



# San Joaquin Valley

## AIR POLLUTION CONTROL DISTRICT



APR 30 2014

Mr. Jack Jones  
Exxon Mobil Corporation  
Port Hueneme Support Facility  
5901 Arcturus Road  
Oxnard, CA 93033-9003

**Re: Notice of Preliminary Decision – ATC / Certificate of Conformity**  
**District Facility # S-1328**  
**Project # S-1140621**

Dear Mr. Jones:

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 Significant Title V Permit Modification includes revisions to the sulfur monitoring conditions on 4 permits.

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:SR/st

Enclosures

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

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Executive Director/Air Pollution Control Officer

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**San Joaquin Valley Air Pollution Control District  
Authority to Construct Application Review  
Revise Sulfur Monitoring Conditions on  
3 Steam Generators and 1 TEOR System with a Flare**

Facility Name: Exxon Mobil Corporation  
Mailing Address: Port Hueneme Support Facility  
5901 Arcturus Road  
Oxnard, CA 93033

Date: 4/14/14  
Engineer: Steve Roeder  
Lead Engineer: Rich Karrs

Contact Person: Jack Jones @ (661)-762-7383

email: [jack.e.jones@exxonmobil.com](mailto:jack.e.jones@exxonmobil.com)

Fax: (661) 762-7284

ATCs: S-1328-1-22, 2-23, 3-23 and 7-16

Project: S-1140621

Deemed Complete: 3/4/14

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**I. Proposal**

The primary business of Exxon Mobil Corporation is oil and gas production. Exxon currently operates 171 steam drive wells that are connected to a vapor control system.

The vapor control system includes two H<sub>2</sub>S scrubbing vessels. The waste gas is scrubbed to reduce the SO<sub>x</sub> emissions and is incinerated in a flare, or one of three steam generators.

As required, Exxon Mobil currently monitors the H<sub>2</sub>S content of TEOR scrubbed well vent vapor on a daily basis using a detector tube at the fuel gas H<sub>2</sub>S scrubber outlet. The H<sub>2</sub>S content of the sweet field gas combusted in the steam generators and the scrubbed well vent vapor are also determined monthly by sample analysis by independent testing laboratory.

Exxon Mobil has proposed eliminating the requirement for daily H<sub>2</sub>S monitoring using a detector tube and modifying the monthly sampling/testing of the sweet gas and well vent vapor to include total sulfur compounds rather than only H<sub>2</sub>S. Exxon Mobil argues, and the District agrees, monitoring of H<sub>2</sub>S with detector tubes is an ineffective way of determining the total sulfur content of the scrubbed vapor, as compound such as dimethyl sulfide and mercaptans, which exist in significant quantities, are not picked up by the detector tube. Monthly, rather than daily, sampling of the scrubbed well vent vapor is sufficient to determine total sulfur concentrations and assess the performance of the scrubbers and determine when scrubber liquid requires replacement.

Exxon Mobil has a Title V permit. This project will require a Title V Significant Permit Modification pursuant to Rule 2520 *Federally Mandated Operating Permits*, and shall be processed with a Certificate of Conformity (COC). Therefore the 45-day EPA comment period will be satisfied prior to the issuance of the Authorities to Construct. Prior to operating under the new ATCs, Exxon Mobil must apply to administratively amend their Title V permit.

Authorities to Construct S-1328-1-21, 2-22, 3-22 and 7-15 have already been implemented, inspected, have been issued change orders and will serve as the base documents for this project. See the base documents in Appendix C.

## 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 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 4311 Flares (6/18/09)  
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)  
**Not applicable**, steam generators are located west of Interstate Highway 5.  
Rule 4401 Steam-Enhanced Crude Oil Production Wells (6/16/11)  
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, Div 6, Chap 3, Sections 15000-15387: CEQA Guidelines

## III. Project Location

This project is located at the Hill Lease in the South Belridge Oil Field, (Section 19, Township 28S, Range 21E) in Exxon Mobil's Heavy Oil Western Stationary Source.

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 and Detailed Proposal

The steam generators and the flare, which have the potential to combust well vent casing gas, have a combined limit of 41,975 lb-SO<sub>x</sub>/year. Each emissions unit separately has a DEL of 42.9 lb-SO<sub>x</sub>/day.

Currently, the operator is required to perform daily sulfur monitoring with detection tubes (at the gas sulfur scrubber outlet) and then estimate the daily sulfur emissions from each combustion device by calculation using the measured volumes and H<sub>2</sub>S concentrations of the well vent vapor and sweet gas.

Compliance is ensured by the following permit conditions requiring daily H<sub>2</sub>S sampling and fuel volumes, monthly H<sub>2</sub>S analysis and the SO<sub>x</sub> calculation methods as follows:

##### Daily Sampling

S-1328-7-14

23: Permittee shall measure H<sub>2</sub>S concentration from on-line scrubber(s) outlet with District-approved device (e.g. MSA Samplair pump unit No. 463998 and MSA H<sub>2</sub>S detector tubes) at least daily when scrubber is in operation. [District Rules 1070 and 2201]

##### Monthly Analysis

S-1328-1-20 #14

S-1328-2-21 #14

S-1328-3-21 #14, and

S-1328-7-14 #21

Permittee shall sample sweet and noncondensable vapor gas monthly for H<sub>2</sub>S concentration and shall maintain daily records of sweet & noncondensable vapor gas flowrate (scfd). [District Rule 2201]

##### Calculation Method:

S-1328-1-20 #6

S-1328-2-21 #6

S-1328-3-21 #6, and

S-1327-7-14 #8

SO<sub>x</sub> (as SO<sub>2</sub>) =  $(1.68 \times 10E-7) \times \{(P1 \times F1) + (P2 \times F2)\}$  = lb/day: P1 = ppmv H<sub>2</sub>S in sweet gas, P2 = ppmv H<sub>2</sub>S in noncondensable vapor gas, F1 = sweet gas (scf/day), and F2 = noncondensable vapor gas (scf/day). [District Rule 2201]

Exxon Mobil requests that Condition 23 of the flare permit be removed for the following reasons:

- Pulling daily H<sub>2</sub>S detector tubes is not an effective basis for calculating SO<sub>x</sub> emissions, as various other sulfur sources (dimethyl sulfide, mercaptans, etc.) are generally in higher concentrations in the gas streams than H<sub>2</sub>S and are not detected. The daily detector tubes usually give results in the 0-4 ppm concentration range due to the efficiency of the Sulfa-Treat scrubbers in removing H<sub>2</sub>S. The scrubbers are not as effective at removing

other sulfur species, therefore these non-H<sub>2</sub>S species are the forms of sulfur that remain in the stream and are burned in the combustion sources. The data from the H<sub>2</sub>S tubes severely underestimate SO<sub>x</sub> emissions.

- Sampling the scrubber vent vapor on a daily frequency is not warranted, as previous sampling results have shown consistent concentrations and scrubber performance. Monthly sampling of the scrubber well vent vapor and testing for total sulfur should be sufficient. Additionally, Exxon Mobil has stated that sampling using detector tubes entails complex and time-consuming safety procedures. For every day that an Exxon Mobil employee is required to pull a sample, safety plans and documents must be completed, reviewed, and approved by supervisors. Operators must use a self-contained breathing apparatus (SCUBA) when pulling samples. In light of the above discussion, daily sampling of the scrubbed well vent vapors is not justified.

Exxon Mobil will modify its current monthly sampling protocol to test for total sulfur. Monthly samples sweet gas and scrubbed well vent vapor will be pulled by a certified sampling technician and, along with the daily quantities of gas and vapor burned, will be used to calculate SO<sub>x</sub> emissions. The modified calculation formula is shown below:

#### A. Calculation Method

The following condition shall be changed from:

S-1328-1-20 #6  
S-1328-2-21 #6  
S-1328-3-21 #6, and  
S-1327-7-14 #8

SO<sub>x</sub> (as SO<sub>2</sub>) =  $(1.68 \times 10^{-7}) \times \{(P1 \times F1) + (P2 \times F2)\}$  = lb/day: P1 = ppmv H<sub>2</sub>S in sweet gas, P2 = ppmv H<sub>2</sub>S in noncondensable vapor gas, F1 = sweet gas (scf/day), and F2 = noncondensable vapor gas (scf/day). [District Rule 2201]

TO:

Daily SO<sub>x</sub> emissions shall be calculated as follows: SO<sub>x</sub> (lb/day) =  $(1.68 \times 10^{-7}) \times \{(P1 \times F1) + P2 \times F2\}$ , where P1 = ppmv total sulfur (as H<sub>2</sub>S) in sweet gas, P2 = ppmv total sulfur (as H<sub>2</sub>S) in noncondensable vapor gas, F1 = sweet gas flowrate (scf/day) and F2 = noncondensable vapor gas (scf/day). [District Rule 2201]

## B. Sampling

The following condition shall be changed from:

S-1328-1-20 #14  
S-1328-2-21 #14  
S-1328-3-21 #14, and  
S-1327-7-14 #21

Permittee shall sample sweet and noncondensable vapor gas monthly for H<sub>2</sub>S concentration and shall maintain daily records of sweet & noncondensable vapor gas flowrate (scfd). [District Rule 2201]

To:

Permittee shall sample sweet and noncondensable vapor gas monthly for total sulfur concentration (as H<sub>2</sub>S) and shall maintain daily records of sweet and noncondensable vapor gas flowrate (scf/day). [District Rules 2201 and 4320]

## C. Sampling

Remove the following condition:

S-1328-7-14 #23:

Permittee shall measure H<sub>2</sub>S concentration from on-line scrubber(s) outlet with District-approved device (e.g. MSA Samplair pump unit No. 463998 and MSA H<sub>2</sub>S detector tubes) at least daily when scrubber is in operation. [District Rules 1070 and 2201]

## **V. Equipment Listing**

### Pre-Project Equipment Descriptions:

- S-1328-1-21: 62.5 MMBTU/HR GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #64) WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O<sub>2</sub> CONTROLLER (HILL LEASE)
- S-1328-2-22: 62.5 MMBTU/HR GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #65) WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O<sub>2</sub> CONTROLLER (HILL LEASE)
- S-1328-3-22: 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #66) WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O<sub>2</sub> CONTROLLER (HILL LEASE)

S-1328-7-15: THERMALLY ENHANCED OIL RECOVERY OPERATION SERVING 171 STEAM DRIVE WELLS WITH VAPOR CONTROL SYSTEM, INCLUDING PERMIT EXEMPT HEATER TREATER (FORMERLY S-1328-56) OFF-GAS, GAS/LIQUID SEPARATOR, COMPRESSOR, CONDENSERS, TWO H<sub>2</sub>S SCRUBBING VESSELS, FLARE, AND ASSOCIATED PIPING

ATC Equipment Descriptions:

S-1328-1-22: MODIFICATION OF 62.5 MMBTU/HR GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #64) WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O<sub>2</sub> CONTROLLER (HILL LEASE): REVISE SULFUR MONITORING CONDITIONS

S-1328-2-23: MODIFICATION OF 62.5 MMBTU/HR GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #65) WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O<sub>2</sub> CONTROLLER (HILL LEASE): REVISE SULFUR MONITORING CONDITIONS

S-1328-3-23: MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #66) WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O<sub>2</sub> CONTROLLER (HILL LEASE): REVISE SULFUR MONITORING CONDITIONS

S-1328-7-16: MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY OPERATION SERVING 171 STEAM DRIVE WELLS WITH VAPOR CONTROL SYSTEM, INCLUDING PERMIT EXEMPT HEATER TREATER (FORMERLY S-1328-56) OFF-GAS, GAS/LIQUID SEPARATOR, COMPRESSOR, CONDENSERS, TWO H<sub>2</sub>S SCRUBBING VESSELS, FLARE, AND ASSOCIATED PIPING: REVISE SULFUR MONITORING CONDITIONS

Post-Project Equipment Descriptions

S-1328-1-22: 62.5 MMBTU/HR GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #64) WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O<sub>2</sub> CONTROLLER (HILL LEASE)

S-1328-2-23: 62.5 MMBTU/HR GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #65) WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O<sub>2</sub> CONTROLLER (HILL LEASE)

S-1328-3-23: 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #66) WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O<sub>2</sub> CONTROLLER (HILL LEASE)

S-1328-7-16: THERMALLY ENHANCED OIL RECOVERY OPERATION SERVING 171 STEAM DRIVE WELLS WITH VAPOR CONTROL SYSTEM, INCLUDING PERMIT EXEMPT HEATER TREATER (FORMERLY S-1328-56) OFF-GAS, GAS/LIQUID SEPARATOR, COMPRESSOR, CONDENSERS, TWO H<sub>2</sub>S SCRUBBING VESSELS, FLARE, AND ASSOCIATED PIPING

## **VI. Emission Control Technology Evaluation**

Emissions from gas-fired steam generators and flares include NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, and VOC.

Since there are no proposed changes in emissions or equipment, an emission control technology evaluation is not necessary.

## **VII. General Calculations**

Since there are no proposed changes in emissions or equipment, this project is not a modification as defined in Rule 2201. As such, no calculations are necessary.

## **VIII. Compliance**

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

The applicant has proposed to revise the sulfur monitoring conditions.

The proposal does not include:

- 1) any change in hours of operation, production rate, or method of operation of an existing emissions unit, which would necessitate a change in permit conditions,
- 2) any structural changes or additions to any existing emissions units which would necessitate a change in permit conditions,
- 3) any increase in emissions,
- 4) the addition of any new emissions unit which is subject to District permitting requirements, or
- 5) any changes in a permit term or condition proposed by an applicant to obtain an exemption from an applicable requirement to which the source would otherwise be subject.

Therefore, pursuant to Section 3.25 of Rule 2201, the proposal is not considered to be a modification subject to Rule 2201, and Rule 2201 is not applicable to this project.

### **Rule 2410 Prevention of Significant Deterioration**

The applicant's proposal is not a modification as defined in PSD. As such, the project is not subject to any requirement under Rule 2410.



## **Rule 2520 Federally Mandated Operating Permits**

This facility has received their Title V Operating Permit and the change in permit conditions will result in a Title V Permit Modification.

According to Section 3.20.2, a minor permit modification is a permit modification that does not relax monitoring, reporting, or recordkeeping requirements. Since the applicant has proposed to replace daily sulfur monitoring conditions with monthly sulfur monitoring conditions, the proposal is considered to be a relaxation in monitoring, and the resulting changes to the permit are not considered to be minor permit modifications.

Section 3.29 defines a significant permit modification as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

Therefore, this project will require a Significant Permit Modification, and pursuant to Section 11.3, a public notification is required.

In addition, the applicant has requested a Certificate of Conformity (COC). Therefore, prior to the final issuance of the ATCs, this project will be subject to a public notice as well as a concurrent EPA COC notice.

The following conditions are listed on the Authorities to Construct to ensure compliance.

- 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]
- 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]

## **Rule 4001 New Source Performance Standards (NSPS)**

40 CFR Part 60, Subpart Dc applies to Small Industrial-Commercial-Industrial Steam Generators between 10 MMBtu/hr and 100 MMBtu/hr (post-6/9/89 construction, modification or, reconstruction).

The subject steam generators have a rating of 62.5 MMBtu/hr MMBtu/hr and are gas-fired. Subpart Dc has no standards for gas-fired steam generators. Therefore the subject steam generator is not an affected facilities and subpart Dc does not apply.

There are no NSPS listed in Rule 4001 for flares.

Continued compliance with Rule 4001 is expected.

## **Rule 4101 Visible Emissions**

Rule 4101 states that 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). Visible emissions exceeding Ringelmann 1 or 20% opacity are not expected from these gas-fired steam generators. Also, based on past inspections of the facility, continued compliance is expected.

The following condition is listed on facility-wide permit (S-1328-0-2) to ensure compliance.

- {4383} 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 (02/17/05). 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, and County Rules 401 (in all eight counties in the San Joaquin Valley)]

Continued compliance with District Rule 4101 is expected.

## **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 Analysis**

District Policy APR 1905 – Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

Since there is no increase in emissions associated with this project, no health risk analysis is required, and continued compliance with Rule 4102 is expected.

The following condition is listed on the facility-wide permit to ensure compliance.

- {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

## Rule 4201 Particulate Matter Concentration

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

F-Factor for NG:	8,578 dscf/MMBtu at 60 °F
PM <sub>10</sub> Emission Factor for Steam Generators:	0.0032 lb-PM <sub>10</sub> /MMBtu
PM <sub>10</sub> Emission Factor for Flare:	0.0202 lb-PM <sub>10</sub> /MMBtu
Percentage of PM as PM <sub>10</sub> in Exhaust:	100%
Exhaust Oxygen (O <sub>2</sub> ) Concentration:	3%
Excess Air Correction Factor =	$\frac{20.9}{20.9-3} = 1.17$

### 1. Steam Generators

$$\frac{\left(\frac{0.005 \text{ lb} \cdot \text{PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grains}}{\text{lb}}\right)}{\frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17} = 0.0035 \frac{\text{grains} \cdot \text{PM}}{\text{ft}^3}$$

### 2. Flare

$$\frac{\left(\frac{0.0202 \text{ lb} \cdot \text{PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grains}}{\text{lb}}\right)}{\frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17} = 0.014 \frac{\text{grains} \cdot \text{PM}}{\text{ft}^3}$$

Since the grain loading is 0.0035 grains/dscf for the steam generators and 0.014 grains/dscf for the flare, compliance with District Rule 4201 requirements is expected and the following condition is listed on each permit to ensure compliance.

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

## Rule 4301 Fuel Burning Equipment

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

District Rule 4301 Limits (lb/hr)			
Pollutant	NO <sub>2</sub>	Total PM	SO <sub>2</sub>
All Steam Generators and Flare Combined*	2.9	0.8	4.8
Rule Limit	140	10	200

\*Taken from project S-1075315

Since none of the values in the table exceed Rule 4301 limits, continued compliance is expected.

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

The steam generators are gas-fired with a maximum heat input of 62.5 85 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4305; the units are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2*.

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

Since 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 requirements of District Rule 4305.

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

The steam generators are gas-fired, with a maximum heat input of 62.5 MMBtu/hr. Therefore the steam generators are subject to this rule.

The units 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 4306 requirements, compliance with District Rule 4320 will satisfy requirements of District Rule 4306. See the discussion of Rule 4320 below.

### **Rule 4311 - Flares**

The purpose of this Rule is to limit the emissions of volatile organic compounds (VOC), oxides of nitrogen (NO<sub>x</sub>), and sulfur oxides (SO<sub>x</sub>) from the operation of flares.

The flare was most recently evaluated during the Title V Renewal Project S-1094887 (Finalized 12/23/11) and found to comply with Rule 4311.

Section 5.8 requires that, in order to operate a flare past July 1, 2011, a flare minimization plan be submitted to the District. The plan was submitted on 6/30/10 and subsequently approved (Project 1103494).

The following conditions remain listed on S-1328-7-16 to ensure compliance with Rule 4311.

16. Standby flare shall comply with all requirements of District Rule 4311. [District Rule 4311]
17. The flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311, 5.2]

18. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311, 5.3]
19. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. [District Rule 4311, 5.4]
20. {2332} Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5]
21. Open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. [District Rule 4311, 5.6]

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

This rule limits NO<sub>x</sub>, CO, SO<sub>2</sub> and PM<sub>10</sub> emissions from boilers, steam generators and process heaters rated at greater than 5 MMBtu/hr. This rule also provides a compliance option of payment of fees in proportion to the actual amount of NO<sub>x</sub> emitted over the previous year.

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

**Section 5.1 Requirements (NO<sub>x</sub> and CO)**

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

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

Exxon Mobil has elected to comply with Section 5.1.2, and the following conditions are listed on the permits to ensure compliance.

1. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO<sub>x</sub> emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until

either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO<sub>x</sub> emission limit listed in Rule 4320. [District Rule 4320]

2. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320] Y

## **Section 5.4 Particulate Matter Control Requirements**

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

- 5.4.1.1 Firing the unit exclusively on PUC-quality gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;
- 5.4.1.2 Limiting the fuel sulfur content to no more than five (5) grains of total sulfur per hundred (100) standard cubic feet.
- 5.4.1.3 Installing and properly operating an emissions control system that reduces SO<sub>2</sub> emissions by at least 95% by weight; or limit exhaust SO<sub>2</sub> to less than or equal to 9 ppmv corrected to 3 % O<sub>2</sub>.

Pursuant to the Rule 4320 Emission Control Plan, received on 12/10/09, the operator has complied with Section 5.4.1.2. According to the most recent sulfur analysis (Appendix A) the gas sulfur content is currently 0.49 grains of sulfur per 100 scf of gas.

Pursuant to Rule 4320, the following condition will be added to each steam generator permit to ensure compliance.

- Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet of gas. [District Rule 4320]

## **Section 5.5 Low-Use Unit**

This section discusses the requirements of low-use units. This section of the rule is not applicable to this project.

## **Section 5.6 Start-up and Shutdown Provisions**

The applicable limits of Sections 5.2 Table 1 shall not apply during start-ups or shut-downs provided the duration of each start-up or each shutdown does not exceed 2 hours and the control system is in operation and emissions minimized (insofar as technologically feasible). The following conditions are retained on each permit to ensure compliance:

- During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201]

- Daily maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day or 24.0 lb-CO/day. [District Rule 2201]
- Start-up is defined as that period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as that period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4306 and 4320]
- The duration of each start-up or each shutdown shall not exceed two hours per occurrence. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. The operator shall maintain daily records of the number and duration of start-up and shutdown periods. [District Rules 4306 and 4320]

## **Section 5.7 Monitoring Provisions**

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

Exxon Mobil has implemented Alternate Monitoring Scheme A (pursuant to District Policy SSP-1105), which requires periodic monitoring of NO<sub>x</sub>, CO, and O<sub>2</sub> concentrations at least once a month using a portable analyzer.

The following conditions will be retained on the permits to ensure compliance:

- The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every calendar month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320]
- If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320]

- All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]
- The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320]

**Section 5.7.6.1** requires that operators complying with Sections 5.4.1.1 or 5.4.1.2 shall provide an annual fuel analysis to the District unless a more frequent sampling and reporting period is included in the Permit To Operate.

Exxon Mobil had and has specifically requested a more frequent sulfur monitoring frequency on their permit than what is specified above. The following conditions will be listed on each permit to ensure compliance.

- Permittee shall sample sweet and noncondensable vapor gas monthly for total sulfur (as H<sub>2</sub>S) concentration and shall maintain daily records of sweet and noncondensable vapor gas flowrate (scf/day). [District Rules 2201 and 4320]

## **Section 5.8 Compliance Determination**

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

- 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 PTO. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0. The following condition is listed on the permits to ensure compliance.



- 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]

Section 5.8.4 requires that for emissions monitoring pursuant to Sections 5.7.1 and 6.3.1 using a portable NO<sub>x</sub> analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15-consecutive-minute period. The following condition is listed on the permits to ensure compliance.

- All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]

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

- 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 condition is listed on the permits to ensure compliance.

- 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 test methods to be used when determining compliance with the rule. The following conditions are listed on the permits to ensure compliance.

- The fuel hhv shall be certified by third party fuel supplier or determined annually by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 4320]
- Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
- The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 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 H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588, PM<sub>10</sub> - EPA Methods 5, 201A, and/or 202, CARB Method 5, or any combination of these PM<sub>10</sub> methods with both filterable and condensable PM<sub>10</sub> measured. [District Rules 1081, 4305, 4306 and 4320]

## Section 6.3, Compliance Testing

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

- Source testing to measure NO<sub>x</sub> 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 4305, 4306 and 4320]
- The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Sections 6.3.2.1 through 6.3.2.7 address the requirements of group testing which is not proposed in this project. Therefore these sections are not applicable.

## Conclusion

Compliance with District Rule 4320 is expected.

### Rule 4401 Steam-Enhanced Crude Oil Production Wells

The purpose of this Rule is to limit the Volatile Organic Compound (VOC) emissions from steam-enhanced crude oil production wells.

The TEOR system was most recently evaluated during Project S-1140254. The following conditions remain on permit S-1328-7-16 to ensure compliance.

26. Gas and liquid leaks are as defined in Section 3.20 of Rule 4401. [District Rule 4401, 3.20]
27. Any steam-enhanced crude oil production well undergoing service or repair during the time the well is not producing shall be exempt from the requirements of Rule 4401. [District Rule 4401, 4.1]
28. The requirements of this rule shall not apply to components serving the produced fluid line. [District Rule 4401, 4.5]
29. Except for complying with the applicable requirements of Section 6.1, Section 6.6.6 and Section 7.2, the requirements of this rule shall not apply to components described in Section 4.6.1 through Section 4.6.4. An operator claiming an exemption pursuant to Section 4.6 shall provide proof of the applicable criteria to the satisfaction of the APCO. [District Rule 4401, 4.6]
30. An operator shall not operate a steam-enhanced crude oil production well unless the operator complies with either of the following requirements: The steam-enhanced crude oil production well vent is closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401, the well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere, or the steam-enhanced crude oil production well vent is open and the well vent is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401. [District Rule 4401, 5.1.1 and 5.1.2]
31. An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.4 of Rule 4401 demonstrates the existence of an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations as defined by Section 5.2.2.1 of Rule 4401 requiring process fluid flow through the open-ended lines, a component with a major liquid leak, or a component with a gas leak greater than 50,000 ppmv. [District Rule 4401, 5.2.2]

32. An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.4 of Rule 4401 demonstrates the existence of any combination of components with minor liquid leaks, minor gas leaks, or a gas leaks greater than 10,000 ppmv up to 50,000 ppmv that totals more than number of leaks allowed by Table 2 of Rule 4401. [District Rule 4401, 5.2.2]
33. An operator shall not use any component with a leak as defined in Section 3.0 of Rule 4401, or that is found to be in violation of the provisions of Section 5.2.2 of Rule 4401. However, components that were found leaking may be used provided such leaking components have been identified with a tag for repair, are repaired, or awaiting re-inspection after being repaired within the applicable time frame specified in Section 5.5 of Rule 4401. [District Rule 4401, 5.3.1]
34. Each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401, 5.3.2] Y
35. An operator shall comply with the requirements of Section 6.7 of Rule 4401 if there is any change in the description of major components or critical components. [District Rule 4401, 5.3.3]
36. Unless exempt under Section 4.7 or Rule 4401, except for pipes and unsafe-to-monitor components, an operator shall inspect all other components pursuant to the requirements of Section 6.3.3 of Rule 4401 at least once every year. [District Rule 4401, 5.4.1]
37. Unless exempt under Section 4.7 or Rule 4401, an operator shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.2]
38. Unless exempt under Section 4.7 or Rule 4401, in addition to the inspections required by Section 5.4.1 of Rule 4401, an operator shall inspect for leaks all accessible operating pumps, compressors, and PRDs in service as follows: An operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, and PRDs in service at least once each calendar week. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.3]
39. Unless exempt under Section 4.7 or Rule 4401, in addition to the inspections required by Sections 5.4.1, 5.4.2 and 5.4.3 of Rule 4401, operator shall perform the following: initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release, re-inspect the PRD not earlier than 24 hours

after the initial inspection but not later than 15 calendar days after the initial inspection, inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. Except for PRDs subject to the requirements of Section 5.4.4.1 of Rule 4401, an operator shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401, 5.4.4]

40. Unless exempt under Section 4.7 or Rule 4401, an operator shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401, 5.4.5]
41. A District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator. [District Rule 4401, 5.4.6]
42. An operator shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak and shall include the following information on the tag: date and time of leak detection, date and time of leak measurement, for a gaseous leak, the leak concentration in ppmv, for a liquid leak, whether it is a major liquid leak or a minor liquid leak, whether the component is an essential component, an unsafe-to monitor component, or a critical component. [District Rule 4401, 5.5.1]
43. An operator shall keep the tag affixed to the component until an operator has met all of the following conditions: repaired or replaced the leaking component, re-inspected the component using the test method in Section 6.3.3, and the component is found to be in compliance with the requirements of this rule. [District Rule 4401 5.5.2]
44. An operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401, 5.5.3]
45. Except for leaking critical components or leaking essential components subject to the requirements of Section 5.5.7 of Rule 4401, if an operator has minimized a leak but the leak still exceeds the applicable leak limits as defined in Section 3.0 of Rule 4401, an operator shall comply with at least one of the following requirements as soon as practicable but not later than the time period specified in Table 3 of Rule 4401: Repair or replace the leaking component; or vent the leaking component to a VOC collection and control system as defined in Section 3.0 of Rule 4401, or remove the leaking component from operation. [District Rule 4401, 5.5.4]
46. The repair period in calendar days shall not exceed 14 days for minor gas leaks, 5 days for major gas leaks less than or equal to 50,000 ppmv, 2 days for gas leak greater than 50,000 ppmv, 3 days for minor liquid leaks, 2 days for major liquid leaks. [District Rule 4401, 5.5.4]
47. The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period specified in Table 3 of Rule 4401. [District Rule 4401, 5.5.5]

48. The time of the initial leak detection shall be the start of the repair period specified in Table 3 of Rule 4401. [District Rule 4401, 5.5.6]
49. If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. [District Rule 4401, 5.5.7]
50. All records of required monitoring data and support information shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4401, 6.1]
51. The operator of any steam-enhanced crude oil production well shall maintain records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401, 6.1.1]
52. Records of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components, including a copy of current calibration gas certification from the vendor of said calibration gas cylinder, the date of calibration, concentration of calibration gas, instrument reading of calibration gas before adjustment, instrument reading of calibration gas after adjustment, calibration gas expiration date, and calibration gas cylinder pressure at the time of calibration shall be maintained. [District Rule 4401, 6.1.5]
53. An operator shall maintain copies at the facility of the training records of the training program operated pursuant to Section 6.5 of Rule 4401. [District Rule 4401, 6.1.6]
54. Operator shall keep a copy of the APCO-approved Operator Management Plan at the facility. [District Rule 4401, 6.1.7]
55. An operator that discovers that a PRD has released shall record the date that the release was discovered, and the identity and location of the PRD that released. An operator shall submit such information recorded during the calendar year to the APCO no later than 60 days after the end of the calendar year. [District Rule 4401, 6.1.10]
56. If approved by the APCO, an operator need not comply with the annual testing requirement of Section 6.2.1 of Rule 4401 if all uncondensed VOC emissions collected by a vapor collection are controlled by an internal combustion engine subject to Rule 4702, a combustion device subject to Rule 4320, 4307 or 4308, a flare subject to Rule 4311. [District Rule 4401, 6.2.2]
57. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas

chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4401, 6.3.1]

58. VOC content shall be analyzed by using the latest revision of ASTM Method E168, E169, or E260 as applicable. Analysis of halogenated exempt compounds shall be performed by using ARB Method 432. [District Rule 4401, 6.3.2]
59. Leak inspection, other than audio-visual, and measurements of gaseous leak concentrations shall be conducted according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instruction, as appropriate, not more than 30 days prior to its use. The operator shall record the calibration date of the instrument. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one (1) centimeter or less from the surface of the component interface. [District Rule 4401, 6.3.3]
60. The VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval for TEOR gas, and South Coast Air Quality Management District (SCAQMD) Method 304-91 or the latest revision of ASTM Method E168, E169 or E260 for liquids. [District Rule 4401, 6.3.4]
61. Operator shall maintain an inspection log pursuant to Section 6.4 of Rule 4401, including, at a minimum, all of the following information for each inspection performed: The total number of components inspected, total number and percentage of leaking components found by component type, location, type, and name or description of each leaking component and description of any unit where the leaking component is found, date of leak detection and the method of leak detection. For gaseous leaks, the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak. the date of repair, replacement, or removal from operation of leaking components, identify and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, the date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced, the inspector's name, business mailing address, and business telephone number, date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401, 6.1.4 and 6.4]
62. Permittee shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures, as necessary. [District Rule 4401, 6.5]

63. In accordance with the approved Operator Management Plan (OMP), permittee shall meet all applicable operating, leak standards, inspection and re-inspection, leak repair, record keeping, and notification requirements of Rule 4401. [District Rule 4401, 6.6]
64. By January 30 of each year, permittee shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved OMP. [District Rule 4401, 6.7]

### Rule 4801 Sulfur Compounds

This Rule states that 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 of 0.2% by volume calculated as SO<sub>2</sub>, on a dry basis, averaged over 15 consecutive minutes.

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

$$\text{Volume SO}_2 = \frac{N \cdot R \cdot T}{P}, \text{ where}$$

N = Moles of SO<sub>2</sub>

T = Standard Temperature = 60°F or 520°R

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

The waste gas is limited to 5 grains of sulfur per 100 scf of gas. The concentration of SO<sub>x</sub> in the exhaust is calculated in ppmv as follows.

$$\frac{5 \text{ grains} \cdot S}{100 \text{ scf}} \times \frac{2 \text{ grains SO}_2}{\text{grain S}} \times \frac{1 \text{ lb}}{7,000 \text{ grains}} \times \frac{1 \text{ lb} \cdot \text{mole}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mole} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \text{ parts}}{\text{million}} = 84.7 \frac{\text{parts}}{\text{million}}$$

The sulfur concentration is 85 ppmv which is less than 2,000 ppmv. Therefore, compliance with this rule is expected.

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

This site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

### California Environmental Quality Act (CEQA)

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 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; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) are exempt from Best Available Control Technology (BACT) requirements. Furthermore, the District has determined that potential emission increases would have a less than significant health impact on sensitive receptors.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

## IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue ATCs S-1328-1-22, 2-23, 3-23 and 7-16 subject to the conditions listed on the attached draft ATCs.

## X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1328-1-22	3020-10-H	62.5 MMBtu/hr	\$ 1030.00
S-1328-2-23	3020-10-H	62.5 MMBtu/hr	\$ 1030.00
S-1328-3-23	3020-10-H	62.5 MMBtu/hr	\$ 1030.00
S-1328-7-16	3020-09-A	171 Vapor Controlled Wells	\$ 1597.14

## Appendixes

- A. Recent Gas Analysis
- B. Emission Profiles
- C. Base Documents
- D. Draft ATCs

## **APPENDIX A**

### **Recent Gas Analysis**

**ZALCO LABORATORIES, INC.**

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Exxon Mobil  
 18271 Hwy 33  
 McKittrick

CA 93251

Laboratory No: 1305062-02  
 Date Received: 05/06/13  
 Date Analyzed: 05/07/13

Attention: Scott Wade

Sample Description: Meter 3095 Gas Purchased From Seneca Grab Sample  
 Sampled: 5/6/2013 @ 11:05:00 AM by Justin Graves

### Chromatographic Analysis: ASTM D1945-03, ASTM D3246-11

Constituent:	Result	Units
Sulfur	0.49	grs S/100 SCF
Total Sulfur	7.99	ppmv

### Chromatographic Analysis: ASTM D1945-03, ASTM D3246-11, GRAVIMETRIC, ASTM D3246-11

Constituent:	Mole %	Weight %	GPM	Fractions	CHONS%
					Carbon, C
Oxygen	0.121	0.155	(Gallons per		57.13
Nitrogen	3.009	3.378	1000.000		
			cubic feet)		Hydrogen, H
Carbon Dioxide	19.556	34.494			14.26
Carbon Monoxide	0.000	0.000			
					Oxygen, O
Methane	61.694	39.666			25.24
Ethane	9.957	12.000			
Propane	5.159	9.117	1.419	-(C3...C3) = 1.419	Nitrogen, N
IsoButane	0.181	0.420	0.059		3.38
n-Butane	0.298	0.694	0.094	(C3...C4) = 1.572	
IsoPentane	0.014	0.040	0.005		Sulfur, S
n-Pentane	0.009	0.027	0.003	(C3...C5) = 1.580	0.00
Hexanes	0.002	0.008	0.001	(C3...C6+) = 1.581	
Totals:	100.00	100.00	1.581	6.151	100.00

Flammable Gases:	77.314
Gas Properties calculated @ STP: degrees F.	60
Measurement Base Pressure @ STP: psia	14.696
	H/C Ratio: 0.25

Gas State	Dry		Wet
	Btu / Cu. Ft	Btu / lb	Btu / Cu. Ft
Gross, Ideal Gas	945.75	14383.79	929.29
Net, Ideal Gas	857.00	13033.93	842.08
Gross, Real Gas	949.12		932.60
Net, Real Gas	860.05		845.09

Relative Gas Density, [Air=1] Ideal: 0.8615  
 Specific Gravity, [Air=1] Real gas: 0.8641  
 Real Gas Density, Lb/Cu.Ft.: 0.0660  
 Specific Volume, Cu.Ft./Lb: 15.1546  
 Relative Liquid Density @ 60F/60F: 0.4302  
 Compressibility, Z: 0.9964  
 Fuel kg per kg-mole Molecular wt avg 24.951

## **APPENDIX B**

### **Emission Profiles**

Permit #: S-1328-1-22	Last Updated
Facility: EXXON MOBIL CORPORATION	04/23/2014 ROEDERS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	8578.0	13992.0	2385.0	7617.0	1424.0
Daily Emis. Limit (lb/Day)	54.0	42.9	7.5	24.0	4.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-1328-2-23	Last Updated
Facility: EXXON MOBIL CORPORATION	04/23/2014 ROEDERS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	8578.0	13992.0	2385.0	7617.0	1424.0
Daily Emis. Limit (lb/Day):	54.0	42.9	7.5	24.0	4.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-1328-3-23	Last Updated
Facility: EXXON MOBIL CORPORATION	04/23/2014 ROEDERS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	8578.0	13992.0	2385.0	7617.0	1424.0
Daily Emis. Limit (lb/Day)	54.0	42.9	7.5	24.0	4.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-1328-7-16	Last Updated
Facility: EXXON MOBIL CORPORATION	04/23/2014 ROEDERS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):					64204.0
Daily Emis. Limit (lb/Day)	36.3	115.0	10.1	11.0	184.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					



## **APPENDIX C**

### **Base Documents**

# San Joaquin Valley Air Pollution Control District

FACILITY: S-1328-0-2

EXPIRATION DATE: 03/31/2016

## FACILITY-WIDE REQUIREMENTS

1. The owner or operator shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100, 6.1; County Rules 110 (Fresno, Stanislaus, San Joaquin); 109 (Merced); 113 (Madera); and 111 (Kern, Tulare, Kings)] Federally Enforceable Through Title V Permit
2. The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100, 7.0; County Rules 110 (Fresno, Stanislaus, San Joaquin); 109 (Merced); 113 (Madera); and 111 (Kern, Tulare, Kings)] Federally Enforceable Through Title V Permit
3. The owner or operator of any stationary source operation that emits more than 25 tons per year of nitrogen oxides or reactive organic compounds, shall provide the District annually with a written statement in such form and at such time as the District prescribes, showing actual emissions of nitrogen oxides and reactive organic compounds from that source. [District Rule 1160, 5.0] Federally Enforceable Through Title V Permit
4. Any person building, altering or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants, shall first obtain an Authority to Construct (ATC) from the District unless exempted by District Rule 2020 (3/21/02). [District Rule 2010, 3.0 and 4.0; and 2020] Federally Enforceable Through Title V Permit
5. The permittee must comply with all conditions of the permit including permit revisions originated by the District. All terms and conditions of a permit that are required pursuant to the Clean Air Act (CAA), including provisions to limit potential to emit, are enforceable by the EPA and Citizens under the CAA. Any permit noncompliance constitutes a violation of the CAA and the District Rules and Regulations, and is grounds for enforcement action, for permit termination, revocation, reopening and reissuance, or modification; or for denial of a permit renewal application. [District Rules 2070, 7.0; 2080; and 2520, 9.9.1 and 9.13.1] Federally Enforceable Through Title V Permit
6. A Permit to Operate or an Authority to Construct shall not be transferred unless a new application is filed with and approved by the District. [District Rule 2031] Federally Enforceable Through Title V Permit
7. Every application for a permit required under Rule 2010 (12/17/92) shall be filed in a manner and form prescribed by the District. [District Rule 2040] Federally Enforceable Through Title V Permit
8. The operator shall maintain records of required monitoring that include: 1) the date, place, and time of sampling or measurement; 2) the date(s) analyses were performed; 3) the company or entity that performed the analysis; 4) the analytical techniques or methods used; 5) the results of such analysis; and 6) the operating conditions at the time of sampling or measurement. [District Rule 2520, 9.4.1] Federally Enforceable Through Title V Permit
9. The operator shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, or report. Support information includes copies of all reports required by the permit and, for continuous monitoring instrumentation, all calibration and maintenance records and all original strip-chart recordings. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate. Any amendments to these Facility-wide Requirements that affect specific Permit Units may constitute modification of those Permit Units.

Facility Name: EXXON MOBIL CORPORATION

Location: HEAVY OIL WESTERN STATIONARY SOURCE, CA

S-1328-0-2: Apr 2 2014 8:55AM -- ROEDERS

10. The operator shall submit reports of any required monitoring at least every six months unless a different frequency is required by an applicable requirement. All instances of deviations from permit requirements must be clearly identified in such reports. For the reporting period from August 9th thru February 8th, the report shall be submitted no later than March 8th. For the reporting period from February 9th thru August 8th, the report shall be submitted no later than September 8th. [District Rule 2520, 9.5.1] Federally Enforceable Through Title V Permit
11. Deviations from permit conditions must be promptly reported, including deviations attributable to upset conditions, as defined in the permit. For the purpose of this condition, promptly means as soon as reasonably possible, but no later than 10 days after detection. The report shall include the probable cause of such deviations, and any corrective actions or preventive measures taken. All required reports must be certified by a responsible official consistent with section 10.0 of District Rule 2520 (6/21/01). [District Rules 2520, 9.5.2 and 1100, 7.0] Federally Enforceable Through Title V Permit
12. If for any reason a permit requirement or condition is being challenged for its constitutionality or validity by a court of competent jurisdiction, the outcome of such challenge shall not affect or invalidate the remainder of the conditions or requirements in that permit. [District Rule 2520, 9.7] Federally Enforceable Through Title V Permit
13. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. [District Rule 2520, 9.8.2] Federally Enforceable Through Title V Permit
14. The permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [District Rule 2520, 9.8.3] Federally Enforceable Through Title V Permit
15. The permit does not convey any property rights of any sort, or any exclusive privilege. [District Rule 2520, 9.8.4] Federally Enforceable Through Title V Permit
16. The Permittee shall furnish to the District, within a reasonable time, any information that the District may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the District copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee may furnish such records directly to EPA along with a claim of confidentiality. [District Rule 2520, 9.8.5] Federally Enforceable Through Title V Permit
17. The permittee shall pay annual permit fees and other applicable fees as prescribed in Regulation III of the District Rules and Regulations. [District Rule 2520, 9.9] Federally Enforceable Through Title V Permit
18. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 2520, 9.13.2.1] Federally Enforceable Through Title V Permit
19. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 2520, 9.13.2.2] Federally Enforceable Through Title V Permit
20. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under the permit. [District Rule 2520, 9.13.2.3] Federally Enforceable Through Title V Permit
21. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. [District Rule 2520, 9.13.2.4] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

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

22. 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 (02/17/05). 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, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
23. No person shall manufacture, blend, repackage, supply, sell, solicit or apply any architectural coating with a VOC content in excess of the corresponding limit specified in the Table of Standards 2 of District Rule 4601 for use or sale within the District. [District Rule 4601, 5.1] Federally Enforceable Through Title V Permit
24. All VOC-containing materials subject to Rule 4601 shall be stored in closed containers when not in use. [District Rule 4601, 5.4] Federally Enforceable Through Title V Permit
25. The permittee shall comply with all the Labeling and Test Methods requirements outlined in Rule 4601 sections 6.1 and 6.3 (12/17/09). [District Rule 4601, 6.1 and 6.3] Federally Enforceable Through Title V Permit
26. With each report or document submitted under a permit requirement or a request for information by the District or EPA, the permittee shall include a certification of truth, accuracy, and completeness by a responsible official. [District Rule 2520, 9.13.1 and 10.0] Federally Enforceable Through Title V Permit
27. If the permittee performs maintenance on, or services, repairs, or disposes of appliances, the permittee shall comply with the standards for Recycling and Emissions Reduction pursuant to 40 CFR 82, Subpart F. [40 CFR 82 Subpart F] Federally Enforceable Through Title V Permit
28. If the permittee performs service on motor vehicles when this service involves the ozone-depleting refrigerant in the motor vehicle air conditioner (MVAC), the permittee shall comply with the standards for Servicing of Motor Vehicle Air Conditioners pursuant to all the applicable requirements as specified in 40 CFR 82, Subpart B. [40 CFR 82, Subpart B] Federally Enforceable Through Title V Permit
29. Disturbances of soil related to any construction, demolition, excavation, extraction, or other earthmoving activities shall comply with the requirements for fugitive dust control in District Rule 8021 unless specifically exempted under Section 4.0 of Rule 8021 (8/19/2004) or Rule 8011 (8/19/2004). [District Rule 8021 and 8011] Federally Enforceable Through Title V Permit
30. Outdoor handling, storage and transport of any bulk material which emits dust shall comply with the requirements of District Rule 8031, unless specifically exempted under Section 4.0 of Rule 8031 (8/19/2004) or Rule 8011 (8/19/2004). [District Rule 8031 and 8011] Federally Enforceable Through Title V Permit
31. An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/2004) or Rule 8011 (8/19/2004). [District Rule 8041 and 8011] Federally Enforceable Through Title V Permit
32. Whenever open areas are disturbed, or vehicles are used in open areas, the facility shall comply with the requirements of Section 5.0 of District Rule 8051, unless specifically exempted under Section 4.0 of Rule 8051 (8/19/2004) or Rule 8011 (8/19/2004). [District Rule 8051 and 8011] Federally Enforceable Through Title V Permit
33. Any paved road or unpaved road shall comply with the requirements of District Rule 8061 unless specifically exempted under Section 4.0 of Rule 8061 (8/19/2004) or Rule 8011 (8/19/2004). [District Rule 8061 and Rule 8011] Federally Enforceable Through Title V Permit
34. Any unpaved vehicle/equipment area that anticipates more than 50 Average annual daily Trips (AADT) shall comply with the requirements of Section 5.1.1 of District Rule 8071. Any unpaved vehicle/equipment area that anticipates more than 150 vehicle trips per day (VDT) shall comply with the requirements of Section 5.1.2 of District Rule 8071. On each day that 25 or more VDT with 3 or more axles will occur on an unpaved vehicle/equipment traffic area, the owner/operator shall comply with the requirements of Section 5.1.3 of District Rule 8071. On each day when a special event will result in 1,000 or more vehicles that will travel/park on an unpaved area, the owner/operator shall comply with the requirements of Section 5.1.4 of District Rule 8071. All sources shall comply with the requirements of Section 5.0 of District Rule 8071 unless specifically exempted under Section 4.0 of Rule 8071 (9/16/2004) or Rule 8011 (8/19/2004). [District Rule 8071 and Rule 8011] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

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

35. Any owner or operator of a demolition or renovation activity, as defined in 40 CFR 61.141, shall comply with the applicable inspection, notification, removal, and disposal procedures for asbestos containing materials as specified in 40 CFR 61.145 (Standard for Demolition and Renovation). [40 CFR 61 Subpart M] Federally Enforceable Through Title V Permit
36. The permittee shall submit certifications of compliance with the terms and standards contained in Title V permits, including emission limits, standards and work practices, to the District and the EPA annually no later than September 8th for the reporting period from August 9th thru August 8th (or more frequently as specified in an applicable requirement or as specified by the District). The certification shall include the identification of each permit term or condition, the compliance status, whether compliance was continuous or intermittent, the methods used for determining the compliance status, and any other facts required by the District to determine the compliance status of the source. [District Rule 2520, 9.16] Federally Enforceable Through Title V Permit
37. The permittee shall submit an application for Title V permit renewal to the District at least six months, but not greater than 18 months, prior to the permit expiration date. [District Rule 2520, 5.2] Federally Enforceable Through Title V Permit
38. When a term is not defined in a Title V permit condition, the definition in the rule cited as the origin and authority for the condition in a Title V permits shall apply. [District Rule 2520, 9.1.1] Federally Enforceable Through Title V Permit
39. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: Rule 401 (Madera, Fresno, Kern, Kings, San Joaquin, Stanislaus, Tulare and Merced), Rule 110 (Fresno, Stanislaus, San Joaquin), Rule 109 (Merced), Rule 113 (Madera), and Rule 111 (Kern, Tulare, Kings). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
40. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rules 1100, sections 6.1 and 7.0 (12/17/92); 2010, sections 3.0 and 4.0 (12/17/92); 2031 (12/17/92); 2040 (12/17/92); 2070, section 7.0 (12/17/92); 2080 (12/17/92); 4101 (2/17/05); 4601 (12/17/09); 8021 (8/19/2004); 8031 (8/19/2004); 8041 (8/19/2004); 8051 (8/19/2004); 8061 (8/19/2004); and 8071 (9/16/2004). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
41. On August 8, 2005, the initial Title V permit was issued. The reporting periods for the Report of Required Monitoring and the Compliance Certification Report are based on this initial permit issuance date, unless alternative dates are approved by the District Compliance Division. These reports are due within 30 days after the end of the reporting period. [District Rule 2520] Federally Enforceable Through Title V Permit
42. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
43. All records required shall be retained on site for a period of at least five years and shall be made readily available for District inspection upon request. [District NSR Rule and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

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



## AUTHORITY TO CONSTRUCT

PERMIT NO: S-1328-1-21

ISSUANCE DATE: 01/19/2012

LEGAL OWNER OR OPERATOR: EXXON MOBIL CORPORATION

MAILING ADDRESS:

P.O. BOX 4358  
CORP-WGR-1030  
HOUSTON, TX 77210-4358

LOCATION:

HEAVY OIL WESTERN STATIONARY SOURCE  
CA

SECTION: NE19 TOWNSHIP: 28S RANGE: 21E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR GAS-FIRED STRUTHERS STEAM GENERATOR UNIT #64 WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O2 CONTROLLER (HILL LEASE); ADD FUEL SULFUR CONTENT LIMIT OF FIVE (5) GRAINS PER ONE HUNDRED STANDARD CUBIC FEET FOR DISTRICT RULE 4320 COMPLIANCE AND ADD A SULFA TREAT H2S SCRUBBER SHARED WITH PERMIT UNITS S-1328-2 AND '3

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] Federally Enforceable Through Title V Permit
4. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320] 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.

Sayed Sadredin, Executive Director / APCO

5. On and after 7/1/2010, the permittee shall submit an analysis showing the fuel's sulfur content at least once every year. Valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy this requirement, provided they establish the fuel parameters mentioned above. [District Rule 4320] Federally Enforceable Through Title V Permit
6. Fuel burned in this unit shall be no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet. [District Rule 4320] Federally Enforceable Through Title V Permit
7. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Emission rates shall not exceed any of the following: SO<sub>x</sub> (as SO<sub>2</sub>): 42.9 lb/day, PM<sub>10</sub>: 0.005 lb/MMBtu, or VOC: 0.003 lb/MMBtu. [District NSR Rule and District Rules 4201, 3.1, 4301, 5.1 and 5.2, 4406 and 4801] Federally Enforceable Through Title V Permit
9.  $SO_x \text{ (as } SO_2) = (1.68 \times 10E-7) \times \{(P1 \times F1) + (P2 \times F2)\} = \text{lb/day}$ : P1 = ppmv H<sub>2</sub>S in sweet gas, P2 = ppmv H<sub>2</sub>S in noncondensable vapor gas, F1 = sweet gas (scf/day), and F2 = noncondensable vapor gas (scf/day). [District NSR Rule] Federally Enforceable Through Title V Permit
10. Emission rates, except during startup and shutdown, shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 0.018 lb/MMBtu or 15 ppmvd @ 3% O<sub>2</sub>, or CO: 0.016 lb/MMBtu or 21.7 ppmv @ 3% O<sub>2</sub>. [District NSR Rule and District Rules 4301, 4305, 5.1, 4306, 5.1 and 4320] Federally Enforceable Through Title V Permit
11. During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Daily maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day or 24.0 lb-CO/day. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Start-up is defined as that period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as that period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4306, 3.22, 3.25 and 4320] Federally Enforceable Through Title V Permit
14. The duration of each start-up or each shutdown shall not exceed two hours per occurrence. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. The operator shall maintain daily records of the number and duration of start-up and shutdown periods. [District Rules 4306, 5.3 and 4320] Federally Enforceable Through Title V Permit
15. For this emission unit the overall throttle and use factor used in the SLC plan is 87%. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Combined annual combustion emissions from permit units S-1328-1, '-2, '-3 and the flare identified on permit unit S-1328-7 shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 25,733 lb/yr, SO<sub>x</sub> (as SO<sub>2</sub>): 41,975 lb/yr, PM<sub>10</sub>: 7,154 lb/yr, CO: 22,849 lb/yr, or VOC: 4,271 lb/yr. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Permittee shall sample sweet and noncondensable vapor gas monthly for H<sub>2</sub>S concentration and shall maintain daily records of sweet & noncondensable vapor gas flowrate (scfd). [District NSR Rule] Federally Enforceable Through Title V Permit
18. If fuel use monitoring provisions fail, emissions shall be calculated based on operational data, or if not available, on set equal to the average of four days prior to failure. [District NSR Rule] Federally Enforceable Through Title V Permit
19. The permittee shall maintain records of fuel type, quantity, heating value of gas burned, permitted emission factors and annual emissions for each unit. Records shall be updated at least monthly. Reports of annual emissions and fuel usage shall be submitted within 30 days after the end of the calendar year. [District NSR Rule] Federally Enforceable Through Title V Permit

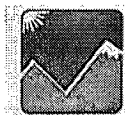
CONDITIONS CONTINUE ON NEXT PAGE

20. The operator shall apply to revise each Permit to Operate subject to the SLC when any unit subject to the SLC has a District-authorized change in daily emission rate, or Permit to Operate is surrendered or sold. [District NSR Rule] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
22. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
23. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
24. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
25. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2, 4306, 5.5.2 and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5, 4306, 5.5.5 and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted 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, 6.3 and 4320] Federally Enforceable Through Title V Permit
28. The source plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1, 4306, 5.5.1 and 4320] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



30. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 4306, 6.2, and 4320] Federally Enforceable Through Title V Permit
31. Operator shall provide that fuel hhv be certified by third party fuel supplier or determined annually by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1 and 4320] Federally Enforceable Through Title V Permit
32. Source testing shall be District witnessed or authorized and conducted by an ARB certified testing contractor. [District Rule 1081] Federally Enforceable Through Title V Permit
33. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
34. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070; 4305, 6.1; 4306, 6.1 and 4320] Federally Enforceable Through Title V Permit



**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1328-2-22

**ISSUANCE DATE:** 01/19/2012

**LEGAL OWNER OR OPERATOR:** EXXON MOBIL CORPORATION

**MAILING ADDRESS:**  
P.O. BOX 4358  
CORP-WGR-1030  
HOUSTON, TX 77210-4358

**LOCATION:**  
HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE19 **TOWNSHIP:** 28S **RANGE:** 21E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR GAS-FIRED STRUTHERS STEAM GENERATOR UNIT #65 WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O2 CONTROLLER (HILL LEASE): ADD FUEL SULFUR CONTENT LIMIT OF FIVE (5) GRAINS PER ONE HUNDRED STANDARD CUBIC FEET FOR DISTRICT RULE 4320 COMPLIANCE AND ADD A SULFA TREAT H2S SCRUBBER SHARED WITH PERMIT UNITS S-1328-1 AND '3

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] Federally Enforceable Through Title V Permit
4. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320] 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.

Sayed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-1328-2-22 Apr 23 2014 1:57PM - ROEDERS Joint Inspection NOT Required

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

5. On and after 7/1/2010, the permittee shall submit an analysis showing the fuel's sulfur content at least once every year. Valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy this requirement, provided they establish the fuel parameters mentioned above. [District Rule 4320] Federally Enforceable Through Title V Permit
6. Fuel burned in this unit shall be no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet. [District Rule 4320] Federally Enforceable Through Title V Permit
7. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Emission rates shall not exceed any of the following: SOx (as SO<sub>2</sub>): 42.9 lb/day, PM<sub>10</sub>: 0.005 lb/MMBtu, or VOC: 0.003 lb/MMBtu. [District NSR Rule and District Rules 4201, 3.1, 4301, 5.1 and 5.2, 4406 and 4801] Federally Enforceable Through Title V Permit
9.  $SO_x \text{ (as } SO_2) = (1.68 \times 10E-7) \times \{(P1 \times F1) + (P2 \times F2)\} = \text{lb/day}$ ; P1 = ppmv H<sub>2</sub>S in sweet gas, P2 = ppmv H<sub>2</sub>S in noncondensable vapor gas, F1 = sweet gas (scf/day), and F2 = noncondensable vapor gas (scf/day). [District NSR Rule] Federally Enforceable Through Title V Permit
10. Emission rates, except during startup and shutdown, shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 0.018 lb/MMBtu or 15 ppmvd @ 3% O<sub>2</sub>, or CO: 0.016 lb/MMBtu or 21.7 ppmv @ 3% O<sub>2</sub>. [District NSR Rule and District Rules 4301, 4305, 5.1, 4306, 5.1 and 4320] Federally Enforceable Through Title V Permit
11. During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Daily maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day or 24.0 lb-CO/day. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Start-up is defined as that period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as that period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4306, 3.22, 3.25 and 4320] Federally Enforceable Through Title V Permit
14. The duration of each start-up or each shutdown shall not exceed two hours per occurrence. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. The operator shall maintain daily records of the number and duration of start-up and shutdown periods. [District Rules 4306, 5.3 and 4320] Federally Enforceable Through Title V Permit
15. For this emission unit the overall throttle and use factor used in the SLC plan is 87%. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Combined annual combustion emissions from permit units S-1328-1, '-2, '-3 and the flare identified on permit unit S-1328-7 shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 25,733 lb/yr, SO<sub>x</sub> (as SO<sub>2</sub>): 41,975 lb/yr, PM<sub>10</sub>: 7,154 lb/yr, CO: 22,849 lb/yr, or VOC: 4,271 lb/yr. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Permittee shall sample sweet and noncondensable vapor gas monthly for H<sub>2</sub>S concentration and shall maintain daily records of sweet & noncondensable vapor gas flowrate (scfd). [District NSR Rule] Federally Enforceable Through Title V Permit
18. If fuel use monitoring provisions fail, emissions shall be calculated based on operational data, or if not available, on set equal to the average of four days prior to failure. [District NSR Rule] Federally Enforceable Through Title V Permit
19. The permittee shall maintain records of fuel type, quantity, heating value of gas burned, permitted emission factors and annual emissions for each unit. Records shall be updated at least monthly. Reports of annual emissions and fuel usage shall be submitted within 30 days after the end of the calendar year. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. The operator shall apply to revise each Permit to Operate subject to the SLC when any unit subject to the SLC has a District-authorized change in daily emission rate, or Permit to Operate is surrendered or sold. [District NSR Rule] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
22. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
23. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
24. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
25. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2, 4306, 5.5.2 and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5, 4306, 5.5.5 and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted 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, 6.3 and 4320] Federally Enforceable Through Title V Permit
28. The source plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1, 4306, 5.5.1 and 4320] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305, 4306, 6.2, and 4320] Federally Enforceable Through Title V Permit
31. Operator shall provide that fuel hhv be certified by third party fuel supplier or determined annually by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1 and 4320] Federally Enforceable Through Title V Permit
32. Source testing shall be District witnessed or authorized and conducted by an ARB certified testing contractor. [District Rule 1081] Federally Enforceable Through Title V Permit
33. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
34. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070; 4305, 6.1; 4306, 6.1 and 4320] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1328-3-22

**ISSUANCE DATE:** 01/19/2012

**LEGAL OWNER OR OPERATOR:** EXXON MOBIL CORPORATION

**MAILING ADDRESS:** P.O. BOX 4358  
CORP-WGR-1030  
HOUSTON, TX 77210-4358

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE19 **TOWNSHIP:** 28S **RANGE:** 21E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR. NATURAL GAS/TEOR GAS-FIRED STRUTHERS STEAM GENERATOR UNIT #66 WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O2 CONTROLLER (HILL LEASE); ADD FUEL SULFUR CONTENT LIMIT OF FIVE (5) GRAINS PER ONE HUNDRED STANDARD CUBIC FEET FOR DISTRICT RULE 4320 COMPLIANCE AND ADD A SULFA TREAT H2S SCRUBBER SHARED WITH PERMIT UNITS S-1328-1 AND '2

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] Federally Enforceable Through Title V Permit
4. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320] 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.

Sayed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-1328-3-22 : Apr 23 2014, 1:57PM - ROEDERS : Joint Inspection NOT Required

5. On and after 7/1/2010, the permittee shall submit an analysis showing the fuel's sulfur content at least once every year. Valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy this requirement, provided they establish the fuel parameters mentioned above. [District Rule 4320] Federally Enforceable Through Title V Permit
6. Fuel burned in this unit shall be no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet. [District Rule 4320] Federally Enforceable Through Title V Permit
7. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Emission rates shall not exceed any of the following: SO<sub>x</sub> (as SO<sub>2</sub>): 42.9 lb/day, PM<sub>10</sub>: 0.005 lb/MMBtu, or VOC: 0.003 lb/MMBtu. [District NSR Rule and District Rules 4201, 3.1, 4301, 5.1 and 5.2, 4406 and 4801] Federally Enforceable Through Title V Permit
9.  $SO_x \text{ (as } SO_2) = (1.68 \times 10E-7) \times \{(P1 \times F1) + (P2 \times F2)\} = \text{lb/day}$ : P1 = ppmv H<sub>2</sub>S in sweet gas, P2 = ppmv H<sub>2</sub>S in noncondensable vapor gas, F1 = sweet gas (scf/day), and F2 = noncondensable vapor gas (scf/day). [District NSR Rule] Federally Enforceable Through Title V Permit
10. Emission rates, except during startup and shutdown, shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 0.018 lb/MMBtu or 15 ppmvd @ 3% O<sub>2</sub>, or CO: 0.016 lb/MMBtu or 21.7 ppmv @ 3% O<sub>2</sub>. [District NSR Rule and District Rules 4301, 4305, 5.1, 4306, 5.1 and 4320] Federally Enforceable Through Title V Permit
11. During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Daily maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day or 24.0 lb-CO/day. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Start-up is defined as that period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as that period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4306, 3.22, 3.25 and 4320] Federally Enforceable Through Title V Permit
14. The duration of each start-up or each shutdown shall not exceed two hours per occurrence. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. The operator shall maintain daily records of the number and duration of start-up and shutdown periods. [District Rules 4306, 5.3 and 4320] Federally Enforceable Through Title V Permit
15. For this emission unit the overall throttle and use factor used in the SLC plan is 87%. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Combined annual combustion emissions from permit units S-1328-1, '-2, '-3 and the flare identified on permit unit S-1328-7 shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 25,733 lb/yr, SO<sub>x</sub> (as SO<sub>2</sub>): 41,975 lb/yr, PM<sub>10</sub>: 7,154 lb/yr, CO: 22,849 lb/yr, or VOC: 4,271 lb/yr. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Permittee shall sample sweet and noncondensable vapor gas monthly for H<sub>2</sub>S concentration and shall maintain daily records of sweet & noncondensable vapor gas flowrate (scfd). [District NSR Rule] Federally Enforceable Through Title V Permit
18. If fuel use monitoring provisions fail, emissions shall be calculated based on operational data, or if not available, on set equal to the average of four days prior to failure. [District NSR Rule] Federally Enforceable Through Title V Permit
19. The permittee shall maintain records of fuel type, quantity, heating value of gas burned, permitted emission factors and annual emissions for each unit. Records shall be updated at least monthly. Reports of annual emissions and fuel usage shall be submitted within 30 days after the end of the calendar year. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. The operator shall apply to revise each Permit to Operate subject to the SLC when any unit subject to the SLC has a District-authorized change in daily emission rate, or Permit to Operate is surrendered or sold. [District NSR Rule] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
22. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
23. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
24. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 5.4, 4306, 5.4 and 4320] Federally Enforceable Through Title V Permit
25. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2, 4306, 5.5.2 and 4320] Federally Enforceable Through Title V Permit
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5, 4306, 5.5.5 and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted 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, 6.3 and 4320] Federally Enforceable Through Title V Permit
28. The source plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1, 4306, 5.5.1 and 4320] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



30. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305, 4306, 6.2; and 4320] Federally Enforceable Through Title V Permit
31. Operator shall provide that fuel hhv be certified by third party fuel supplier or determined annually by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1 and 4320] Federally Enforceable Through Title V Permit
32. Source testing shall be District witnessed or authorized and conducted by an ARB certified testing contractor. [District Rule 1081] Federally Enforceable Through Title V Permit
33. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
34. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070; 4305, 6.1; 4306, 6.1 and 4320] Federally Enforceable Through Title V Permit



**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT

  
**HEALTHY AIR LIVING™**

## AUTHORITY TO CONSTRUCT

PERMIT NO: S-1328-7-15

ISSUANCE DATE: 03/12/2014

LEGAL OWNER OR OPERATOR: EXXON MOBIL CORPORATION

MAILING ADDRESS: P.O. BOX 4358  
CORP-WGR-1030  
HOUSTON, TX 77210-4358

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE  
CA

SECTION: NE19 TOWNSHIP: 28S RANGE: 21E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY OPERATION SERVING 171 STEAM DRIVE WELLS WITH VAPOR CONTROL SYSTEM, INCLUDING PERMIT EXEMPT HEATER TREATER (FORMERLY S-1328-56) OFF-GAS, GAS/LIQUID SEPARATOR, COMPRESSOR, CONDENSERS, TWO H<sub>2</sub>S SCRUBBING VESSELS, FLARE, AND ASSOCIATED PIPING: REVISE SLC CONDITION

## CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Permittee shall maintain a current list of all steam enhanced wells, including identification of all steam enhanced wells with polish rod boxes subject to BACT I&M program connected to this system, and shall update the list whenever a well is added, replaced or deleted. The updated list shall be submitted to the District 60 days prior to the permit anniversary. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Vapor control system shall serve thermally enhanced well vents, permit exempt heater treater, and Wemco S-1328-58. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Scrubbing solution shall consist only of Sulfa-Check and/or Sulfa-Treat media and additives unless prior District approval is obtained. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Noncondensable vapor gas from this well vent vapor control system may be incinerated in the following devices: steam generator permits S-1328-1, S-1328-2, and S-1328-3, and the standby flare. [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.

Sayed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-1328-7-15; Apr 23 2014 1:08PM -- ROEDERS : Joint Inspection NOT Required

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

6. Noncondensable vapor gas throughput to flare shall not exceed 1.0 MMscf per day. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Permittee shall maintain accurate component count and emissions calculated using CAPCOA EPA Protocol for Leak Emissions Estimate Fugitive Hydrocarbon Leaks Oil and Gas Production Operations Average Emission Factors, Table 2-4, February 1999. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Fugitive VOC emission rate from TEOR components shall not exceed 184.2 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. VOC content of gas processed shall not exceed 31% by weight. Permittee shall maintain a written record of VOC content (sampled not less than annually) and shall make such records available for District inspection upon request for a period of five years. [District Rule 1070 and District Rule 2201] Federally Enforceable Through Title V Permit
10. Emission rates from the standby flare shall not exceed any of the following: NOx (as NO<sub>2</sub>): 0.0725 lb/MMBtu, SOx (as SO<sub>2</sub>): 115.0 lb/day, PM<sub>10</sub>: 0.0202 lb/MMBtu, CO: 0.022 lb/MMBtu, or VOC: 0.0021 lb/MMBtu. [District Rules 2201, 4201, 4301 and 4801] Federally Enforceable Through Title V Permit
11.  $SO_x \text{ (as } SO_2) = (1.68 \times 10^{-7}) \times \{(P_1 \times F_1) + (P_2 \times F_2)\} = \text{lb/day}$ ; P<sub>1</sub> = ppmv H<sub>2</sub>S in sweet gas, P<sub>2</sub> = ppmv H<sub>2</sub>S in noncondensable vapor gas, F<sub>1</sub> = sweet gas (scf/day), and F<sub>2</sub> = noncondensable vapor gas (scf/day). [District Rule 2201] Federally Enforceable Through Title V Permit
12. Combined annual combustion emissions from units S-1328-1, -2, -3 and the flare identified on S-1328-7 shall not exceed any of the following: NOx (as NO<sub>2</sub>): 25,733 lb/yr, SOx (as SO<sub>2</sub>): 41,975 lb/yr, PM<sub>10</sub>: 7,154 lb/yr, CO: 22,849 lb/yr, or VOC: 4,271 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
13. If fuel use monitoring provisions fail, emissions shall be calculated based on operational data, or if not available, on set equal to the average of four days prior to failure. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The operator shall apply to revise each Permit to Operate subject to the SLC when any unit subject to the SLC has a District-authorized change in daily emission rate, or Permit to Operate is surrendered or sold. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Standby flare shall comply with all requirements of District Rule 4311. [District Rule 4311] Federally Enforceable Through Title V Permit
16. The flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311, 5.2] Federally Enforceable Through Title V Permit
17. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311, 5.3] Federally Enforceable Through Title V Permit
18. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. [District Rule 4311, 5.4] Federally Enforceable Through Title V Permit
19. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5] Federally Enforceable Through Title V Permit
20. Open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. [District Rule 4311, 5.6] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. Permittee shall sample sweet and noncondensable vapor gas monthly for H<sub>2</sub>S concentration and shall maintain daily records of sweet & noncondensable vapor gas flowrate (scfd). [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. The permittee shall maintain records of fuel type, quantity, heating value of gas burned, permitted emission factors and annual combustion emissions from units S-1328-1, -2, -3, and flare identified on S-1328-7 for demonstration of compliance with above SLC annual limits. Records shall be updated at least monthly. Reports of annual emissions and fuel usage shall be submitted within 30 days after the end of the calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Permittee shall measure H<sub>2</sub>S concentration from on-line scrubber(s) outlet with District-approved device (e.g. MSA Samplair pump unit No. 463998 and MSA H<sub>2</sub>S detector tubes) at least daily when scrubber is in operation. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
25. Permittee shall measure daily the non-condensibles gas flow rate and, at least monthly, the non-condensable gas H<sub>2</sub>S concentration. Records shall be maintained and made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
26. Permittee shall maintain accurate daily records of volume noncondensable gas incinerated in flare. [District Rule 1070] Federally Enforceable Through Title V Permit
27. Gas and liquid leaks are as defined in Section 3.20 of Rule 4401. [District Rule 4401, 3.20] Federally Enforceable Through Title V Permit
28. Any steam-enhanced crude oil production well undergoing service or repair during the time the well is not producing shall be exempt from the requirements of Rule 4401. [District Rule 4401, 4.1] Federally Enforceable Through Title V Permit
29. The requirements of this rule shall not apply to components serving the produced fluid line. [District Rule 4401, 4.5] Federally Enforceable Through Title V Permit
30. Except for complying with the applicable requirements of Section 6.1, Section 6.6.6 and Section 7.2, the requirements of this rule shall not apply to components described in Section 4.6.1 through Section 4.6.4. An operator claiming an exemption pursuant to Section 4.6 shall provide proof of the applicable criteria to the satisfaction of the APCO. [District Rule 4401, 4.6] Federally Enforceable Through Title V Permit
31. An operator shall not operate a steam-enhanced crude oil production well unless the operator complies with either of the following requirements: The steam-enhanced crude oil production well vent is closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401, the well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere, or the steam-enhanced crude oil production well vent is open and the well vent is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401. [District Rule 4401, 5.1.1 and 5.1.2] Federally Enforceable Through Title V Permit
32. An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.4 of Rule 4401 demonstrates the existence of an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations as defined by Section 5.2.2.1 of Rule 4401 requiring process fluid flow through the open-ended lines, a component with a major liquid leak, or a component with a gas leak greater than 50,000 ppmv. [District Rule 4401, 5.2.2] Federally Enforceable Through Title V Permit
33. An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.4 of Rule 4401 demonstrates the existence of any combination of components with minor liquid leaks, minor gas leaks, or a gas leaks greater than 10,000 ppmv up to 50,000 ppmv that totals more than number of leaks allowed by Table 2 of Rule 4401. [District Rule 4401, 5.2.2] Federally Enforceable Through Title V Permit
34. An operator shall not use any component with a leak as defined in Section 3.0 of Rule 4401, or that is found to be in violation of the provisions of Section 5.2.2 of Rule 4401. However, components that were found leaking may be used provided such leaking components have been identified with a tag for repair, are repaired, or awaiting re-inspection after being repaired within the applicable time frame specified in Section 5.5 of Rule 4401. [District Rule 4401, 5.3.1] Federally Enforceable Through Title V Permit

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35. Each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401, 5.3.2] Federally Enforceable Through Title V Permit
36. An operator shall comply with the requirements of Section 6.7 of Rule 4401 if there is any change in the description of major components or critical components. [District Rule 4401, 5.3.3] Federally Enforceable Through Title V Permit
37. Unless exempt under Section 4.7 or Rule 4401, except for pipes and unsafe-to-monitor components, an operator shall inspect all other components pursuant to the requirements of Section 6.3.3 of Rule 4401 at least once every year. [District Rule 4401, 5.4.1] Federally Enforceable Through Title V Permit
38. Unless exempt under Section 4.7 or Rule 4401, an operator shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.2] Federally Enforceable Through Title V Permit
39. Unless exempt under Section 4.7 or Rule 4401, in addition to the inspections required by Section 5.4.1 of Rule 4401, an operator shall inspect for leaks all accessible operating pumps, compressors, and PRDs in service as follows: An operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, and PRDs in service at least once each calendar week. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.3] Federally Enforceable Through Title V Permit
40. Unless exempt under Section 4.7 or Rule 4401, in addition to the inspections required by Sections 5.4.1, 5.4.2 and 5.4.3 of Rule 4401, operator shall perform the following: initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release, re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection, inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. Except for PRDs subject to the requirements of Section 5.4.4.1 of Rule 4401, an operator shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401, 5.4.4] Federally Enforceable Through Title V Permit
41. Unless exempt under Section 4.7 or Rule 4401, an operator shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401, 5.4.5] Federally Enforceable Through Title V Permit
42. A District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator. [District Rule 4401, 5.4.6] Federally Enforceable Through Title V Permit
43. An operator shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak and shall include the following information on the tag: date and time of leak detection, date and time of leak measurement, for a gaseous leak, the leak concentration in ppmv, for a liquid leak, whether it is a major liquid leak or a minor liquid leak, whether the component is an essential component, an unsafe-to monitor component, or a critical component. [District Rule 4401, 5.5.1] Federally Enforceable Through Title V Permit
44. An operator shall keep the tag affixed to the component until an operator has met all of the following conditions: repaired or replaced the leaking component, re-inspected the component using the test method in Section 6.3.3, and the component is found to be in compliance with the requirements of this rule. [District Rule 4401 5.5.2] Federally Enforceable Through Title V Permit
45. An operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401, 5.5.3] Federally Enforceable Through Title V Permit

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46. Except for leaking critical components or leaking essential components subject to the requirements of Section 5.5.7 of Rule 4401, if an operator has minimized a leak but the leak still exceeds the applicable leak limits as defined in Section 3.0 of Rule 4401, an operator shall comply with at least one of the following requirements as soon as practicable but not later than the time period specified in Table 3 of Rule 4401: Repair or replace the leaking component; or vent the leaking component to a VOC collection and control system as defined in Section 3.0 of Rule 4401, or remove the leaking component from operation. [District Rule 4401, 5.5.4] Federally Enforceable Through Title V Permit
47. The repair period in calendar days shall not exceed 14 days for minor gas leaks, 5 days for major gas leaks less than or equal to 50,000 ppmv, 2 days for gas leak greater than 50,000 ppmv, 3 days for minor liquid leaks, 2 days for major liquid leaks. [District Rule 4401, 5.5.4] Federally Enforceable Through Title V Permit
48. The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period specified in Table 3 of Rule 4401. [District Rule 4401, 5.5.5] Federally Enforceable Through Title V Permit
49. The time of the initial leak detection shall be the start of the repair period specified in Table 3 of Rule 4401. [District Rule 4401, 5.5.6] Federally Enforceable Through Title V Permit
50. If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. [District Rule 4401, 5.5.7] Federally Enforceable Through Title V Permit
51. All records of required monitoring data and support information shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4401, 6.1] Federally Enforceable Through Title V Permit
52. The operator of any steam-enhanced crude oil production well shall maintain records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401, 6.1.1] Federally Enforceable Through Title V Permit
53. Records of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components, including a copy of current calibration gas certification from the vendor of said calibration gas cylinder, the date of calibration, concentration of calibration gas, instrument reading of calibration gas before adjustment, instrument reading of calibration gas after adjustment, calibration gas expiration date, and calibration gas cylinder pressure at the time of calibration shall be maintained. [District Rule 4401, 6.1.5] Federally Enforceable Through Title V Permit
54. An operator shall maintain copies at the facility of the training records of the training program operated pursuant to Section 6.5 of Rule 4401. [District Rule 4401, 6.1.6] Federally Enforceable Through Title V Permit
55. Operator shall keep a copy of the APCO-approved Operator Management Plan at the facility. [District Rule 4401, 6.1.7] Federally Enforceable Through Title V Permit
56. An operator that discovers that a PRD has released shall record the date that the release was discovered, and the identity and location of the PRD that released. An operator shall submit such information recorded during the calendar year to the APCO no later than 60 days after the end of the calendar year. [District Rule 4401, 6.1.10] Federally Enforceable Through Title V Permit
57. If approved by the APCO, an operator need not comply with the annual testing requirement of Section 6.2.1 of Rule 4401 if all uncondensed VOC emissions collected by a vapor collection are controlled by an internal combustion engine subject to Rule 4702, a combustion device subject to Rule 4320, 4307 or 4308, a flare subject to Rule 4311. [District Rule 4401, 6.2.2] Federally Enforceable Through Title V Permit
58. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4401, 6.3.1] Federally Enforceable Through Title V Permit

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59. VOC content shall be analyzed by using the latest revision of ASTM Method E168, E169, or E260 as applicable. Analysis of halogenated exempt compounds shall be performed by using ARB Method 432. [District Rule 4401, 6.3.2] Federally Enforceable Through Title V Permit
60. Leak inspection, other than audio-visual, and measurements of gaseous leak concentrations shall be conducted according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instruction, as appropriate, not more than 30 days prior to its use. The operator shall record the calibration date of the instrument. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one (1) centimeter or less from the surface of the component interface. [District Rule 4401, 6.3.3] Federally Enforceable Through Title V Permit
61. The VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval for TEOR gas, and South Coast Air Quality Management District (SCAQMD) Method 304-91 or the latest revision of ASTM Method E168, E169 or E260 for liquids. [District Rule 4401, 6.3.4] Federally Enforceable Through Title V Permit
62. Operator shall maintain an inspection log pursuant to Section 6.4 of Rule 4401, including, at a minimum, all of the following information for each inspection performed: The total number of components inspected, total number and percentage of leaking components found by component type, location, type, and name or description of each leaking component and description of any unit where the leaking component is found, date of leak detection and the method of leak detection. For gaseous leaks, the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak, the date of repair, replacement, or removal from operation of leaking components, identify and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, the date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced, the inspector's name, business mailing address, and business telephone number, date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401, 6.1.4 and 6.4] Federally Enforceable Through Title V Permit
63. Permittee shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures, as necessary. [District Rule 4401, 6.5] Federally Enforceable Through Title V Permit
64. In accordance with the approved Operator Management Plan (OMP), permittee shall meet all applicable operating, leak standards, inspection and re-inspection, leak repair, record keeping, and notification requirements of Rule 4401. [District Rule 4401, 6.6] Federally Enforceable Through Title V Permit
65. By January 30 of each year, permittee shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved OMP. [District Rule 4401, 6.7] Federally Enforceable Through Title V Permit
66. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following requirements: County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
67. Compliance with permit conditions in the Title V permit shall be deemed in compliance with District Rule 4401 (Amended January 15, 1998), excluding sections 5.1 and 5.2 for control systems which have been waived from complying with the requirement of section 6.2.1. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
68. The requirements of District Rule 4407 (Adopted May 19, 1994) do not apply to this permit unit because it is not an in situ combustion well vent. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

## **Appendix D**

### **Draft ATCs**



San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1328-1-22

LEGAL OWNER OR OPERATOR: EXXON MOBIL CORPORATION

MAILING ADDRESS: P.O. BOX 4358  
CORP-WGR-1030  
HOUSTON, TX 77210-4358

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE  
CA

SECTION: NE19 TOWNSHIP: 28S RANGE: 21E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #64) WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O2 CONTROLLER (HILL LEASE): REVISE SULFUR MONITORING CONDITIONS

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] Federally Enforceable Through Title V Permit
4. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320] 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-1328-1-22 : Apr 23 2014 3:24 PM - ROEDERS - Joint Inspection NOT Required

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5. On and after 7/1/2010, the permittee shall submit an analysis showing the fuel's sulfur content at least once every year. Valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy this requirement, provided they establish the fuel parameters mentioned above. [District Rule 4320] Federally Enforceable Through Title V Permit
6. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
8. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet of gas. [District Rule 4320] Federally Enforceable Through Title V Permit
9. Emission rates shall not exceed any of the following: SO<sub>x</sub> (as SO<sub>2</sub>): 42.9 lb/day, PM<sub>10</sub>: 0.005 lb/MMBtu, or VOC: 0.003 lb/MMBtu. [District Rules 2201, 4201, 3.1, 4301, 5.1 and 5.2, 4406 and 4801] Federally Enforceable Through Title V Permit
10. Daily SO<sub>x</sub> emissions shall be calculated as follows:  $SO_x \text{ (lb/day)} = (1.68 \times 10E-7) \times \{(P1 \times F1) + P2 \times F2\}$ , where P1 = ppmv total sulfur (as H<sub>2</sub>S) in sweet gas, P2 = ppmv total sulfur (as H<sub>2</sub>S) in noncondensable vapor gas, F1 = sweet gas flowrate (scf/day) and F2 = noncondensable vapor gas (scf/day). [District Rule 2201] Federally Enforceable Through Title V Permit
11. Emission rates, except during startup and shutdown, shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 0.018 lb/MMBtu or 15 ppmvd @ 3% O<sub>2</sub>, or CO: 0.016 lb/MMBtu or 21.7 ppmv @ 3% O<sub>2</sub>. [District Rules 2201, 4301, 4305, 5.1 and 4306, 5.1] Federally Enforceable Through Title V Permit
12. During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Daily maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day or 24.0 lb-CO/day. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Start-up is defined as that period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as that period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
15. The duration of each start-up or each shutdown shall not exceed two hours per occurrence. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. The operator shall maintain daily records of the number and duration of start-up and shutdown periods. [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
16. For this emission unit the overall throttle and use factor used in the SLC plan is 87%. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Combined annual combustion emissions from permit units S-1328-1, '-2, '-3 and the flare identified on permit unit S-1328-7 shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 25,733 lb/yr, SO<sub>x</sub> (as SO<sub>2</sub>): 41,975 lb/yr, PM<sub>10</sub>: 7,154 lb/yr, CO: 22,849 lb/yr, or VOC: 4,271 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Permittee shall sample sweet and noncondensable vapor gas monthly for total sulfur concentration (as H<sub>2</sub>S) and shall maintain daily records of sweet and noncondensable vapor gas flowrate (scf/day). [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
19. If fuel use monitoring provisions fail, emissions shall be calculated based on operational data, or if not available, on set equal to the average of four days prior to failure. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

20. The permittee shall maintain records of fuel type, quantity, heating value of gas burned, permitted emission factors and annual emissions for each unit. Records shall be updated at least monthly. Reports of annual emissions and fuel usage shall be submitted within 30 days after the end of the calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
21. The operator shall apply to revise each Permit to Operate subject to the SLC when any unit subject to the SLC has a District-authorized change in daily emission rate, or Permit to Operate is surrendered or sold. [District Rule 2201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every calendar month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. 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
28. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. The source 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

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CONDITIONS CONTINUE ON NEXT PAGE

30. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. The fuel hhv shall be certified by third party fuel supplier or determined annually by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 4320] Federally Enforceable Through Title V Permit
33. Source testing shall be District witnessed or authorized and conducted by an ARB certified testing contractor. [District Rule 1081] Federally Enforceable Through Title V Permit
34. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
35. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
36. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070; 4305, 6.1; and 4306, 6.1] Federally Enforceable Through Title V Permit

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San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

PERMIT NO: S-1328-2-23

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: EXXON MOBIL CORPORATION

MAILING ADDRESS: P.O. BOX 4358  
CORP-WGR-1030  
HOUSTON, TX 77210-4358

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE  
CA

SECTION: NE19 TOWNSHIP: 28S RANGE: 21E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #65) WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O2 CONTROLLER (HILL LEASE): REVISE SULFUR MONITORING CONDITIONS

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] Federally Enforceable Through Title V Permit
4. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320] 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

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5. On and after 7/1/2010, the permittee shall submit an analysis showing the fuel's sulfur content at least once every year. Valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy this requirement, provided they establish the fuel parameters mentioned above. [District Rule 4320] Federally Enforceable Through Title V Permit
6. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
8. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet of gas. [District Rule 4320] Federally Enforceable Through Title V Permit
9. Emission rates shall not exceed any of the following: SO<sub>x</sub> (as SO<sub>2</sub>): 42.9 lb/day, PM<sub>10</sub>: 0.005 lb/MMBtu, or VOC: 0.003 lb/MMBtu. [District NSR Rule and District Rules 4201, 3.1, 4301, 5.1 and 5.2, 4406 and 4801] Federally Enforceable Through Title V Permit
10. Daily SO<sub>x</sub> emissions shall be calculated as follows:  $SO_x \text{ (lb/day)} = (1.68 \times 10E-7) \times \{(P1 \times F1) + P2 \times F2\}$ , where P1 = ppmv total sulfur (as H<sub>2</sub>S) in sweet gas, P2 = ppmv total sulfur (as H<sub>2</sub>S) in noncondensable vapor gas, F1 = sweet gas flowrate (scf/day) and F2 = noncondensable vapor gas (scf/day). [District Rule 2201] Federally Enforceable Through Title V Permit
11. Emission rates, except during startup and shutdown, shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 0.018 lb/MMBtu or 15 ppmvd @ 3% O<sub>2</sub>, or CO: 0.016 lb/MMBtu or 21.7 ppmv @ 3% O<sub>2</sub>. [District NSR Rule and District Rules 4301, 4305, 5.1 and 4306, 5.1] Federally Enforceable Through Title V Permit
12. During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Daily maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day or 24.0 lb-CO/day. [District NSR Rule] Federally Enforceable Through Title V Permit
14. Start-up is defined as that period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as that period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
15. The duration of each start-up or each shutdown shall not exceed two hours per occurrence. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. The operator shall maintain daily records of the number and duration of start-up and shutdown periods. [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
16. For this emission unit the overall throttle and use factor used in the SLC plan is 87%. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Combined annual combustion emissions from permit units S-1328-1, '-2, '-3 and the flare identified on permit unit S-1328-7 shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 25,733 lb/yr, SO<sub>x</sub> (as SO<sub>2</sub>): 41,975 lb/yr, PM<sub>10</sub>: 7,154 lb/yr, CO: 22,849 lb/yr, or VOC: 4,271 lb/yr. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Permittee shall sample sweet and noncondensable vapor gas monthly for total sulfur concentration (as H<sub>2</sub>S) and shall maintain daily records of sweet and noncondensable vapor gas flowrate (scf/day). [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
19. If fuel use monitoring provisions fail, emissions shall be calculated based on operational data, or if not available, on set equal to the average of four days prior to failure. [District NSR Rule] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

20. The permittee shall maintain records of fuel type, quantity, heating value of gas burned, permitted emission factors and annual emissions for each unit. Records shall be updated at least monthly. Reports of annual emissions and fuel usage shall be submitted within 30 days after the end of the calendar year. [District NSR Rule] Federally Enforceable Through Title V Permit
21. The operator shall apply to revise each Permit to Operate subject to the SLC when any unit subject to the SLC has a District-authorized change in daily emission rate, or Permit to Operate is surrendered or sold. [District NSR Rule] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every calendar month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
23. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
25. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. 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
28. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. The source 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

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CONDITIONS CONTINUE ON NEXT PAGE

30. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. The fuel hhv shall be certified by third party fuel supplier or determined annually by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 4320] Federally Enforceable Through Title V Permit
33. Source testing shall be District witnessed or authorized and conducted by an ARB certified testing contractor. [District Rule 1081] Federally Enforceable Through Title V Permit
34. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
35. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
36. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070; 4305, 6.1; and 4306, 6.1] Federally Enforceable Through Title V Permit

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San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1328-3-23

LEGAL OWNER OR OPERATOR: EXXON MOBIL CORPORATION

MAILING ADDRESS: P.O. BOX 4358  
CORP-WGR-1030  
HOUSTON, TX 77210-4358

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE  
CA

SECTION: NE19 TOWNSHIP: 28S RANGE: 21E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #66) WITH NORTH AMERICAN MAGNA FLAME GLE NOX BURNER, FGR AND O2 CONTROLLER (HILL LEASE):  
REVISE SULFUR MONITORING CONDITIONS

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] Federally Enforceable Through Title V Permit
4. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320] 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.

Sayed Sadredin, Executive Director APCO

Arnaud Marjolle, Director of Permit Services

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5. On and after 7/1/2010, the permittee shall submit an analysis showing the fuel's sulfur content at least once every year. Valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy this requirement, provided they establish the fuel parameters mentioned above. [District Rule 4320] Federally Enforceable Through Title V Permit
6. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
8. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet of gas. [District Rule 4320] Federally Enforceable Through Title V Permit
9. Emission rates shall not exceed any of the following: SO<sub>x</sub> (as SO<sub>2</sub>): 42.9 lb/day, PM<sub>10</sub>: 0.005 lb/MMBtu, or VOC: 0.003 lb/MMBtu. [District NSR Rule and District Rules 4201, 3.1, 4301, 5.1 and 5.2, 4406 and 4801] Federally Enforceable Through Title V Permit
10. Daily SO<sub>x</sub> emissions shall be calculated as follows:  $SO_x \text{ (lb/day)} = (1.68 \times 10E-7) \times \{(P1 \times F1) + P2 \times F2\}$ , where P1 = ppmv total sulfur (as H<sub>2</sub>S) in sweet gas, P2 = ppmv total sulfur (as H<sub>2</sub>S) in noncondensable vapor gas, F1 = sweet gas flowrate (scf/day) and F2 = noncondensable vapor gas (scf/day). [District Rule 2201] Federally Enforceable Through Title V Permit
11. Emission rates, except during startup and shutdown, shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 0.018 lb/MMBtu or 15 ppmvd @ 3% O<sub>2</sub>, or CO: 0.016 lb/MMBtu or 21.7 ppmv @ 3% O<sub>2</sub>. [District NSR Rule and District Rules 4301, 4305, 5.1 and 4306, 5.1] Federally Enforceable Through Title V Permit
12. During start-up and shutdown periods, emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Daily maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day or 24.0 lb-CO/day. [District NSR Rule] Federally Enforceable Through Title V Permit
14. Start-up is defined as that period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as that period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
15. The duration of each start-up or each shutdown shall not exceed two hours per occurrence. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. The operator shall maintain daily records of the number and duration of start-up and shutdown periods. [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
16. For this emission unit the overall throttle and use factor used in the SLC plan is 87%. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Combined annual combustion emissions from permit units S-1328-1, '-2, '-3 and the flare identified on permit unit S-1328-7 shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 25,733 lb/yr, SO<sub>x</sub> (as SO<sub>2</sub>): 41,975 lb/yr, PM<sub>10</sub>: 7,154 lb/yr, CO: 22,849 lb/yr, or VOC: 4,271 lb/yr. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Permittee shall sample sweet and noncondensable vapor gas monthly for total sulfur concentration (as H<sub>2</sub>S) and shall maintain daily records of sweet and noncondensable vapor gas flowrate (scf/day). [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
19. If fuel use monitoring provisions fail, emissions shall be calculated based on operational data, or if not available, on set equal to the average of four days prior to failure. [District NSR Rule] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

20. The permittee shall maintain records of fuel type, quantity, heating value of gas burned, permitted emission factors and annual emissions for each unit. Records shall be updated at least monthly. Reports of annual emissions and fuel usage shall be submitted within 30 days after the end of the calendar year. [District NSR Rule] Federally Enforceable Through Title V Permit
21. The operator shall apply to revise each Permit to Operate subject to the SLC when any unit subject to the SLC has a District-authorized change in daily emission rate, or Permit to Operate is surrendered or sold. [District NSR Rule] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every calendar month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
23. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
25. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
26. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. 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
28. Source testing to measure NO<sub>x</sub> and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. The source 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

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CONDITIONS CONTINUE ON NEXT PAGE

30. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. The fuel hhv shall be certified by third party fuel supplier or determined annually by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 4320] Federally Enforceable Through Title V Permit
33. Source testing shall be District witnessed or authorized and conducted by an ARB certified testing contractor. [District Rule 1081] Federally Enforceable Through Title V Permit
34. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
35. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
36. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070; 4305, 6.1; and 4306, 6.1] Federally Enforceable Through Title V Permit

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San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

PERMIT NO: S-1328-7-16

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: EXXON MOBIL CORPORATION

MAILING ADDRESS: P.O. BOX 4358  
CORP-WGR-1030  
HOUSTON, TX 77210-4358

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE  
CA

SECTION: NE19 TOWNSHIP: 28S RANGE: 21E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY OPERATION SERVING 171 STEAM DRIVE WELLS WITH VAPOR CONTROL SYSTEM, INCLUDING PERMIT EXEMPT HEATER TREATER (FORMERLY S-1328-56) OFF-GAS, GAS/LIQUID SEPARATOR, COMPRESSOR, CONDENSERS, TWO H<sub>2</sub>S SCRUBBING VESSELS, FLARE, AND ASSOCIATED PIPING: REVISE SULFUR MONITORING CONDITIONS

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Permittee shall maintain a current list of all steam enhanced wells, including identification of all steam enhanced wells with polish rod boxes subject to BACT I&M program connected to this system, and shall update the list whenever a well is added, replaced or deleted. The updated list shall be submitted to the District 60 days prior to the permit anniversary. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Vapor control system shall serve thermally enhanced well vents, permit exempt heater treater, and Wemco S-1328-58. [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.

Sayed Sadredin, Executive Director APCO

Arnaud Marjollet, Director of Permit Services

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5. Scrubbing solution shall consist only of Sulfa-Check and/or Sulfa-Treat media and additives unless prior District approval is obtained. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Noncondensable vapor gas from this well vent vapor control system may be incinerated in the following devices: steam generator permits S-1328-1, S-1328-2, and S-1328-3, and the standby flare. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Noncondensable vapor gas throughput to flare shall not exceed 1.0 MMscf per day. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Permittee shall maintain accurate component count and emissions calculated using CAPCOA EPA Protocol for Leak Emissions Estimate Fugitive Hydrocarbon Leaks Oil and Gas Production Operations Average Emission Factors, Table 2-4, February 1999. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Fugitive VOC emission rate from TEOR components shall not exceed 184.2 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
10. VOC content of gas processed shall not exceed 31% by weight. Permittee shall maintain a written record of VOC content (sampled not less than annually) and shall make such records available for District inspection upon request for a period of five years. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
11. Emission rates from the standby flare shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 0.0725 lb/MMBtu, SO<sub>x</sub> (as SO<sub>2</sub>): 115.0 lb/day, PM<sub>10</sub>: 0.0202 lb/MMBtu, CO: 0.022 lb/MMBtu, or VOC: 0.0021 lb/MMBtu. [District Rules 2201, 4201, 4301 and 4801] Federally Enforceable Through Title V Permit
12. Daily SO<sub>x</sub> emissions shall be calculated as follows:  $SO_x \text{ (lb/day)} = (1.68 \times 10E-7) \times \{(P1 \times F1) + P2 \times F2\}$ , where P1 = ppmv total sulfur (as H<sub>2</sub>S) in sweet gas, P2 = ppmv total sulfur (as H<sub>2</sub>S) in noncondensable vapor gas, F1 = sweet gas flowrate (scf/day) and F2 = noncondensable vapor gas (scf/day). [District Rule 2201] Federally Enforceable Through Title V Permit
13. Combined annual combustion emissions from units S-1328-1, -2, -3 and the flare identified on S-1328-7 shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 25,733 lb/yr, SO<sub>x</sub> (as SO<sub>2</sub>): 41,975 lb/yr, PM<sub>10</sub>: 7,154 lb/yr, CO: 22,849 lb/yr, or VOC: 4,271 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
14. If fuel use monitoring provisions fail, emissions shall be calculated based on operational data, or if not available, on set equal to the average of four days prior to failure. [District Rule 2201] Federally Enforceable Through Title V Permit
15. The operator shall apply to revise each Permit to Operate subject to the SLC when any unit subject to the SLC has a District-authorized change in daily emission rate, or Permit to Operate is surrendered or sold. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Standby flare shall comply with all requirements of District Rule 4311. [District Rule 4311] Federally Enforceable Through Title V Permit
17. The flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311, 5.2] Federally Enforceable Through Title V Permit
18. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311, 5.3] Federally Enforceable Through Title V Permit
19. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. [District Rule 4311, 5.4] Federally Enforceable Through Title V Permit
20. {2332} Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5] Federally Enforceable Through Title V Permit
21. Open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. [District Rule 4311, 5.6] Federally Enforceable Through Title V Permit

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22. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
23. The permittee shall maintain records of fuel type, quantity, heating value of gas burned, permitted emission factors and annual emissions for each unit. Records shall be updated at least monthly. Reports of annual emissions and fuel usage shall be submitted within 30 days after the end of the calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Permittee shall sample sweet and noncondensable vapor gas monthly for total sulfur concentration (as H<sub>2</sub>S) and shall maintain daily records of sweet and noncondensable vapor gas flowrate (scf/day). [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
25. Permittee shall maintain accurate daily records of volume noncondensable gas incinerated in flare. [District Rule 1070] Federally Enforceable Through Title V Permit
26. Gas and liquid leaks are as defined in Section 3.20 of Rule 4401. [District Rule 4401, 3.20] Federally Enforceable Through Title V Permit
27. Any steam-enhanced crude oil production well undergoing service or repair during the time the well is not producing shall be exempt from the requirements of Rule 4401. [District Rule 4401, 4.1] Federally Enforceable Through Title V Permit
28. The requirements of this rule shall not apply to components serving the produced fluid line. [District Rule 4401, 4.5] Federally Enforceable Through Title V Permit
29. Except for complying with the applicable requirements of Section 6.1, Section 6.6.6 and Section 7.2, the requirements of this rule shall not apply to components described in Section 4.6.1 through Section 4.6.4. An operator claiming an exemption pursuant to Section 4.6 shall provide proof of the applicable criteria to the satisfaction of the APCO. [District Rule 4401, 4.6] Federally Enforceable Through Title V Permit
30. An operator shall not operate a steam-enhanced crude oil production well unless the operator complies with either of the following requirements: The steam-enhanced crude oil production well vent is closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401, the well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere, or the steam-enhanced crude oil production well vent is open and the well vent is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401. [District Rule 4401, 5.1.1 and 5.1.2] Federally Enforceable Through Title V Permit
31. An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.4 of Rule 4401 demonstrates the existence of an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations as defined by Section 5.2.2.1 of Rule 4401 requiring process fluid flow through the open-ended lines, a component with a major liquid leak, or a component with a gas leak greater than 50,000 ppmv. [District Rule 4401, 5.2.2] Federally Enforceable Through Title V Permit
32. An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.4 of Rule 4401 demonstrates the existence of any combination of components with minor liquid leaks, minor gas leaks, or a gas leaks greater than 10,000 ppmv up to 50,000 ppmv that totals more than number of leaks allowed by Table 2 of Rule 4401. [District Rule 4401, 5.2.2] Federally Enforceable Through Title V Permit
33. An operator shall not use any component with a leak as defined in Section 3.0 of Rule 4401, or that is found to be in violation of the provisions of Section 5.2.2 of Rule 4401. However, components that were found leaking may be used provided such leaking components have been identified with a tag for repair, are repaired, or awaiting re-inspection after being repaired within the applicable time frame specified in Section 5.5 of Rule 4401. [District Rule 4401, 5.3.1] Federally Enforceable Through Title V Permit

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34. Each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401, 5.3.2] Federally Enforceable Through Title V Permit
35. An operator shall comply with the requirements of Section 6.7 of Rule 4401 if there is any change in the description of major components or critical components. [District Rule 4401, 5.3.3] Federally Enforceable Through Title V Permit
36. Unless exempt under Section 4.7 or Rule 4401, except for pipes and unsafe-to-monitor components, an operator shall inspect all other components pursuant to the requirements of Section 6.3.3 of Rule 4401 at least once every year. [District Rule 4401, 5.4.1] Federally Enforceable Through Title V Permit
37. Unless exempt under Section 4.7 or Rule 4401, an operator shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.2] Federally Enforceable Through Title V Permit
38. Unless exempt under Section 4.7 or Rule 4401, in addition to the inspections required by Section 5.4.1 of Rule 4401, an operator shall inspect for leaks all accessible operating pumps, compressors, and PRDs in service as follows: An operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, and PRDs in service at least once each calendar week. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.3] Federally Enforceable Through Title V Permit
39. Unless exempt under Section 4.7 or Rule 4401, in addition to the inspections required by Sections 5.4.1, 5.4.2 and 5.4.3 of Rule 4401, operator shall perform the following: initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release, re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection, inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. Except for PRDs subject to the requirements of Section 5.4.4.1 of Rule 4401, an operator shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401, 5.4.4] Federally Enforceable Through Title V Permit
40. Unless exempt under Section 4.7 or Rule 4401, an operator shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401, 5.4.5] Federally Enforceable Through Title V Permit
41. A District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator. [District Rule 4401, 5.4.6] Federally Enforceable Through Title V Permit
42. An operator shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak and shall include the following information on the tag: date and time of leak detection, date and time of leak measurement, for a gaseous leak, the leak concentration in ppmv, for a liquid leak, whether it is a major liquid leak or a minor liquid leak, whether the component is an essential component, an unsafe-to monitor component, or a critical component. [District Rule 4401, 5.5.1] Federally Enforceable Through Title V Permit
43. An operator shall keep the tag affixed to the component until an operator has met all of the following conditions: repaired or replaced the leaking component, re-inspected the component using the test method in Section 6.3.3, and the component is found to be in compliance with the requirements of this rule. [District Rule 4401 5.5.2] Federally Enforceable Through Title V Permit
44. An operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401, 5.5.3] Federally Enforceable Through Title V Permit

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45. Except for leaking critical components or leaking essential components subject to the requirements of Section 5.5.7 of Rule 4401, if an operator has minimized a leak but the leak still exceeds the applicable leak limits as defined in Section 3.0 of Rule 4401, an operator shall comply with at least one of the following requirements as soon as practicable but not later than the time period specified in Table 3 of Rule 4401: Repair or replace the leaking component; or vent the leaking component to a VOC collection and control system as defined in Section 3.0 of Rule 4401, or remove the leaking component from operation. [District Rule 4401, 5.5.4] Federally Enforceable Through Title V Permit
46. The repair period in calendar days shall not exceed 14 days for minor gas leaks, 5 days for major gas leaks less than or equal to 50,000 ppmv, 2 days for gas leak greater than 50,000 ppmv, 3 days for minor liquid leaks, 2 days for major liquid leaks. [District Rule 4401, 5.5.4] Federally Enforceable Through Title V Permit
47. The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period specified in Table 3 of Rule 4401. [District Rule 4401, 5.5.5] Federally Enforceable Through Title V Permit
48. The time of the initial leak detection shall be the start of the repair period specified in Table 3 of Rule 4401. [District Rule 4401, 5.5.6] Federally Enforceable Through Title V Permit
49. If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. [District Rule 4401, 5.5.7] Federally Enforceable Through Title V Permit
50. All records of required monitoring data and support information shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4401, 6.1] Federally Enforceable Through Title V Permit
51. The operator of any steam-enhanced crude oil production well shall maintain records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401, 6.1.1] Federally Enforceable Through Title V Permit
52. Records of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components, including a copy of current calibration gas certification from the vendor of said calibration gas cylinder, the date of calibration, concentration of calibration gas, instrument reading of calibration gas before adjustment, instrument reading of calibration gas after adjustment, calibration gas expiration date, and calibration gas cylinder pressure at the time of calibration shall be maintained. [District Rule 4401, 6.1.5] Federally Enforceable Through Title V Permit
53. An operator shall maintain copies at the facility of the training records of the training program operated pursuant to Section 6.5 of Rule 4401. [District Rule 4401, 6.1.6] Federally Enforceable Through Title V Permit
54. Operator shall keep a copy of the APCO-approved Operator Management Plan at the facility. [District Rule 4401, 6.1.7] Federally Enforceable Through Title V Permit
55. An operator that discovers that a PRD has released shall record the date that the release was discovered, and the identity and location of the PRD that released. An operator shall submit such information recorded during the calendar year to the APCO no later than 60 days after the end of the calendar year. [District Rule 4401, 6.1.10] Federally Enforceable Through Title V Permit
56. If approved by the APCO, an operator need not comply with the annual testing requirement of Section 6.2.1 of Rule 4401 if all uncondensed VOC emissions collected by a vapor collection are controlled by an internal combustion engine subject to Rule 4702, a combustion device subject to Rule 4320, 4307 or 4308, a flare subject to Rule 4311. [District Rule 4401, 6.2.2] Federally Enforceable Through Title V Permit
57. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4401, 6.3.1] Federally Enforceable Through Title V Permit

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58. VOC content shall be analyzed by using the latest revision of ASTM Method E168, E169, or E260 as applicable. Analysis of halogenated exempt compounds shall be performed by using ARB Method 432. [District Rule 4401, 6.3.2] Federally Enforceable Through Title V Permit
59. Leak inspection, other than audio-visual, and measurements of gaseous leak concentrations shall be conducted according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instruction, as appropriate, not more than 30 days prior to its use. The operator shall record the calibration date of the instrument. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one (1) centimeter or less from the surface of the component interface. [District Rule 4401, 6.3.3] Federally Enforceable Through Title V Permit
60. The VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval for TEOR gas, and South Coast Air Quality Management District (SCAQMD) Method 304-91 or the latest revision of ASTM Method E168, E169 or E260 for liquids. [District Rule 4401, 6.3.4] Federally Enforceable Through Title V Permit
61. Operator shall maintain an inspection log pursuant to Section 6.4 of Rule 4401, including, at a minimum, all of the following information for each inspection performed: The total number of components inspected, total number and percentage of leaking components found by component type, location, type, and name or description of each leaking component and description of any unit where the leaking component is found, date of leak detection and the method of leak detection. For gaseous leaks, the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak. the date of repair, replacement, or removal from operation of leaking components, identify and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, the date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced, the inspector's name, business mailing address, and business telephone number, date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401, 6.1.4 and 6.4] Federally Enforceable Through Title V Permit
62. Permittee shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures, as necessary. [District Rule 4401, 6.5] Federally Enforceable Through Title V Permit
63. In accordance with the approved Operator Management Plan (OMP), permittee shall meet all applicable operating, leak standards, inspection and re-inspection, leak repair, record keeping, and notification requirements of Rule 4401. [District Rule 4401, 6.6] Federally Enforceable Through Title V Permit
64. By January 30 of each year, permittee shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved OMP. [District Rule 4401, 6.7] Federally Enforceable Through Title V Permit
65. {2457} Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following requirements: County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
66. {2458} Compliance with permit conditions in the Title V permit shall be deemed in compliance with District Rule 4401 (Amended January 15, 1998), excluding sections 5.1 and 5.2 for control systems which have been waived from complying with the requirement of section 6.2.1. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
67. {2459} The requirements of District Rule 4407 (Adopted May 19, 1994) do not apply to this permit unit because it is not an in situ combustion well vent. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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