	1131	994	10	19710	33945	24638	10950	2738	2
S	1131	995	15	0	0	0	0	19199	0
S	1131	996	15	0	0	0	0	24711	0
S	1131	997	12	9855	7829	24638	10950	3285	1
S	1131	998	9	19710	16425	3833	7665	3285	2
S	1131	999	9	9855	7829	3833	10129	3285	0
S	1131	1000	9	19710	4544	3559	7665	2245	2
S	1131	1001	10	19710	4544	3559	7665	2245	3
S	1131	1002	9	19710	2738	3285	1095	1643	3
S	1131	1003	9	19710	16425	3833	7665	3285	2
S	1131	1004	9	19710	16425	3833	7665	3285	3
S	1131	1007	12	0	0	0	0	124283	0
S	1131	1008	12	0	0	0	0	28543	0
S	1131	1010	9					22867	0
S	1131	1011	9					25957	0
S	1131	1012	9					77870	0
S	1131	1013	9					45115	0
S	1131	1014	12					0	0
S	1131	1016	10	19710	36847	24638	10950	3285	2
S	1131	1017	9					32303	0

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Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

<i>Region</i>	<i>Facility</i>	<i>Unit</i>	<i>Mod</i>	<i>NOx</i>	<i>SOx</i>	<i>PM10</i>	<i>CO</i>	<i>VOC</i>	<i>Number of Outstanding ATCs</i>
S	1131	1031	7	0	0	0	0	24090	0
S	1131	1032	7	0	0	0	0	24090	0
S	1131	1033	17	0	0	0	0	30267	0
S	1131	1035	14					21013	0
S	1131	1036	12	0	0	0	0	53523	0
S	1131	1037	9	93805	10914	28361	58692	87235	0
S	1131	1038	8	65768	3066	6534	74283	17849	1
S	1131	1039	8	65768	3066	6534	74283	17849	1
S	1131	1048	10	0	0	0	0	10257	0
S	1131	1084	3	137	0	1	225	2	0
S	1131	1085	8	8191	18907	3132	44556	7588	0
S	1131	1086	3	10257	4964	3030	55772	913	0
S	1131	1087	2	5621	10512	1679	30660	329	0
S	1131	1091	3	0	0	0	0	0	0
S	1131	1097	9	0	0	0	0	2336	0
S	1131	1106	15	0	0	0	0	0	0
S	1131	1108	2	3668	154	432	19959	3398	0
S	1131	1117	2	138	0	6	122	8	0
S	1131	1119	5	984	2	53	914	70	0
S	1131	1121	0	0				18960	0
S	1131	1122	0	0				18960	0
S	1131	1123	0	0	0	0	0	518	0
S	1131	1124	0	0				15157	0
S	1131	1125	0	0				9490	0
S	1131	1126	0	1752	3592	1664	8103	1205	0
S	1131	1127	0	0	0	0	0	913	1
S	1131	1131	2	0	0	0	0	365	0
SSPE (lbs)				616136	4920860	893575	992700	1510229	

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Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

APPENDIX E:
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:

Units S-1131-1134-0, through '-1138-0:

NOx:

$$\begin{aligned} \text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 5,957 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 1,489 \text{ lb. NOx /qtr.} \end{aligned}$$

$$\begin{aligned} \text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb./year} \div 4 \text{ qtr./year} \\ &= 0 \text{ lb. NOx /qtr.} \end{aligned}$$

SOx:

$$\begin{aligned} \text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 2,122 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 530.5 \text{ lb. SOx /qtr.} \end{aligned}$$

$$\begin{aligned} \text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb./year} \div 4 \text{ qtr./year} \\ &= 0 \text{ lb. SOx /qtr.} \end{aligned}$$

PM₁₀:

$$\begin{aligned} \text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 2,234 \text{ lb. /year} \div 4 \text{ qtr. /year} \\ &= 558.5 \text{ lb. PM}_{10}\text{/qtr.} \\ &= 559 \text{ lb. PM}_{10}\text{/qtr.} \end{aligned}$$

$$\begin{aligned} \text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 0 \text{ lb. PM}_{10}\text{/qtr.} \end{aligned}$$

CO:

$$\begin{aligned}\text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 13,403 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 3,350.75 \text{ lb. CO/qtr.} \\ &= 3,351 \text{ lb. CO/qtr.}\end{aligned}$$

$$\begin{aligned}\text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 0 \text{ lb. CO/qtr.}\end{aligned}$$

VOC:

$$\begin{aligned}\text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 4,095 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 1,023.75 \text{ lb. VOC/qtr.} \\ &= 1,024 \text{ lb. VOC/qtr.}\end{aligned}$$

$$\begin{aligned}\text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 0 \text{ lb. VOC/qtr.}\end{aligned}$$

Quarterly NEC [QNEC]			
	PE2 (lb./qtr.)	PE1 (lb./qtr.)	QNEC (lb./qtr.)
NO _x	1,489	0	1,489
SO _x	531	0	531
PM ₁₀	559	0	559
CO	3,351	0	3,351
VOC	1,024	0	1,024

Unit S-1131-1139-0:

NO_x:

$$\begin{aligned}\text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 4,380 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 1,095 \text{ lb. NOx /qtr.}\end{aligned}$$

$$\begin{aligned}\text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb./year} \div 4 \text{ qtr./year} \\ &= 0 \text{ lb. NOx /qtr.}\end{aligned}$$

SO_x:

$$\begin{aligned}\text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 1,560 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 390 \text{ lb. SOx /qtr.}\end{aligned}$$

$$\begin{aligned}\text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb./year} \div 4 \text{ qtr./year} \\ &= 0 \text{ lb. SOx /qtr.}\end{aligned}$$

PM₁₀:

$$\begin{aligned}\text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 1,643 \text{ lb. /year} \div 4 \text{ qtr. /year} \\ &= 410.75 \text{ lb. PM}_{10}/\text{qtr.} \\ &= 411 \text{ lb. PM}_{10}/\text{qtr.}\end{aligned}$$

$$\begin{aligned}\text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 0 \text{ lb. PM}_{10}/\text{qtr.}\end{aligned}$$

CO:

$$\begin{aligned}\text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 9,855 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 2,463.75 \text{ lb. CO/qtr.} \\ &= 2,464 \text{ lb. CO/qtr.}\end{aligned}$$

$$\begin{aligned}\text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 0 \text{ lb. CO/qtr.}\end{aligned}$$

VOC:

$$\begin{aligned}\text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 3,011 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 752.75 \text{ lb. VOC/qtr.} \\ &= 753 \text{ lb. VOC/qtr.}\end{aligned}$$

$$\begin{aligned}\text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb. /year} \div 4 \text{ qtr./year} \\ &= 0 \text{ lb. VOC/qtr.}\end{aligned}$$

Quarterly NEC [QNEC]			
	PE2 (lb./qtr.)	PE1 (lb./qtr.)	QNEC (lb./qtr.)
NO _x	1,095	0	1,095
SO _x	390	0	390
PM ₁₀	411	0	411
CO	2,464	0	2,464
VOC	753	0	753

APPENDIX F:
CEQA GHG: PROJECT SPECIFIC ANALYSIS

San Joaquin Valley Air Pollution Control District Risk Management Review

To: William Jones – Permit Services
From: Cheryl Lawler – Technical Services
Date: September 17, 2014
Facility Name: Chevron USA Inc.
Location: Angus, FeeA, & ANO Sites, Bakersfield
Application #(s): S-1131-1134-0 thru 1139-0
Project #: S-1140568

A. RMR SUMMARY

RMR Summary				
Categories	Five Natural Gas Steam Generators (Units 1134-0 thru 1138-0)	One Natural Gas Steam Generator (Unit 1139-0)	Project Totals	Facility Totals
Prioritization Score	0.00 each	0.00	0.02	>1
Acute Hazard Index	0.00 each	0.00	0.01	0.36
Chronic Hazard Index	0.00 each	0.00	0.00	0.54
Maximum Individual Cancer Risk	1.73E-07 each	1.27E-07	9.92E-07	4.77E-06
T-BACT Required?	No	No		
Special Permit Conditions?	Yes	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 1134-0, 1135-0, 1136-0, 1137-0, 1138-0, 1139-0

- {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 September 15, 2014, to perform an Ambient Air Quality Analysis (AAQA) and a Risk Management Review (RMR) for the installation of five 85 MMBtu/hr. and one 62.5 MMBtu/hr. natural gas steam generators. The generators are used during enhanced oil production in the Kern River Oil Field at three different locations (Angus, FeeA, & ANO); therefore, the applicant would like to ability to operate all six generators at all three locations.

II. Analysis

For the Risk Management Review, Technical Services modeled all six generators at each of the three locations separately. The location that provided the worst case results for the RMR was the FeeA site; therefore, all risks found at this site were used for this project. Toxic emissions from the generators were calculated using Ventura County emission factors for natural gas 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 prioritization scores were less than 1.0 (see RMR Summary Table); however, the cumulative facility wide prioritization scores totaled to greater than 1.0. Therefore, a refined Health Risk Assessment was required and performed. AERMOD was used, with point source parameters outlined below, and concatenated 5-year meteorological data from Bakersfield to determine maximum dispersion factors at the nearest residential and business receptors. These dispersion factors were input into the HARP model to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters			
Source Types	Point		
Stack Heights (m)	6.1	Stack Gas Temperatures (K)	383
Stack Diameters (m)	0.91	Stack Gas Velocities (m/sec)	10.22
Natural Gas Process Rates (mmscf) Units 1134-0 thru 1138-0	0.085 hr. 744.6 yr.	Natural Gas Process Rates (mmscf) Unit 1139-0	0.0625 hr. 547.5 yr.
Closest Receptor Distance (m)	1006	Project Location	Rural
Closest Receptor Type	Business		

Technical Services also performed modeling for criteria pollutants CO, NO_x, SO_x, and PM₁₀; as well as the RMR. All six generators were again modeled at each of the three locations separately to ensure that each location does not cause a violation of a State or National AAQS. For Units 1134-0 thru 1138-0 each, the emission rates used for criteria pollutant modeling were 1.5 lb./hr. CO, 0.7 lb./hr. NO_x, 0.2 lb./hr. SO_x, and 0.3 lb./hr. PM₁₀. For Unit 1139-0, the emission rates used for criteria pollutant modeling were 1.13 lb./hr. CO, 0.5 lb./hr. NO_x, 0.17 lb./hr. SO_x, and 0.19 lb./hr. PM₁₀.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Values are in $\mu\text{g}/\text{m}^3$

Six NG Generators	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass	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 spreadsheets.

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

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.

For each unit, the acute and chronic indices are below 1.0; and the maximum individual cancer risk associated with each unit 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 the proposed 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.

Attachments

RMR Request Form & Attachments
Project Email
Prioritization
Risk Results
AAQA Results
Facility Summary

**APPENDIX G:
STATEWIDE COMPLIANCE STATEMENT AND TITLE V
COMPLIANCE CERTIFICATION FORM**

**San Joaquin Valley
Unified Air Pollution Control District**

RECEIVED
FEB 14 2014
SJVAPCD
Southern Region

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

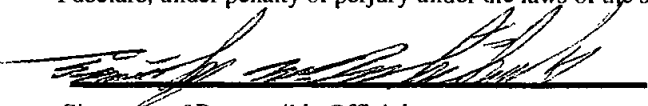
- ☒ SIGNIFICANT PERMIT MODIFICATION ☐ ADMINISTRATIVE
☐ MINOR PERMIT MODIFICATION AMENDMENT

COMPANY NAME: CHEVRON U.S.A., INC.	FACILITY ID: S -1131
1. Type of Organization: ☒ Corporation ☐ Sole Ownership ☐ Government ☐ Partnership ☐ Utility	
2. Owner's Name: CHEVRON U.S.A., INC.	
3. Agent to the Owner: N/A	

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

- ☒ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- ☒ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- ☒ Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- ☒ Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

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



Signature of Responsible Official

2/14/14

Date

Timothy Nishikubo

Name of Responsible Official (please print)

Kern River Operations Supervisor

Title of Responsible Official (please print)



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)

Mr. Seyed Sadredin
Statewide Compliance Certification
February 26, 2014
Page 2

- 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,

A handwritten signature in black ink, appearing to read 'Donald Puckett', with a long horizontal stroke extending to the right.

Donald Puckett
General Manager - Operations