



# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



**APR 15 2014**

Ms. Jennifer Hart  
Vintage Production California, LLC  
9600 Ming Avenue, Suite 300  
Bakersfield, CA 93311

**Re: Proposed ATC / Certificate of Conformity (Revised)  
District Facility # S-1326  
Project # 1134319**

Dear Ms. Hart:

Enclosed for your review is the District's analysis of your application for Authority to Construct for the facility identified above. This analysis is for a 15 MMBtu/hr natural gas-fired heater treater. This unit was originally approved on January 31, 2014 and was issued with a Certificate of Conformity with the procedural requirements of 40 CFR Part 70. Our analysis includes your revised proposal for offsetting emissions increases for the project of 1,445 lb-NOx/year and 723 lb-VOC/year using different banked emissions reduction credits. This is the only revision to the project approved on January 31, 2014.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate 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 Authority 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.

**Seyed Sadredin**  
Executive Director/Air Pollution Control Officer

**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356-8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-6000 FAX: (559) 230-6061


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

Jennifer Hart  
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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:RE/st

Enclosures

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

# San Joaquin Valley Air Pollution Control District Authority to Construct

## REVISED PRELIMINARY DECISION DOCUMENT

### 15 MMBtu/hr Heater Treater

Facility Name: Vintage Production California, LLC      Date: April 10, 2014  
Mailing Address: 9600 Ming Ave., Suite 300      Engineer: Richard Edgehill  
Bakersfield, CA 93311      Lead Engineer: Steve Leonard  
Contact Person: Jennifer Hart  
Telephone: (661) 869-8065  
Fax: (661) 869-8059  
Application #(s): S-1326-437-0  
Project #: S-1134319  
Deemed Complete: November 15, 2013

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## I. PROPOSAL

**Note: Vintage has amended their original offset proposal to include the use of different banked emissions reductions credits (ERC). No other changes were proposed or approved. This amended document includes the District's review the revised offset package and is being re-noticed as required.**

Vintage Production California (VPC) requests an Authority to Construct (ATC) for a 15 MMBtu/hr natural gas-fired heater treater. The project results in an increase in combustion emissions of NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, and VOC.

The project is a Federal Major Modification. BACT, offsets, and public notice are required.

VPC facility S-1326 has a Title V permit. The project is a Federal Major Modification and a Title V Significant Modification and, as requested, is being processed with a Certificate of Conformity (COC). VPC must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC(s) issued with this project.

## II. APPLICABLE RULES

District Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
District Rule 2410	Prevention of Significant Deterioration (June 16, 2011)
District Rule 2520	Federally Mandated Operating Permits (6/21/01)
District Rule 4001	New Source Performance Standards (4/14/99)
District Rule 4101	Visible Emissions (2/17/05)
District Rule 4102	Nuisance (12/17/92)
District Rule 4201	Particulate Matter Concentration (12/17/92)
District Rule 4301	Fuel Burning Equipment (12/17/92)
District Rule 4305	Boilers, Steam Generators and Process Heaters – Phase 2 (8/21/03)

District Rule 4306 Boilers, Steam Generators and Process Heaters – Phase 3 (10/16/08)  
District Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators,  
and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)  
District Rule 4351 Boilers, Steam Generators and Process Heaters – Phase 1 (8/21/03)  
District Rule 4801 Sulfur Compounds (12/17/92)  
CH&SC 41700 Health Risk Assessment  
CH&SC 42301.6 School Notice  
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)  
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA  
Guidelines

### **III. PROJECT LOCATION**

The heater treater will be located within VPC's heavy oil central stationary source, SW/4 Section 4, T27S, R28E. 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.

A project location map, plot plan, and facility photo is included in **Attachment I**.

### **IV. PROCESS DESCRIPTION**

The new heater treater will be used to reduce viscosity, thereby improving fluid flow characteristics of heavy crude oil at the Mt Poso facility.

In order to comply with District Rule 4320 NO<sub>x</sub> requirements, the applicant is proposing emissions limits of 9 ppmv NO<sub>x</sub> @ 3% O<sub>2</sub> and 50 ppmv @ 3% O<sub>2</sub> CO. The unit is equipped with separate burners, gas trains, controls and stacks for two 7.5 MMBtu/hr burners. Natural gas with a sulfur content not exceeding 1.0 gr S/100 scf is proposed as fuel.

### **V. EQUIPMENT LISTING**

S-1326-437-0: 15 MMBTU/HR NATURAL GAS-FIRED HEATER TREATER WITH TWO  
SEPARATE 7.5 MMBTU/HR MAXON XPO 5 EB ULTRA LOW NOX  
BURNERS (OR EQUIVALENT)

### **VI. EMISSION CONTROL TECHNOLOGY EVALUATION**

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

## Sulfur Control

The ATC requires that gas combusted contain no more than 1 gr S/100 scf.

## VII. GENERAL CALCULATIONS

### A. Assumptions

- The maximum operating schedule is 24 hours per day.
- Unit will be fired on natural gas or a mixture of natural gas and produced gas.
- Natural gas HHV = 1000 Btu/scf
- Natural gas F-Factor = 8578 dscf/MMBtu (corrected at 60 °F)
- Natural gas Sulfur Content = 1 grain per 100scf
- Annual pre-project and post-project potential to emit is calculated based on 8760 hours of operation per year

### B. Emission Factors

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

For this unit, post-project emission factors are listed in the table below.

Pollutant	Post-Project Emission Factors (EF2)			Source
NO <sub>x</sub>	11 lb-NO <sub>x</sub> /MMscf	0.011 lb-NO <sub>x</sub> /MMBtu	9 ppmvd NO <sub>x</sub> (@ 3%O <sub>2</sub> )	Proposed
SO <sub>x</sub>	2.85 lb-SO <sub>x</sub> /MMscf	0.00285 lb-SO <sub>x</sub> /MMBtu		District Policy APR 1720
PM10	3.0 lb-PM10/MMscf	0.003 lb-PM10/MMBtu		Proposed*
CO	37 lb-CO/MMscf	0.037 lb-CO/MMBtu	50 ppmvd CO (@ 3%O <sub>2</sub> )	Proposed
VOC	5.5 lb-VOC/MMscf	0.0055 lb-VOC/MMBtu	13 ppmvd VOC (@ 3% O <sub>2</sub> )	AP-42 (07/98) Table 1.4-2

\*see email dated 7-24-13 (See Attachment II), no manufacturer guarantee is available but PM10 EF is expected with combustion of natural gas with low sulfur.

### C. Calculations

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

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

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

The PE2 for each pollutant is calculated with the following equation:

▪  $PE2 = EF \text{ (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op. Sched. (hr/day or hr/year)}$

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO <sub>x</sub>	0.011	15	24	4.0
SO <sub>x</sub>	0.00285	15	24	1.0
PM <sub>10</sub>	0.0030	15	24	1.1
CO	0.037	15	24	13.3
VOC	0.0055	15	24	2.0

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO <sub>x</sub>	0.011	15	8,760	1,445
SO <sub>x</sub>	0.00285	15	8,760	374
PM <sub>10</sub>	0.0030	15	8,760	394
CO	0.037	15	8,760	4,862
VOC	0.0055	15	8,760	723

### Greenhouse Gas Emissions

15 MMBtu/hr x 116.7 lb-CO<sub>2</sub>e/MMBtu = 1,751 lb-CO<sub>2</sub>e/hour

1,751 lb-CO<sub>2</sub>e/hour x 8760 hr/year ÷ 2,000 lb/ton

= 7,669 tons-CO<sub>2</sub>e/year >> 230 mtons lb-CO<sub>2</sub>e/hour /hr

Emissions Profiles are included in **Attachment II**.

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

SSPE1 calculations are necessary to aid the following determinations:

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since

September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

The SSPE1 can be calculated by adding the PE1 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site (Total<sub>ERC</sub>).

$$SSPE1_{Total} = SSPE1_{Permit\ Unit} + Total_{ERC}$$

SSPE1 (lb/year)					
Permit Unit/ERC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE1* <sub>Permit Unit</sub>	147,133	51,780	51,941	348,451	180,888
ERC S-2310-1					6,201
ERC S-4049-1					3,092
Total <sub>ERC</sub>					9,293
SSPE1	147,133	51,780	51,941	348,451	190,181

From Project S1326, 1133786

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

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

SSPE2 (lb/year)					
Permit Unit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE1	147,133	51,780	51,941	348,451	190,181
S-1326-437-0	1,445	374	394	4,862	723
SSPE2	148,578	52,154	52,335	353,313	190,904

#### 5. Major Source Determination

##### Rule 2201 Major Source Determination:

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

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

<b>Rule 2201 Major Source Determination (lb/year)</b>					
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
Facility emissions pre-project	147,133	51,780	51,941	348,451	180,888
Facility emissions – post project	148,578	52,154	52,335	353,313	181,611
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	yes	no	no	yes	yes

As seen in the table above, the facility is an existing Major Source for NO<sub>x</sub>, CO, and VOC and is not becoming a Major Source for SO<sub>x</sub> and PM<sub>10</sub> as a result of this project.

**Rule 2410 Major Source Determination:**

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

<b>PSD Major Source Determination (tons/year)*</b>							
	NO <sub>2</sub>	VOC	SO <sub>2</sub>	CO	PM	PM <sub>10</sub>	CO <sub>2e</sub>
Estimated Facility PE before Project Increase	74	90	26	174	26	26	>100,000*
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ? (Y/N)	N	N	N	N	N	N	Y

\*facility has outstanding ATCs for twelve (12) 85 MMBtu/hr SGs and additional combustion equipment

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

**6. Baseline Emissions (BE)**

The BE calculation (in lbs/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

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



- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

S-1326-428-0:

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

## 7. SB 288 Major Modification

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

Since this facility is not a major source for SO<sub>x</sub> or PM<sub>10</sub>, this project does not constitute an SB 288 major modification for these air contaminants.

Since this facility is a major source for NO<sub>x</sub> and VOCs, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO <sub>x</sub>	1,445	50,000	No
VOC	723	50,000	No

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

## 8. Federal Major Modification

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

Since this facility is not a Major Source for SO<sub>x</sub> and PM<sub>10</sub>, this project does not constitute a Federal Major Modification for these air contaminants.

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

### Step 1

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

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

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO <sub>x</sub> *	1,445	0	Yes
VOC*	723	0	Yes

\*If there is any emission increases in NO<sub>x</sub> or VOC, this project is a Federal Major Modification and no further analysis is required.

Since there is an increase in NO<sub>x</sub> and VOC emissions, this project constitutes a Federal Major Modification, and no further analysis is required.

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

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

- NO<sub>2</sub> (as a primary pollutant)
- SO<sub>2</sub> (as a primary pollutant)
- CO
- PM
- PM<sub>10</sub>
- Greenhouse gases (GHG): CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>, HFCs, PFCs, and SF<sub>6</sub>

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

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

#### **I. Project Location Relative to Class 1 Area**

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

#### **II. Significance of Project Emission Increase Determination**

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

As a screening tool, the potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if total

potential to emit from all new and modified units is below this threshold, no further analysis will be needed.

<b>PSD Significant Emission Increase Determination: Potential to Emit (tons/year)</b>						
	NO2	SO2	CO	PM	PM10	CO2e*
Total PE from New and Modified Units	0.7	0.2	2.4	0.2	0.2	7,669
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	N	N	N	N	N	N

\*15 MMBtu/hr x 116.7 lb-CO2e/MMBtu = 1,751 lb-CO2e/hour

1,751 lb-CO2e/hour x 8760 hr/year ÷ 2,000 lb/ton = 7,669 tons-CO2e/year

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

#### 10. Quarterly Net Emissions Change (QNEC)

The QNEC will be calculated for each pollutant, for each unit, as the difference between the quarterly PE2 and the quarterly PE1. The QNEC for each pollutant is shown in the table(s) below:

<b>QNEC</b>			
<b>Pollutant</b>	<b>PE2 (lb/yr)</b>	<b>PE1 (lb/yr)</b>	<b>QNEC (lb/qtr)</b>
NO <sub>x</sub>	1,445	0	361
SO <sub>x</sub>	374	0	94
PM10	394	0	99
CO	4862	0	1216
VOC	723	0	181

## VIII. COMPLIANCE

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

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

##### 1. BACT Applicability

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

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install a new heater treater with two separate 7.5 MMBtu/hr burners (emissions units). Emissions from each burner are listed in the table below.

PE2	
	Daily Emissions (lb/day)
NO <sub>x</sub>	2.0
SO <sub>x</sub>	0.5
PM <sub>10</sub>	0.5
CO	6.7
VOC	1.0

The PE is greater than 2 lb/day for CO only; therefore, BACT is triggered as the SSPE2 for CO is greater than 200,000 lbs/year, as demonstrated in Section VII.C.5 above.

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

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

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

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

**d. SB 288/Federal Major Modification**

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute a Federal Major Modification for NO<sub>x</sub> and VOC emissions. Therefore, BACT is triggered for any pollutant with an emissions increase > 0.5 lb/day (NO<sub>x</sub> and VOC).

**2. BACT Guideline**

Please note that BACT Guidelines 1.8.4 Heater Treater < 20 MMBtu/hr, natural gas-fired and 1.8.5 [Process Heater (non-refinery, < or = 20 MMBtu/hr)] have been rescinded and replaced by District Rule 4320 for NO<sub>x</sub>. BACT Guidelines 1.8.4 and 1.8.5 apply to CO and VOC (see **Attachment III**).

**3. Top-Down BACT Analysis**

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

Pursuant to the attached Top-Down BACT Analysis (see **Attachment IV**), BACT has been satisfied with the following:

NO<sub>x</sub>: 9 ppmvd @ 3% O<sub>2</sub>  
CO: Natural gas  
VOC: Natural gas

**B. Offsets**

**1. Offset Applicability**

Offset Determination (lb/year)					
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
Post Project SSPE (SSPE2)	148,578	52,154	52,335	353,313	190,904
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	Yes	Yes	Yes

**2. Quantity of Offsets Required**

As seen above, the SSPE2 is greater than the offset thresholds for NO<sub>x</sub>, PM<sub>10</sub>, CO, and VOC. Therefore, offset calculations will be required for this project.

The quantity of offsets in pounds per year for NOX, PM10, CO, and VOC.. is calculated as follows for sources with an SSPE1 less than the offset threshold levels before implementing the project being evaluated.

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

Where,

- SSPE2 = Post Project Stationary Source Potential to Emit
- ROT = Respective Offset Threshold, for the respective pollutant
- ICCE = Increase in Cargo Carrier Emissions
- DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE)

There is only one emissions unit associated with this project and there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

Offset Calculations:

$$\begin{aligned}\text{Offsets Required (lb/year)} &= ([\text{PE2} - \text{BE}]) \times \text{DOR} \\ \text{BE} &= 0 \text{ (new emissions unit)}\end{aligned}$$

NOx:

$$\text{PE2} = 1445 \text{ lb NOx/yr}$$

The DOR = 1.5 (Federal Major Modification), the amount of NOx ERCs that need to be withdrawn is:

$$\begin{aligned}\text{Offsets Required (lb/year)} &= 1445 \times 1.5 \\ &= 2168 \text{ lb-NOX/year}\end{aligned}$$

The quarterly ERC required is as follows:

<u>Pollutant</u>	<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>
NOx	542	542	542	542

The applicant has stated that the facility plans to use ERC certificate N-1148-2, or a certificate derived from it, to offset the increases in NOx emissions associated with this project. The above quarterly quantities have been reserved for the project.

**PM<sub>10</sub>:**

$$PE2 = 394 \text{ lb/yr}$$

Assuming DOR = 1.5, the amount of PM10 ERCs that need to be withdrawn is:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= 394 \times 1.5 \\ &= 591 \text{ lb-PM}_{10}/\text{year} \end{aligned}$$

The quarterly ERC required is as follows:

<u>Pollutant</u>	<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>
PM <sub>10</sub>	148	148	148	148

The applicant has stated that the facility plans to use ERC C-809-4 or certificates derived from it to offset the increases in PM<sub>10</sub> emissions associated with this project.

Per District Rule 2201, Section 4.13.8: AER for PM that occurred from October through March, inclusive, may be used to offset increases in PM during any period of the year. The above quarterly quantities have been reserved from the fourth quarter of this certificate for the project.

**CO:**

$$PE2 = 2,365 \text{ lb/yr}$$

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

**VOC:**

$$PE2 = 723 \text{ lb VOC/yr}$$

Assuming DOR = 1.5 (Federal Major Modification), the amount of VOC ERCs that need to be withdrawn is:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= 723 \times 1.5 \\ \text{Offsets Required (lb/year)} &= 1,085 \end{aligned}$$

Calculating the appropriate quarterly emissions to be offset is as follows:

DOR = 1.5

<u>Pollutant</u>	<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>
VOC	271	271	271	271

**REVISED**

The applicant has stated that the facility plans to use ERC certificates S-3777-1 and S-4082-1 to offset the increases in VOC emissions associated with this project. The above quarterly quantities have been reserved for the project.

As seen above, the facility has sufficient credits to fully offset the quarterly NO<sub>x</sub>, PM<sub>10</sub> and VOC emissions increases associated with this project.

**Proposed Rule 2201 (offset) Conditions:**

- Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NO<sub>x</sub>: 542 lb/quarter, PM<sub>10</sub>: 148 lb/quarter, and VOC: 271 lb/qtr. Offsets include the applicable offset ratio specified in Section 4.8 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Y
- ERC Certificate Numbers C-809-4, N-1148-2, S-3777-1, and S-4082-1 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Y

**C. Public Notification**

**1. Applicability**

Public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed, and/or
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

**a. New Major Sources, Federal Major Modifications, and SB288 Major Modifications**

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

As demonstrated in VII.C.7, this project does not constitute a SB 288; therefore, public noticing for SB 288 purposes is not required.



As demonstrated in VII.C.8, this project is a Federal Major Modification; therefore, public noticing for Federal Major Modification purposes is required.

**b. PE > 100 lb/day**

Applications which include a new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant; therefore public noticing for PE > 100 lb/day purposes is not required.

**c. Offset Threshold**

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO <sub>x</sub>	147,133	148,578	20,000 lb/year	No
SO <sub>x</sub>	51,780	52,154	54,750 lb/year	No
PM <sub>10</sub>	51,941	52,335	29,200 lb/year	No
CO	348,451	353,313	200,000 lb/year	No
VOC	190,181	190,904	20,000 lb/year	No

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

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

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO <sub>x</sub>	148,578	147,133	1,445	20,000 lb/year	No
SO <sub>x</sub>	52,154	51,780	374	20,000 lb/year	No
PM <sub>10</sub>	52,335	51,941	394	20,000 lb/year	No
CO	353,313	348,451	4,862	20,000 lb/year	No
VOC	190,904	190,181	723	20,000 lb/year	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not required.

## **2. Public Notice Action**

As discussed above, public noticing is required Federal Major Modification purposes. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

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

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

For this heater treater the DELs are stated in the form of emission factors and the maximum operational time of 24 hours per day.

### **Proposed Rule 2201 (DEL) Conditions:**

- Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb SO<sub>x</sub>/MMBtu, 0.003 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4201, 4301, 4305, 4306, 4320, and 4801]
- The unit shall only be fired on gas with a maximum sulfur content of 1.0 gr S/100scf. [District Rules 2201 and 4320] Y

## **E. Compliance Assurance**

### **1. Source Testing**

Pursuant to District Policy APR 1705, start-up source testing for NO<sub>x</sub>, CO, and PM<sub>10</sub> (startup only) will be required to demonstrate compliance with Rule 2201 as stated in the following conditions:

A source test to demonstrate compliance with NO<sub>x</sub>, CO, and PM<sub>10</sub> emission limits shall be performed within 60 days of startup. [District Rules 2201 and 4320] Y

Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306 and 4320] Y

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

## **2. Monitoring**

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

## **3. Recordkeeping**

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The appropriate permit conditions to ensure that recordkeeping sufficient to demonstrate compliance will be developed and proposed by the District.

- {4356} Permittee shall determine sulfur content of combusted gas annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320] N
- Permittee shall maintain accurate records of valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts used to satisfy the fuel sulfur content analysis of fuel combusted in process heater, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2201 and 4320] N
- {2983} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] N

The heater treater is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr*.

Recordkeeping, in accordance with these rules will be discussed in Section VIII of this evaluation.

## **4. Reporting**

No reporting is required to demonstrate compliance with Rule 2201.

## F. Ambient Air Quality Analysis

Section 4.6.1 of this rule states that emissions offsets are not required for increases in carbon monoxide in attainment areas provided the applicant demonstrates to the satisfaction of the APCO that the Ambient Air Quality Standards are not violated in the areas to be affected, such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of Ambient Air Quality Standards.

Section 4.14.1 of this Rule requires that an ambient air quality analysis (AAQA) be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard.

The proposed location is in an attainment area for NO<sub>x</sub>, CO, and SO<sub>x</sub>. The proposed location is in a non-attainment area for PM<sub>10</sub>. The increase in criteria pollutants due to the proposed equipment will not cause a violation as shown on the table below titled "Criteria pollutant Modeling Results".

The results from the Criteria Pollutant Modeling are as follows:

**Criteria Pollutant Modeling Results\***

	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO <sub>x</sub>	Pass <sup>1</sup>	X	X	X	Pass
SO <sub>x</sub>	Pass	Pass	X	Pass	Pass
PM <sub>10</sub>	X	X	X	Pass <sup>2</sup>	Pass <sup>2</sup>
PM <sub>2.5</sub>	X	X	X	Pass <sup>2</sup>	Pass <sup>2</sup>

\*Results were taken from the attached PSD spreadsheet.

<sup>1</sup>The project was compared to the 1-hour NO<sub>2</sub> National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.

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

As shown, the calculated contribution of CO, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>, will not exceed the EPA significance level. This project is not expected to cause or make worse a violation of an air quality standard. See **Attachment V** of this document for the AAQA summary sheet.

## G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Title I Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Sections VIII-Rule 2201-C.1.a and VIII-Rule 2201-C.1.b, this facility is a new major source and this project does constitute a Title I modification, therefore this requirement is applicable. Included in **Attachment VI** is VPC's Statewide Compliance Statement.

## **H. Alternate Siting Analysis**

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

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

This facility is subject to this Rule, and has received their Title V Operating Permit. Section 3.29 defines a significant permit modification as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

The project is Federal Major Modification and therefore is also a Title V Significant Modification. As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Included in **Attachment VII** is VPC's Title V Compliance Certification form. Continued compliance with this rule is expected.

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

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. 40 CFR Part 60, Subpart Dc applies to Small Industrial-Commercial-Industrial Process heaters between 10 MMBtu/hr and 100 MMBtu/hr.

This heater treater has a rating of 15 MMBtu/hr and is fired on natural gas or a natural gas produced gas mixture. Subpart Dc has no standards for gas-fired steam generators. Therefore, testing and monitoring requirements of subpart Dc do not apply.

Subpart Dc, subpart 60.48c requires the owner or operator of each affected facility to submit notification of the date of construction or reconstruction, anticipated startup, actual startup, as provided by §60.7 of this part. Notification shall include

- (1) The design heat input capacity of the facility and identification of the fuels to be combusted:

The designed heat input capacity and the identified fuels will be listed on the equipment description. No other permit conditions are required.

- (2) If applicable, a copy of any federally enforceable requirements that limit the annual capacity factor for any fuel mixture of fuel under §60.42c or §60.43c.

The requirements is not applicable since the unit is not subject to §60.42c or §60.43c.

- (3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

The facility has not proposed an annual capacity factor and one will not be imposed on the facility.

- (4) Notification if an emerging technology will be used for controlling SO<sub>2</sub> emissions. The Administrator will examine the description of the control and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c (a) or (b)1, unless the unit determination is made by the Administrator.

The requirements are not applicable since the unit will not be equipped with emerging technology.

Section 60.48c(g) states that the owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day.

Since the unit has been evaluated assuming that it will consume the maximum amount of fuel allowed by the unit each day, the facility will not be required to record the daily fuel consumption.

Section 60.48c(i) states that all records required under this section shall be maintained by the owner operator of the affected facility for a period of two years following the date of such record. District Rule 4306 requires that records be kept for 5 years.

#### **Rule 4101 Visible Emissions**

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

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

#### **Rule 4102 Nuisance**

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

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

## California Health & Safety Code 41700 (Health Risk Assessment)

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

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

The health risk for this project is shown below:

RMR Summary			
Categories	15 MMBtu/hr NG-Fired Heater (Unit 437-0)	Project Totals	Facility Totals
Prioritization Score	0.0	<1.0	>1.0
Acute Hazard Index	0.00	0.00	0.02
Chronic Hazard Index	0.00	0.00	0.01
Maximum Individual Cancer Risk ( $10^{-6}$ )	0.0	0.0	1.1
T-BACT Required?	No		
Special Permit Conditions?	No		

The project is approved without TBACT with the following special condition:

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

### Rule 4201 Particulate Matter Concentration

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

F-Factor for NG: 8,578 dscf/MMBtu at 60 °F  
 PM10 Emission Factor: 0.0076 lb-PM10/MMBtu  
 Percentage of PM as PM10 in Exhaust: 100%  
 Exhaust Oxygen (O<sub>2</sub>) Concentration: 3%  
 Excess Air Correction to F Factor =  $20.9/(20.9 - 3) = 1.17$

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

$$GL = 0.003 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$$

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

- Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.011 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4201, 4301, 4305, 4306, 4320, and 4801]

### 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>
S-1326-437-0	0.011 x 15 = 0.17	0.003 x 15 = 0.05	0.00285 x 15 = 0.04
Rule Limit (lb/hr)	140	10	200

The above table indicates compliance with the maximum lb/hr emissions in this rule;

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

This rule provides equipment tuning procedures for boilers, steam generators and process heaters to control visible emissions and emissions of both nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO).

This unit follows District approved Alternate Monitoring scheme A, where the applicable emission limits are periodically monitored for compliance with Rule 4320 and is not required to perform tuning in accordance with the procedures of this Rule.

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

This unit is natural gas-fired with a maximum heat input of 85 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4305, the unit is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2*.

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



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

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

This unit is natural gas-fired with a maximum heat input of 15 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, the unit is subject to District Rule 4306.

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

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

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

#### **Section 5.2 NO<sub>x</sub> and CO Emission Limits**

The 15 MMBtu/hr process heater is subject to the following NO<sub>x</sub> limits in Table 2, as shown below.

The applicant has proposed to meet the standard schedule NO<sub>x</sub> emission limit.

<b>Rule 4320 Emissions Limits</b>				
<b>Category</b>	<b>Operated on gaseous fuel</b>		<b>Operated on liquid fuel</b>	
	<b>NO<sub>x</sub> Limit</b>	<b>CO Limit</b>	<b>NO<sub>x</sub> Limit</b>	<b>CO Limit</b>
A. Units with a total rated heat input > 5.0 MMBtu/hr to < 20.0 MMBtu/hr, except for Categories C through G units	a) Standard Schedule 9 ppmv or 0.011 lb/MMBtu; or	400 ppmv	40 ppmv or 0.052 lb/MMBtu	400 ppmv
	b) Enhanced Schedule 6 ppmv or 0.007 lb/MMBtu			

The proposed NO<sub>x</sub> emission factor is 9 ppmvd @ 3% O<sub>2</sub> (0.011 lb/MMBtu), and the proposed CO emission factor is 50 ppmvd @ 3% O<sub>2</sub> (0.037 lb/MMBtu).

Therefore, compliance with Section 5.2 of District Rule 4320 is expected.

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

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

Section 5.4 of the rule requires one of four options for control of particulate matter: 1) combustion of PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases, 2) limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic, 3) install and properly operate an emission control system that reduces SO<sub>2</sub> emissions by at least 95% by weight; or limit exhaust SO<sub>2</sub> to less than or equal to 9 ppmv corrected to 3.0% O<sub>2</sub> or 4) refinery units, which require modification of refinery equipment to reduce sulfur emissions, shall be in compliance with the applicable requirement in Section 5.4.1 no later than July 1, 2013.

The heater treater will only combust natural gas containing no more than 1 gr S/100 scf.

## **Section 5.6, Startup and Shutdown Provisions**

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

Startup and shutdown conditions have not been proposed.

## **Section 5.7, Monitoring Provisions**

Section 5.7 requires either use of a APCO approved Continuous Emissions Monitoring System (CEMS) for NO<sub>x</sub>, CO, and oxygen, or implementation of an APCO-approved Alternate Monitoring System.

In order to satisfy the requirements of District Rule 4320, the applicant has proposed to use pre-approved alternate monitoring scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NO<sub>x</sub>, CO, and O<sub>2</sub> exhaust concentrations shall be conducted at least once per month (in which a source test is not performed) using a portable analyzer. The following conditions will be incorporated into the permit in order to ensure compliance with the requirements of the proposed alternate monitoring plan:

- {4063} The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]
- {4064} If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If

the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320]

- {4065} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320]
- {4066} The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent by volume and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320]

### **5.7.6 Monitoring SO<sub>x</sub> Emissions**

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

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

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

- The unit shall only be fired on gas with a maximum sulfur content of 1.0 gr S/100scf. [District Rules 2201 and 4320] N
- Permittee shall determine sulfur content of combusted gas annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 2201 and 4320] N
- Valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] N

### **Section 5.8 Compliance Determination**

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

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

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

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

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

- {2937} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]

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

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

## **Section 6.1 Recordkeeping**

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

- All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320 and 40 CFR 60.48c(i)]

## **Section 6.2, Test Methods**

Section 6.2 identifies test methods to be used when determining compliance with the rule. The following conditions will be listed on the permits:

{109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

- The following test methods shall be used: NOX (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H2S content - EPA Method 11 or 15; and fuel hhv (MMBtu) -ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320]

## **Section 6.3, Compliance Testing**

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

- A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320]
- Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306 and 4320]
- {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

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

## **Conclusion**

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

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

This rule applies to boilers, steam generators, and process heaters at NO<sub>x</sub> Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. If applicable, the emission limits, monitoring provisions, and testing requirements of this rule are satisfied when the unit is operated in compliance with Rule 4320. Therefore, compliance with this rule is expected.

### **District Rule 4801 Sulfur Compounds**

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO<sub>2</sub>, on a dry basis averaged over 15 consecutive minutes.

The 15 MMBtu/hr heater treater will be fired on natural gas containing no more than 1 gr S/100 scf and therefore compliance is expected.

Therefore, compliance with District Rule 4801 requirements is expected.

### **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.

Facility S-1326 is subject to ARB's Cap and Trade regulation. Consistent with CCR §15064(h)(3), the District finds that compliance with ARB's Cap and Trade regulation would avoid or substantially lessen the impact of project-specific GHG emissions on global climate change. The District therefore concludes that projects occurring at facilities subject to ARB's Cap and Trade regulation would have a less than significant individual and cumulative impact on global climate change.

## IX. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Pending a successful EPA/COC review period, issue Authority to Construct S-1326-437-0 subject to the permit conditions on the attached draft Authority to Construct in **Attachment VIII**.

## X. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1326-437-0	3020-02-H (15.0 MMBtu/hr or greater)	15 MMBtu/hr	\$ 1030

### Attachments

- I: Project Location Map, Plot Plan, and Facility Photo
- II: Emission Profiles
- III: BACT Guideline
- IV: BACT Analysis
- V: HRA/AAQA
- VI: Statewide Compliance Form
- VII: Title V Compliance Certification Form
- VIII: Draft ATC

**ATTACHMENT I**  
**Project Location Map, Plot Plan, and Facility Photo**



Google

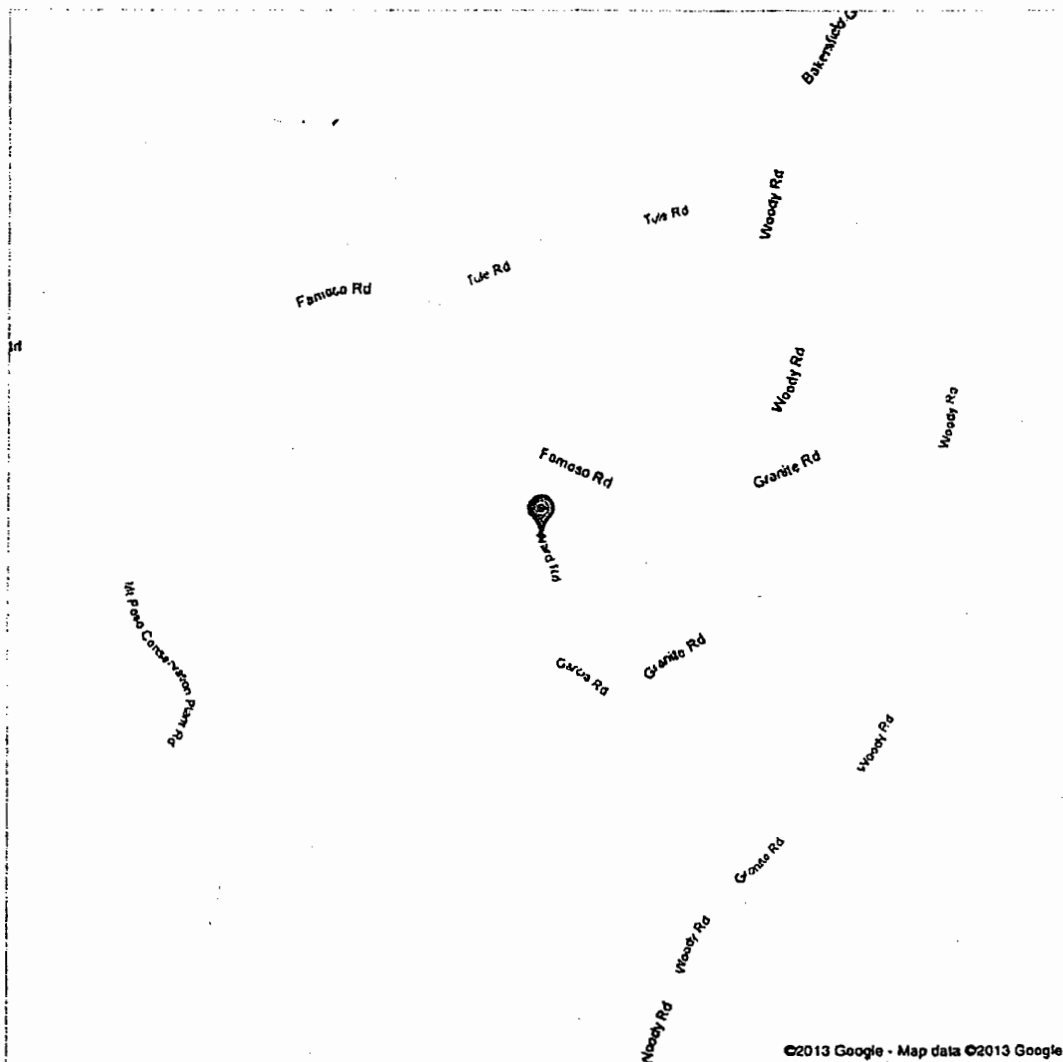
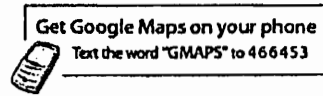
To see all the details that are visible on the screen, use the "Print" link next to the map.



Untitled

 Mt Poso North Unit

Google



### Mt Poso North Unit

Unlisted · 0 views

Created on May 14 · By · Updated 3 minutes ago



Mt Poso North Unit



Google

To see all the details that are visible on the screen, use the "Print" link next to the map.



Untitled



Mt Poso North Unit

**ATTACHMENT II**  
**Emission Profiles**

Permit #: S-1326-437-0	Last Updated
Facility: VINTAGE	12/06/2013 DAVIDSOS
PRODUCTION CALIFORNIA	

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	1445.0	374.0	394.0	4862.0	723.0
Daily Emis. Limit (lb/Day)	4.0	1.0	1.1	13.3	2.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	361.0	94.0	99.0	1216.0	181.0
Q2:	361.0	94.0	99.0	1216.0	181.0
Q3:	361.0	94.0	99.0	1216.0	181.0
Q4:	361.0	94.0	99.0	1216.0	181.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio	1.5		1.5		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	542.0		148.0		271.0
Q2:	542.0		148.0		271.0
Q3:	542.0		148.0		271.0
Q4:	542.0		148.0		271.0

**ATTACHMENT III**  
**BACT Guideline**

Per » [B A C T » Bact Guideline.asp?category\\_Level1=1&category\\_Level2=8&category\\_Level3=4&last\\_Update=7 » 18 :](#)

[Back](#)

**Best Available Control Technology (BACT ) Guideline 1.8.4**  
**Last Update: 7/18/2006**

**Heater Treater < 20 MMBtu/hr, Natural Gas Fired**

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	150 ppmv @ 3% O <sub>2</sub> (natural gas with LPG as back up fuel) and good combustion practices	1) 90% reduction with catalytic oxidation system. 2) 111 ppmv @ 3% O <sub>2</sub> natural gas with LPG as back up fuel and good combustion practices	
NOx	15 ppmv @ 3% O <sub>2</sub> (0.029 lb/MMBtu) - (low-NOx burner with flue gas recirculation, or equal)	1) 9 ppmv @ 3% O <sub>2</sub> (low temperature oxidation (LTO), selective catalytic reduction (SCR), or equal) 2) 12 ppmv @ 3% O <sub>2</sub> ultra-low-NOx burner	
PM10	Natural gas with LPG as backup and good combustion practices		
SOx	PUC quality natural gas with LPG as backup and good combustion practices		

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

This is a Summary Page for this Class of Source. For background information, see Permit Specific BACT Determinations on [Details Page](#).

## ATTACHMENT IV BACT Analysis

### BACT Analysis for NO<sub>x</sub> Emissions:

#### Step 1 - Identify All Possible Control Technologies

The District adopted District Rule 4320 on October 16, 2008. The NO<sub>x</sub> emission limit requirements in District Rule 4320 are lower than the current BACT limits; therefore a project specific BACT analysis will be performed to determine BACT for this project. District Rule 4320 includes a compliance option that limits units greater than 5 MMBtu/hr and less than 20 MMBtu/hr to 9 ppm @ 3% O<sub>2</sub>. This emission limit is Achieved in Practice control technology for the BACT analysis. District Rule 4320 also contains an enhanced schedule option that allows applicants additional time to meet the requirements of the rule. The enhanced schedule NO<sub>x</sub> emission limit requirement is 6 ppmv @ 3% O<sub>2</sub>. Since this is an enhanced option in the rule, it will be considered the Technologically Feasible control technology for the BACT analysis.

The following are possible control technologies:

1. 9 ppmvd @ 3% O<sub>2</sub> - Achieved in Practice.
2. 6 ppmvd @ 3% O<sub>2</sub> with SCR – Technologically Feasible

#### Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

#### Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. 9 ppmvd @ 3% O<sub>2</sub> - Achieved in Practice.
2. 6 ppmvd @ 3% O<sub>2</sub> with SCR – Technologically Feasible

#### Step 4 - Cost Effectiveness Analysis

A cost effective analysis is required for technologically feasible control options that are not proposed. An installation cost of \$300,000 for a 10 MMBtu/hr process heater, and assumed also applicable for a 15 MMBtu/hr heater, were obtained for project S-3897, 1131660 (final 7-1-13).

### Annualized Capital Cost

#### Equivalent Annual Capital Cost (Capital Recovery)

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

A = Equivalent Annual Control Equipment Capital Cost

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

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

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



Where

$P = \$300,000$  (assuming the lower of range values is applicable for a  
15 MMBtu/hr unit , conservative)

$i = 10\%$ ,

$n = 10$  years

$A = \$48,810/\text{yr}$

Industrial Standard NO<sub>x</sub> Emissions =  $15 \text{ MMBtu/hr} \times 0.018 \text{ lb/MMBtu} \times 8760 \text{ hrs/year}$   
= 2,365 lb/year

Tech. Feasible NO<sub>x</sub> Emissions =  $15 \text{ MMBtu/hr} \times 0.007 \text{ lb/MMBtu} \times 8760 \text{ hrs/year}$   
= 920 lb/year

NO<sub>x</sub> reduction due to SCR:

Total reduction = Emissions<sub>(15 ppmv)</sub> – Emissions<sub>(6 ppmv)</sub>

Total reduction =  $(2365 \text{ lb/yr} - 920 \text{ lb/yr})/2000 \text{ lb/ton}$

Total reduction = 0.7 ton/yr

Cost effectiveness

Cost effectiveness =  $\$48,810/\text{yr} / 0.7 \text{ ton/yr}$

Cost effectiveness =  $\$69,729/\text{ton NO}_x$

The cost effectiveness is greater than the \$24,500/ton NO<sub>x</sub> cost effectiveness threshold of the District BACT policy. Therefore the use of SCR with ammonia injection is not cost effective and is not required as BACT for NO<sub>x</sub>.

**Step 5 - Select BACT**

BACT is satisfied by the applicant's proposal to meet a NO<sub>x</sub> limit of 9 ppmvd @ 3% O<sub>2</sub> to be achieved with a Low NO<sub>x</sub> burner.

**BACT Analysis for CO Emissions:**

**a. Step 1 - Identify all control technologies**

The SJVUAPCD BACT Clearinghouse Guideline 1.8.5 has been rescinded for NO<sub>x</sub>; however, Guideline 1.8.5 would still apply for CO. The following are possible control technologies:

- 1) Natural gas with LPG backup or Propane fired

**b. Step 2 - Eliminate technologically infeasible options**

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

**c. Step 3 - Rank remaining options by control effectiveness**

- 1) Natural gas with LPG backup or Propane fired

**d. Step 4 - Cost Effectiveness Analysis**

There are no other technologically feasible control options; therefore, a cost effective analysis is not required.

**e. Step 5 - Select BACT**

BACT for CO emissions is a the unit being fired on natural gas

**1. BACT Analysis for VOC Emissions:**

**a. Step 1 - Identify all control technologies**

The SJVUAPCD BACT Clearinghouse Guideline 1.8.5 has been rescinded for NO<sub>x</sub>; however, Guideline 1.8.5 would still apply for VOC. The following are possible control technologies:

- 1) Natural gas with LPG backup or Propane fired

**b. Step 2 - Eliminate technologically infeasible options**

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

**c. Step 3 - Rank remaining options by control effectiveness**

- 1) Natural gas with LPG backup or Propane fired

**d. Step 4 - Cost Effectiveness Analysis**

There are no other technologically feasible control options; therefore, a cost effective analysis is not required.

**e. Step 5 - Select BACT**

BACT for PM<sub>10</sub> and VOC emissions is a the unit being fired on natural gas

ATTACHMENT V  
HRA/AAQA

## San Joaquin Valley Air Pollution Control District Risk Management Review

To: Steven Davidson, AQE – Permit Services  
From: Joe Aguayo, AQS – Technical Services  
Date: December 2, 2013  
Facility Name: Vintage Production CA, LLC  
Location: SW/4 Sec 4, T27S, R28E  
Application #(s): S-1326-437-0  
Project #: S-1134319

---

### A. RMR SUMMARY

RMR Summary			
Categories	15 MMBtu/hr NG-Fired Heater (Unit 437-0)	Project Totals	Facility Totals
Prioritization Score	0.0	<1.0	>1.0
Acute Hazard Index	0.00	0.00	0.02
Chronic Hazard Index	0.00	0.00	0.01
Maximum Individual Cancer Risk ( $10^{-6}$ )	0.0	0.0	1.1
T-BACT Required?	No		
Special Permit Conditions?	No		

### Proposed Permit Conditions

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

#### Unit # 437-0

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.

### B. RMR REPORT

#### I. Project Description

Technical Services received a request on November 14, 2013, to perform an Ambient Air Quality Analysis and a Risk Management Review for a 15 MMBtu/hr natural gas-fired heater treater with two separate 7.5 MMBtu/hr Maxon XPO 5 EB ultra low NO<sub>x</sub> burners (or equivalent).

## II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. Emissions calculated using emission factors for external combustion of natural gas were input into the HEARTs database. The AERMOD model was used, with the parameters outlined below and meteorological data for 2005-2009 from Fresno to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the Hot Spots Analysis and Reporting Program (HARP) risk assessment module to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 437-0			
Source Type	Point	Location Type	Rural
Stack Height (m)	2.44	Closest Receptor (m)	1609
Stack Diameter. (m)	0.81	Type of Receptor	Residential
Stack Exit Velocity (m/s)	6.41	Max Hours per Year	8760
Stack Exit Temp. (°K)	394.26	Fuel Type	NG
Burner Rating (MMBtu/hr)	15		

Technical Services performed modeling for criteria pollutants CO, NO<sub>x</sub>, SO<sub>x</sub> and PM<sub>10</sub>; as well as a RMR. The emission rates used for criteria pollutant modeling were 0.55 lb/hr CO, 0.17 lb/hr NO<sub>x</sub>, 0.04 lb/hr SO<sub>x</sub>, and 0.05 lb/hr PM<sub>10</sub>. The engineer supplied the maximum fuel rate for the NG-fired heater used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

### Criteria Pollutant Modeling Results\*

NG-Fired Heater	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO <sub>x</sub>	Pass <sup>1</sup>	X	X	X	Pass
SO <sub>x</sub>	Pass	Pass	X	Pass	Pass
PM <sub>10</sub>	X	X	X	Pass <sup>2</sup>	Pass <sup>2</sup>
PM <sub>2.5</sub>	X	X	X	Pass <sup>2</sup>	Pass <sup>2</sup>

\*Results were taken from the attached PSD spreadsheet.

<sup>1</sup>The project was compared to the 1-hour NO<sub>2</sub> National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures..

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

## III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with the project is less than 1.0 in a million. In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

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

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

#### **IV. Attachments**

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Toxic emissions summary
- D. Prioritization score
- E. Facility Summary

**ATTACHMENT VI**  
**Statewide Compliance Statement**

# CERTIFICATION

OXY USA Inc. hereby certifies as follows:

1. OXY USA Inc. owns or operates certain major stationary sources in the State of California. Such sources are comprised of a vast number of emission points. As used in this certification, the term "major stationary source" shall, with respect to OXY USA Inc. stationary sources in the SJVUAPCD, have the meaning ascribed thereto in SJVUAPCD Rule 2201, Section 3.23, and shall, with respect to all of OXY USA Inc.'s other stationary sources in the State of California, have the meaning ascribed thereto in section 302(J) of the Clean Air Act (42 U.S.C. Section 7602 (J)).
2. Subject to paragraphs 3 and 4 below, all major stationary sources owned or operated by OXY USA Inc. in the State of California are either in compliance, or on an approved schedule of compliance, with all applicable emission limitations and standards under the Clean Air Act and all of the State Implementation Plan approved by the Environmental Protection Agency.
3. This certification is made on information and belief and is based upon a review of OXY USA Inc.'s major stationary sources in the State of California by those employees of OXY USA Inc. who have operational responsibility for compliance. In conducting such reviews, OXY USA Inc. and its employees have acted in good faith and have exercised best efforts to identify any exceedance of the emission limitations and standards referred to in paragraph 2 thereof.
4. This certification shall speak as of the time and date of its execution.

## CERTIFICATION

By: Denny Brown Date: 11/13/2013  
Title: Operations Manager Time: 7:30 AM



**ATTACHMENT VII**  
**Title V Compliance Certification Form**

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

**TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM**

**I. TYPE OF PERMIT ACTION (Check appropriate box)**

☐ SIGNIFICANT PERMIT MODIFICATION  
☒ MINOR PERMIT MODIFICATION

☐ ADMINISTRATIVE  
AMENDMENT

<b>COMPANY NAME:</b> Vintage Production California LLC	<b>FACILITY ID:</b> S - 1326
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name:	
3. Agent to the Owner: Jennifer Hart	

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

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

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

*Denny Brown*

Signature of Responsible Official

11/13/2013

Date

Denny Brown

Name of Responsible Official (please print)

Operations Manager

Title of Responsible Official (please print)

Installation of a 15 MM Btu/hr Heater Treater at Mt. Poso.

Mailing Address: Central Regional Office • 1990 E. Gettysburg Avenue • Fresno, California 93726-0244 • (559) 230-5900 • FAX (559) 230-6061

TVFORM-009  
Rev. July 2005

**ATTACHMENT VIII**  
**Draft ATC**

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**

**PERMIT NO:** S-1326-437-0

**LEGAL OWNER OR OPERATOR:** VINTAGE PRODUCTION CALIFORNIA LLC  
**MAILING ADDRESS:** 9600 MING AVE, SUITE 300  
BAKERSFIELD, CA 93311

**LOCATION:** HEAVY OIL CENTRAL STATIONARY SOURCE  
KERN COUNTY, CA

**SECTION:** SW 4 **TOWNSHIP:** 27S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

15 MMBTU/HR NATURAL GAS-FIRED HEATER TREATER WITH TWO SEPARATE 7.5 MMBTU/HR MAXON XPO 5 EB  
ULTRA LOW NOX BURNERS (OR EQUIVALENT)

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3]
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit

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-1326-437-0 : Apr 9 2014 4:51PM - EDGENHILR : Joint Inspection NOT Required

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18. If the NOx or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. 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
20. The permittee shall maintain records of: (1) the date and time of NOx, CO and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Permittee shall determine sulfur content of combusted gas annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320] Federally Enforceable Through Title V Permit
23. Permittee shall maintain accurate records of valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts used to satisfy the fuel sulfur content analysis of fuel combusted in process heater, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
24. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 542 lb/quarter, PM10: 148 lb/quarter, and VOC: 271 lb/qtr. Offsets include the applicable offset ratio specified in Section 4.8 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
26. ERC Certificate Numbers C-809-4, N-1148-2, S-3777-1, and S-4082-1 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

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