



**JUN 13 2012**

Raymond Rodriguez  
Occidental of Elk Hills  
10800 Stockdale Highway  
Bakersfield, CA 93311

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Project Number: S-1114736**

Dear Mr. Rodriguez:

Enclosed for your review and comment is the District's analysis of Occidental of Elk Hills's application for an Authority to Construct for the installation of an 1,750 MMBtu/hr emergency flare, at Occidental's Kern County Western Light Oil Production Stationary Source.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. William Jones of Permit Services at (661)-392-5610.

Sincerely,

David Warner  
Director of Permit Services

DW: WEJ/cm

Enclosures



JUN 13 2012

Mike Tollstrup, Chief  
Project Assessment Branch  
Stationary Source Division  
California Air Resources Board  
PO Box 2815  
Sacramento, CA 95812-2815

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Project Number: S-1114736**

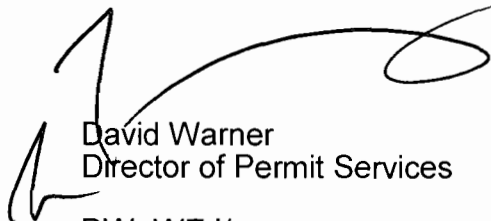
Dear Mr. Tollstrup:

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

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Sincerely,



David Warner  
Director of Permit Services

DW: WEJ/cm

Enclosure

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

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authority to Construct to Occidental of Elk Hills for the installation of an 1,750 MMBtu/hr emergency flare, at Occidental's Kern County Western Light Oil Production Stationary Source.

The analysis of the regulatory basis for this proposed action, Project #S-1114736, is available for public inspection at [http://www.valleyair.org/notices/public\\_notices\\_idx.htm](http://www.valleyair.org/notices/public_notices_idx.htm) and the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD CA 93308-9725.**

**San Joaquin Valley Air Pollution Control District**  
**Authority to Construct Application Review**  
**Emergency Flare**

Facility Name: Occidental of Elk Hills (OEHI)	Date: 5/08/12
Mailing Address: 10800 Stockdale Highway Bakersfield CA 93311	Engineer: William Jones Lead Engineer: Richard Karrs
Contact Person: Raymond Rodriguez	<i>RWK 5-17-12</i>
Telephone: 661-412-5263	
Fax: 661-412-5270	
E-Mail: Raymond_rodriguez@oxy.com	
Application #(s): S-1216	
Project #: S-1114736	
Deemed Complete: 1/9/12	

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**I. Proposal**

Occidental of Elk Hills (OEHI) has requested an Authority to Construct (ATC) permit for the installation of a 1,750MM Btu/hr. emergency flare. The proposed emergency flare will be equipped with a CSF 3/6 VSF flare tip. The draft ATC is included in Appendix A.

OEHI received their Title V Permit on January 31, 2012. This modification can be classified as a Title V minor modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). But the facility has not requested that this project be processed in that manner; therefore, OEHI will be required to submit a Title V minor modification application prior to operating under the revised provisions of the ATC issued with this project.

**II. Applicable Rules**

Rule 2201	New and Modified Stationary Source Review Rule (4/12/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards; Subparts A and O (4/14/99)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4311	Flares (6/18/09)
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 project site is located within Section 1, Township 32S, Range 23E at an existing facility within OEHL Kern County Western Light Oil Production Stationary Source.

The District has verified that the facility is not located within 1,000 feet of the outer boundary of any K-12 school. Therefore, pursuant to CH&SC 42301.6, California Health and Safety Code (School Notice), public notification is not required.

### IV. Process Description

The previously approved 1C Compressor Station compresses field produced gas collected from onsite wells through the use of the previously approved gas gathering system. The proposed emergency flare will be used to flare excess gas in the event of an emergency at the 1C Compressor station. The proposed flare will only be authorized for operation during emergency events.

### V. Equipment Listing

S-1216-171-0: EMERGENCY FLARE WITH AUTOMATIC ELECTRONIC IGNITER.

### VI. Emission Control Technology Evaluation

The proposed flare is designed to achieve a greater than 98% destruction efficiency of VOC and H<sub>2</sub>S and to operate without visible emissions. In addition the proposed emergency flare is only authorized for use during an emergency situation and is not authorized for operation for testing or maintenance purposes.

### VII. General Calculations

#### A. Assumptions

- The heating value of the flared gas is 1,000 Btu/scf.
- This flare is only permitted to operate for emergency purposes. This flare will not be permitted to operate for maintenance or testing purposes.
- A 24 hr. emergency flaring event will be used as the worst case daily emissions rate.
- Pilot emissions are considered to be negligible.

#### B. Emission Factors

Pursuant to District FYI 83 the following emission factors from EPA AP-42 section 13.5 Industrial Flares (9/91) represent best data for flares located at oil exploration and production operations, refineries, chemical plants, gas plants, and other petroleum related industries. The subject flare is located at an oil exploration operation; therefore, the emission factors from FYI 18 will be used:

Flare Emission Factors		
Pollutant	lb./MMBtu	Source of Emission Factor
VOC	0.063	EPA AP-42 section 13.5
CO	0.370	EPA AP-42 section 13.5
NOx (as NO2)	0.068	EPA AP-42 section 13.5
PM10 (BACT)	0.008*	EPA AP-42 section 13.5
PM10 (non-BACT)	0.026	EPA AP-42 section 13.5
SOx (as SO2)**	mass balance	Applicant

\*The flare satisfies BACT for PM10; Therefore, the appropriate PM10 emission factor is 0.008 lbs/MMBtu

\*\*SOx = (1.0 gr S/100 scf)(10<sup>6</sup> scf fuel/MMSCF)(lb./7000 gr)(MMSCF/1000 MMBtu)(64 lb-SO<sub>2</sub>/32 lb.-S)  
= 0.003 lb/MMBtu

### 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 potential to emit for a strictly emergency flare is 0 lbs./day and 0 lbs./year (emissions from emergency use of the flare are not assessed in determining the PE, and SSPE). The daily potential is calculated below, and is used in determining BACT and public noticing requirements.

$$\text{Daily PE1 (lb/day)} = \text{EF (lb./MMBtu)} \times \text{Heat Rating (MMBtu/hr.)} \times 24 \text{ hr./day}$$

$$\text{Annual PE1 (lb/year)} = \text{EF (lb./MMBtu)} \times \text{Heat Rating (MMBtu/hr.)} \times 0 \text{ hr./year}$$

Daily (Emergency Flaring Event)

$$\begin{aligned} \text{PE2}_{\text{NOx}} &= (0.068 \text{ lb./MMBtu}) \times (1,750 \text{ MMBtu/hr.}) \times (24 \text{ hr./day}) \\ &= \underline{2,856 \text{ lb. NO}_x/\text{day}} \end{aligned}$$

$$\begin{aligned} \text{PE2}_{\text{SOx}} &= (0.003 \text{ lb./MMBtu}) \times (1,750 \text{ MMBtu/hr.}) \times (24 \text{ hr./day}) \\ &= \underline{126 \text{ lb. SO}_x/\text{day}} \end{aligned}$$

$$\begin{aligned} \text{PE2}_{\text{PM10}} &= (0.008 \text{ lb./MMBtu}) \times (1,750 \text{ MMBtu/hr.}) \times (24 \text{ hr./day}) \\ &= \underline{336 \text{ lb. PM}_{10}/\text{day}} \end{aligned}$$

$$\text{PE2}_{\text{CO}} = (0.37 \text{ lb./MMBtu}) \times (1,750 \text{ MMBtu/hr.}) \times (24 \text{ hr./day})$$

$$= \underline{15,540 \text{ lb. CO/day}}$$

$$\begin{aligned} \text{PE}_{2\text{VOC}} &= (0.063 \text{ lb. /MMBtu}) * (1,750 \text{ MMBtu/hr.}) * (24 \text{ hr/day}) \\ &= \underline{13.2 \text{ lb. VOC/day}} \end{aligned}$$

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

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

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

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

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, SSPE2 calculations are not necessary.

### **5. Major Source Determination**

Pursuant to Section 3.23 of District Rule 2201, a Major Source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values. However, Section 3.23.2 states, "for the purposes of determining major source status, the SSPE2 shall not include 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."

This source is an existing Major Source for VOC emissions and will remain a Major Source for VOC. No change in other pollutants are proposed or expected as a result of this project.

## 6. Baseline Emissions (BE)

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

Pursuant to Section 3.7 of District Rule 2201, 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), calculated pursuant to Section 3.22 of District Rule 2201.

As shown in Section VII.C.5 above, the facility is not a Major Source for any pollutant.

Therefore Baseline Emissions (BE) are equal to the Pre-Project Potential to Emit (PE1).

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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 a major source, 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>	0	50,000	No
SO <sub>x</sub>	0	80,000	No
PM <sub>10</sub>	0	30,000	No
VOC	0	50,000	No

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute a SB288 Major Modification.



## 8. Federal Major Modification

District Rule 2201, Section 3.17 states that Federal Major Modifications are the same as "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

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

### Step 1

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

The project's combined total emission increases are calculated in VII.C.2 and 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> *	0	0	No
VOC*	0	0	No
PM <sub>10</sub>	0	30,000	No
PM <sub>2.5</sub>	0	20,000	No
SO <sub>x</sub>	0	80,000	No

\*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 none of the Federal Major Modification Thresholds are being surpassed with this project, this project does not constitute a Federal Major Modification and no further analysis is required.

## 9. Quarterly Net Emissions Change (QNEC)

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

## VIII. Compliance

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

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

##### 1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless exempted pursuant to Section 4.2, 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 SB288 Major Modification or a Federal Major Modification, as defined by the rule.

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

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

As seen in Section VII.C.2 of this evaluation, the applicant is proposing to install an emergency flare with PE greater than 2 lb. /day for NOX, SOX, PM10, CO, and VOC during emergency flaring events.

##### 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 Section VII.C.7 above, this project does not constitute a SB 288 and/or Federal Major Modification therefore BACT is not triggered for any pollutant.

## 2. BACT Guideline

Best Available Control Technology (BACT) Guideline 1.4.2 applies Waste Gas Flare - Incinerating Produced Gas. (See **Appendix B**)

## 3. Top-Down BACT Analysis

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

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

NOx: Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable

PM10: Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas.

SOx: Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas.

VOC: Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable

CO: Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable

## B. Offsets

### 1. Offset Applicability

Since emergency equipment is exempt from the offset requirements of Rule 2201, per Section 4.6.2, offsets are not required for this flare, and no offset calculations are required.

## 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. PE > 100 lb/day**

The PE for this new unit exceeds the 100 lbs./day threshold for NO<sub>x</sub>, PM<sub>10</sub>, CO, and VOC. The Daily PE in comparison to the Public Notice thresholds are shown in the following table:

<b>PE &gt; 100 lb/day Public Notice Thresholds</b>			
<b>Pollutant</b>	<b>PE2 (lb/day)</b>	<b>Public Notice Threshold</b>	<b>Public Notice Triggered?</b>
NO <sub>x</sub>	2,856	100 lb./day	Yes
SO <sub>x</sub>	126	100 lb./day	Yes
PM <sub>10</sub>	336	100 lb./day	Yes
CO	15,540	100 lb./day	Yes
VOC	2,646	100 lb./day	Yes

Therefore, public noticing for PE > 100 lb/day purposes is required.

**2. Public Notice Action**

As discussed above, public noticing is required for this project for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO and VOC emissions in excess of 100 lb/day. 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.

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

- For purposes of emergency flaring, emission rates from this unit shall not exceed any of the following limits: 0.068 lb-NO<sub>x</sub>/MMBtu; 0.003 lb-SO<sub>x</sub>/MMBtu; 0.008 lb-PM<sub>10</sub>/MMBtu; 0.37 lb-CO/MMBtu; or 0.063 lb-VOC/MMBtu. [District Rule 2201]
- The flare shall only be operated during emergency situations. [District Rules 2201 and 4311]

## **E. Compliance Assurance**

### **1. Source Testing**

Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201.

### **2. Monitoring**

No monitoring is required to demonstrate compliance with Rule 2201.

### **3. Recordkeeping**

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following condition(s) will appear on the permit to operate:

- The permittee shall maintain all records of emergency operations. Records shall include the date and number of hours of each emergency flaring operation, the amount of gas burned. [District Rules 2201 and 4311]
- All records required by this permit shall be retained on-site for a minimum of five years and shall be made available to the APCO, ARB, and EPA upon request. [District Rules 2201 and 4311]

### **4. Reporting**

No reporting is required to demonstrate compliance with Rule 2201.

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

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit pursuant to Section 3.20 of this rule:

In accordance with Rule 2520, 3.20, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source

has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:

- a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
  - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
  6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has not applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with a minor modification, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment/minor modification application.

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

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 60.18 refers to control devices such as the emergency flare. This section contains requirements for control devices used to comply with applicable subparts of parts 60 and 61. The requirements only apply to facilities covered by subparts referring to this section. None of the new equipment is covered by subparts which require external control devices and refer to this subpart. Therefore, the emergency flares are not subject to NSPS.

#### **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 IC engine is fired solely on natural gas, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. Also, based on past inspections of the facility continued compliance is expected.

The flare is a high pressure smokeless design and is expected to operate in a smokeless manner. Therefore, compliance with this rule is expected and the following condition will be placed on the ATC to ensure compliance:

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

### 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.

### Rule 4201 Particulate Matter Concentration

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

F-Factor for NG:	8,578 dscf/MMBtu at 60 °F
PM <sub>10</sub> Emission Factor:	0.008 lb-PM <sub>10</sub> /MMBtu
Percentage of PM as PM <sub>10</sub> in Exhaust:	100%
Exhaust Oxygen (O <sub>2</sub> ) Concentration:	3%

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

$$GL = \left( \frac{0.008 \text{ lb-PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb-PM}} \right) / \left( \frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17 \right)$$

$$GL = 0.0056 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$$

Since 0.0056 grain/dscf is less than 0.1 grain/dscf, compliance with this rule is expected and the following condition will be placed on the ATC to ensure compliance:

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

### Rule 4311 Flares

The purpose of this rule is to limit the emissions of volatile organic compounds (VOC), oxides of nitrogen (NO<sub>x</sub>), and sulfur oxides (SO<sub>x</sub>) from the operation of flares. This rule is applicable to all operations involving the use of flares.

Rule 4311 limits the emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO<sub>x</sub>), and sulfur from the operation of flares.

Section 5.1 states flares permitted to operate only during an emergency are not subject to the requirements of Section 5.6 and 5.7. The flare in this project qualifies as an emergency flare; therefore, Sections 5.6 and 5.7 are not applicable. The following conditions will be listed on the ATC to ensure this exemption:

- The flare shall be operated only during emergency situations. [District Rules 2201 and 4311]

Section 5.2 requires that the flame be present at all times when combustible gases are vented through the flare. The following condition will be listed on the ATC to ensure compliance:

- A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311]

Section 5.3 requires that the flare outlet be equipped with an automatic ignition system, or operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. The following condition will be listed on the ATC to ensure compliance:

- Flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311]

Section 5.4 requires that except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an alternative equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. This flare is equipped with automatic ignition systems; therefore, requirements of this section are satisfied. The following condition will be listed on the ATC to ensure compliance:

- Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting the presence of at least one pilot flame or the flare flame, shall be installed and operated. [District Rule 4311]

Section 5.5 requires flares that use flow-sensitive automatic ignition systems and which do not use a continuous pilot flame to use purge gas for purging. The following condition will be listed on the ATCs to ensure compliance:

- If the flare uses a flow-sensing automatic ignition system and does not use a continuous flame pilot, the flare shall use purge gas for purging. [District Rule 4311]

Section 5.6 requires that open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. The requirements of Section 5.6 do not apply to Coanda effect flares. The flares involved with this project are designated as emergency flares and thus are not subject to requirements of Section 5.6 pursuant to Section 5.1.

Section 5.7 is not applicable as it applies to ground-level enclosed flares. The flares involved with this project are designated as emergency flares and thus are not subject to requirements of Section 5.7 pursuant to Section 5.1.

Section 5.8 dictates that flaring is prohibited unless it is consistent with an approved flare minimization plan (FMP), pursuant to Section 6.5, and all commitments listed in that plan have been met. However the requirements of this section do not apply to emergency flaring events.



Since this unit is only permitted to operate during emergency flaring events the requirements of this section do not apply to this unit.

Section 5.9 applies to refinery flares. The facility is not a refinery.

Section 5.10 applies to units subject to section 5.8 and therefore does not apply to this unit.

Section 5.11 dictates that any flare with a flaring capacity equal to or greater than 50 MMBtu/hr shall monitor the flare pursuant to Sections 6.6, 6.7, 6.8, 6.9, and 6.10.

Section 6.1 outlines the Recordkeeping requirement pursuant to this rule. The following records shall be maintained, retained on-site for a minimum of five years, and made available to the APCO, ARB, and EPA upon request:

- Copy of the compliance determination conducted pursuant to Section 6.4.1. However this requirement does not apply to this project because this unit is not subject to section 5.6 or 6.4.1
- Copy of the source testing result conducted pursuant to Section 6.4.2. However this requirement does not apply to this project because this unit is not subject to section 5.7 or 6.4.2
- Record of the duration of flare operation, amount of gas burned, and the nature of the emergency situation. The following conditions will be will be listed on the ATCs to ensure compliance:
  - The permittee shall maintain all records of emergency operations. Records shall include the date and number of hours of each operation, the amount of gas burned, and records of operational characteristics monitoring. [District Rules 2201 and 4311]
  - All records required by this permit shall be retained on-site for a minimum of five years and shall be made available to the APCO, ARB, and EPA upon request. [District Rules 2201 and 4311]
- Operators claiming an exemption pursuant to Section 4.3 shall record annual throughput, material usage, or other information necessary to demonstrate an exemption under that section. However this requirement does not apply to this project because this unit is not subject to section 4.3.
- A copy of the approved flare minimization plan pursuant to Section 6.5. The following conditions will be placed on the ATC to ensure compliance:
  - Prior to or concurrent with the implementation of this ATC the applicant must submit a flare minimization plan per section 6.5 of Rule 4311 [District Rule 4311]
  - Flaring is prohibited unless it is consistent with an approved flare minimization plan (FMP), and all commitments listed in that plan have been met. This standard shall not apply if the APCO determines that the flaring is caused by an emergency and is

necessary to prevent an accident, hazard or release of vent gas directly to the atmosphere. [District Rule 4311]

- As outlined in section 6.1.7 where applicable, monitoring data collected pursuant to Sections 5.10, 6.6, 6.7, 6.8, 6.9, and 6.10.

Section 6.2 dictates that the operator of a flare subject to flare minimization plans pursuant to Section 5.8 of this rule shall notify the APCO of an unplanned flaring event within 24 hours after the start of the next business day or within 24 hours of their discovery, whichever ever occurs first. The notification shall include the flare source identification, the start date and time, and the end date and time. The following condition will be placed on the ATC to ensure compliance with the requirements of this section:

- The owner or operator shall notify the District of any emergency use of the flare within twenty four hours after confirmation that an actual flaring event has occurred. In the event that confirmation of an actual flaring event cannot be made, then the owner or operator shall notify the District no more than 24 hours after an alarm indicates that a flaring event may have occurred. [District Rule 4311] Y

The requirements of section 6.2.2 are not in effect till July 1, 2012

The requirements of section 6.2.3 are not in effect till July 1, 2012

Section 6.4 is not relevant to this project since the proposed flare is not subject to sections 5.6 or 5.7 per section 5.1

Section 6.5 dictates the requirements of this rule as they apply to the Flare Minimization Plan. The operator will be expected to submit a Flare minimization plan prior to receiving a PTO for this unit. The following condition will be placed on the ATC to ensure compliance with this section.

- Prior to or concurrent with the implementation of this ATC the applicant must submit a flare minimization plan per section 6.5 of Rule 4311 [District Rule 4311]

Sections 6.6, dictates that the operator of a petroleum refinery flare or any flare that has a flaring capacity equal to or greater than 50 MMBtu per hour shall monitor vent gas composition using one of the five methods pursuant to Section 6.6.1 through Section 6.6.5 as appropriate. However the requirements of this section are not relevant to this project since the proposed flare will not be allowed to operate for maintenance or testing purposes.

Sections 6.7, dictates that the operator of a petroleum refinery flare or any flare that has a flaring capacity equal to or greater than 50 MMBtu per hour shall monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate so that volumetric flows of pilot and purge gas may be calculated based on pilot design and the parameters monitored.

- The operator shall monitor the volumetric flows of purge and pilot gases with flow measuring devices. [District Rule 4311]

Sections 6.8, dictates that the operator of a petroleum refinery flare or any flare that has a flaring capacity equal to or greater than 50 MMBtu per hour with a water seal shall monitor and record the water level and pressure of the water seal that services each flare daily or as specified on the Permit to Operate.

- If the flare is equipped with a water seal, the operator shall monitor and record the water level and pressure of the water seal that services each flare daily. [District Rule 4311]

Sections 6.9 dictates that the operator of a petroleum refinery flare or any flare that has a flaring capacity equal to or greater than 50 MMBtu per hour shall comply with the following, as applicable:

- Periods of flare monitoring system in operation greater than 24 continuous hours shall be reported by the following working day, followed by notification of resumption of monitoring. Periods of in operation of monitoring equipment shall not exceed 14 days per any 18-consecutive-month period. Periods of flare monitoring system in operation do not include the periods when the system feeding the flare is not operating. [District Rule 4311]
- All in-line continuous analyzer and flow monitoring data must be continuously recorded by an electronic data acquisition system capable of one-minute averages. Flow monitoring data shall be recorded as one-minute averages. [District Rule 4311]

Section 6.10 is not applicable as it addresses petroleum refinery flares.

#### **Rule 4801 Sulfur Compounds (12/17/92)**

This rule contains a limit on sulfur compounds. The limit at the point of discharge is 0.2 percent by volume, 2000 ppmv, calculated as sulfur dioxide (SO<sub>2</sub>), on a dry basis averaged over 15 consecutive minutes.

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

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

With:

N = moles SO<sub>2</sub>

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

P (Standard Pressure) = 14.7 psi

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

The highest SO<sub>x</sub> emission factor belongs to the digester gas fired flare. This factor shall be used as a worst case scenario to assess compliance with this rule:

$$\frac{0.003 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{9,039 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 1.968 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 01.968 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirements is expected.

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

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

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project (**Appendix D**), the total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

### **Discussion of T-BACT**

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

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

### **Unit # 171-0**

1. This unit shall not be operated for maintenance and testing.
2. This unit shall only be operated for emergency purposes.

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

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

## **California Environmental Quality Act (CEQA)**

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

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; 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.

### **Greenhouse Gas (GHG) Significance Determination**

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

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

### **District CEQA Findings**

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

## **IX. Recommendation**

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct S-1218-171-0 subject to the permit conditions on the attached draft Authority to Construct in **Appendix A.**

**X. Billing Information**

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1218-171-0	3020-02-H	1,750 MMBtu/hr. flare	\$1030.00

**Appendices**

- A: Draft ATC
- B: BACT Guideline
- C: BACT Analysis
- D: HRA Summary
- E: Quarterly Net Emissions Change
- F: Emission Profile

**Appendix A:  
Draft ATC**

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

PERMIT NO: S-1216-171-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: OCCIDENTAL OF ELK HILLS INC  
MAILING ADDRESS: 10800 STOCKDALE HIGHWAY  
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN

SECTION: 1 TOWNSHIP: 32S RANGE: 23E

**EQUIPMENT DESCRIPTION:**

1750 MM BTU/HR GBA CORONA MODEL CSF 3/6 VSF SONIC VELOCITY EMERGENCY FLARE SERVING THE 1C COMPRESSOR STATION

**CONDITIONS**

1. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Flare shall only be operated for emergency purposes. An emergency is any situation or a condition arising from a sudden and reasonably unforeseeable and unpreventable event beyond the control of the operator. Examples include, but are not limited to, non preventable equipment failure, natural disaster, act of war or terrorism, or external power curtailment, excluding a power curtailment due to an interruptible power service agreement from a utility. A flaring event due to improperly designed equipment, lack of preventative maintenance, careless or improper operation, operator error or willful misconduct does not qualify as an emergency. An emergency situation requires immediate corrective action to restore safe operation. A planned flaring event shall not be considered as an emergency. [District Rule 2201 and 4311] Federally Enforceable Through Title V Permit
3. This unit shall not be operated for maintenance and testing. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Prior to or concurrent with the implementation of this ATC the operator must submit a flare minimization plan per section 6.5 of Rule 4311(as amended 6/18/09). [District Rule 4311] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1216-171-0 : May 14 2012 2:50PM - JONESW : Joint Inspection NOT Required



5. Flaring is prohibited unless it is consistent with an approved flare minimization plan (FMP), and all commitments listed in that plan have been met. This standard shall not apply if the APCO determines that the flaring is caused by an emergency and is necessary to prevent an accident, hazard or release of vent gas directly to the atmosphere. [District Rule 4311] Federally Enforceable Through Title V Permit
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emission rates from this unit shall not exceed any of the following limits: 0.068 lb-NO<sub>x</sub>/MMBtu; 1.0 gr/100 scf (as S); 0.008 lb-PM<sub>10</sub>/MMBtu; 0.37 lb-CO/MMBtu; or 0.063 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311] Federally Enforceable Through Title V Permit
10. Flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311] Federally Enforceable Through Title V Permit
11. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting the presence of at least one pilot flame or the flare flame, shall be installed and operated. [District Rule 4311] Federally Enforceable Through Title V Permit
12. If the flare uses a flow-sensing automatic ignition system and does not use a continuous flame pilot, the flare shall use purge gas for purging. [District Rule 4311] Federally Enforceable Through Title V Permit
13. Operator shall monitor the vent gas flow to the flare with a flow measuring device or other parameters as specified on the Permit to Operate. [District Rule 4311] Federally Enforceable Through Title V Permit
14. Operator shall monitor the vent gas composition using one of the methods specified in Rule 4311, Sections 6.6.1 through 6.6.5. [District Rule 4311] Federally Enforceable Through Title V Permit
15. The operator shall monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate. [District Rule 4311] Federally Enforceable Through Title V Permit
16. The operator shall notify the District of any emergency use of the flare within 24 hours after the start of the next business day or within 24 hours after discovery, which ever occurs first. The notification shall include the flare source identification, the start date and time and the end date and time. [District Rule 1070 and 4311] Federally Enforceable Through Title V Permit
17. Effective on and after July 1, 2012, and annually thereafter, the operator shall submit an annual report to the APCO that summarizes all Reportable Flaring Events as defined in Section 3.0 that occurred during the previous 12 month period. The report shall be submitted within 30 days following the end of the twelve month period of the previous year. The report shall include the items set forth in Sections 6.2.2.1 through 6.2.2.4 of Rule 4311 (as amended 6/18/09). [District Rule 4311] Federally Enforceable Through Title V Permit
18. Effective on and after July 1, 2012, and annually thereafter, the operator shall submit an annual report to the APCO within 30 days following the end of the twelve month period of the previous year. The report shall include, as is applicable, the items set forth in Sections 6.2.3.1 through 6.2.3.8 of Rule 4311 (as amended 6/18/09). [District Rule 4311] Federally Enforceable Through Title V Permit
19. The operator shall maintain records of the approved flare minimization plan, annual reports, monitoring data and of each emergency use of the flare, including duration of operation, amount of gas burned and the nature of the emergency. Records shall be maintained on site for a minimum period of 5 years and shall be available upon request. [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit

DRAFT

## **Appendix B: BACT Guideline**

**Best Available Control Technology (BACT) Guideline 1.4.2**  
**Last Update: 12/31/1998**

**Waste Gas Flare - Incinerating Produced Gas**

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable		
NOx	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable		
PM10	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas.		
SOx	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas.	Precombustion SOx scrubbing system (non-emergency flares only.)	
VOC	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable		

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.

**Appendix C:  
BACT Analysis**

Best Available Control Technology (BACT) Guideline 1.4.2  
Last Update: 12/31/1998  
Waste Gas Flare – Incinerating Produced Gas

## **Top Down BACT Analysis for NOx Emissions**

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

The SJVUAPCD BACT Clearinghouse 1.4.2, 4<sup>th</sup> Quarter 1998 identifies achieved-in-practice and technologically feasible BACT for *Waste Gas Flare – Incinerating Produced Gas* as follows.

#### **Achieved in Practice**

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable.

### **Step 2 - Eliminate Technologically Infeasible Options**

There are no options to eliminate in this step.

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

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable.

### **Step 4 - Cost Effectiveness Analysis**

There is only one achieved in practice option, and it is being proposed by the applicant. Therefore, a cost-effectiveness analysis is not necessary.

### **Step 5 - Select BACT**

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable.

## **Top Down BACT Analysis for PM10 Emissions**

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

The SJVUAPCD BACT Clearinghouse 1.4.2, 4<sup>th</sup> Quarter 1998 identifies achieved-in-practice and technologically feasible BACT for *Waste Gas Flare – Incinerating Produced Gas* as follows.

#### **Achieved in Practice**

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas

## **Step 2 - Eliminate Technologically Infeasible Options**

There are no options to eliminate in this step.

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

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas

## **Step 4 - Cost Effectiveness Analysis**

There is only one achieved in practice option, and it is being proposed by the applicant. Therefore, a cost-effectiveness analysis is not necessary.

## **Step 5 - Select BACT**

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas

## **Top Down BACT Analysis for SOx Emissions**

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

The SJVUAPCD BACT Clearinghouse 1.4.2, 4<sup>th</sup> Quarter 1998 identifies achieved-in-practice and technologically feasible BACT for *Waste Gas Flare – Incinerating Produced Gas* as follows.

#### **Achieved in Practice**

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas

#### **Technologically Feasible**

1. Pre-combustion SOx scrubbing system (non-emergency flares only.)

### **Step 2 - Eliminate Technologically Infeasible Options**

Pre-combustion SOx scrubbing system is only applicable to non-emergency flares only. Therefore it is not applicable to the proposed emergency flare.

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

2. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas

#### **Step 4 - Cost Effectiveness Analysis**

There is only one achieved in practice option, and it is being proposed by the applicant. Therefore, a cost-effectiveness analysis is not necessary.

#### **Step 5 - Select BACT**

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas

### **Top Down BACT Analysis for VOC Emissions**

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

The SJVUAPCD BACT Clearinghouse 1.4.2, 4<sup>th</sup> Quarter 1998 identifies achieved-in-practice and technologically feasible BACT for *Waste Gas Flare – Incinerating Produced Gas* as follows.

##### **Achieved in Practice**

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable.

#### **Step 2 - Eliminate Technologically Infeasible Options**

There are no options to eliminate in this step.

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

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable.

#### **Step 4 - Cost Effectiveness Analysis**

There is only one achieved in practice option, and it is being proposed by the applicant. Therefore, a cost-effectiveness analysis is not necessary.

#### **Step 5 - Select BACT**

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable.

### **Top Down BACT Analysis for CO Emissions**

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

The SJVUAPCD BACT Clearinghouse 1.4.2, 4<sup>th</sup> Quarter 1998 identifies achieved-in-practice and technologically feasible BACT for *Waste Gas Flare – Incinerating Produced Gas* as follows:

### **Achieved in Practice**

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable.

### **Step 2 - Eliminate Technologically Infeasible Options**

There are no options to eliminate in this step.

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

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable.

### **Step 4 - Cost Effectiveness Analysis**

There is only one achieved in practice option, and it is being proposed by the applicant. Therefore, a cost-effectiveness analysis is not necessary.

### **Step 5 - Select BACT**

2. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable.



**Appendix D:  
HRA Summary**

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

To: William Jones, AQE – Permit Services  
 From: Joe Agauyo– Technical Services  
 Date: February 18, 2012  
 Facility Name: Occidental of Elk Hills  
 Location: 10800 Stockdale Highway  
 Bakersfield  
 Application #(s): S-1216-171-0  
 Project #: S-1114735

### A. RMR SUMMARY

RMR Summary			
Categories	Emergency Flare (Unit 171-0)	Project Totals	Facility Totals
Prioritization Score	0.0 <sup>1</sup>	0.0	>1.0
Acute Hazard Index	0.00 <sup>1</sup>	0.0	0.00
Chronic Hazard Index	0.00 <sup>1</sup>	0.00	0.00
Maximum Individual Cancer Risk (10 <sup>-6</sup> )	0.0 <sup>1</sup>	0.0	0.2
T-BACT Required?	No		
Special Permit Conditions?	No		

<sup>1</sup>There is no risk associated with this project due to the flare being operated only for emergency purposes. This unit will not be operated for maintenance and testing.

### Proposed Permit Conditions

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

#### Unit # 171-0

3. This unit shall not be operated for maintenance and testing.
4. This unit shall only be operated for emergency purposes.

## B. RMR REPORT

### I. Project Description

Technical Services received a request on December 19, 2012, to perform a Risk Management Review for a proposed installation of a 1,750 MMBtu/hr emergency flare. The flare will only be used for emergency purposes and shall not be allowed to be operated for maintenance and testing.

### II. Analysis

Technical Services has determined that since this unit will only be operated for emergency purposes, no prioritization was required or performed for this project. Therefore, no further analysis was necessary.

### III. Conclusion

The proposed project will not contribute to any of the facility's risk indices. **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.

### 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

**Appendix E:  
Quarterly Net Emissions Change**

### Quarterly Net Emissions Change (QNEC)

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

$QNEC = PE2 - PE1$ , where:

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

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

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

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

$$\begin{aligned} PE2_{quarterly} &= PE2_{annual} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 0 \text{ lb PM}_{10}/\text{qtr} \end{aligned}$$

$$\begin{aligned} PE1_{quarterly} &= PE1_{annual} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 0 \text{ lb PM}_{10}/\text{qtr} \end{aligned}$$

Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	0	0	0
SO <sub>x</sub>	0	0	0
PM <sub>10</sub>	0	0	0
CO	0	0	0
VOC	0	0	0

## **Appendix F: Emission Profile**

Permit #: S-1216-171-0	Last Updated
Facility: OCCIDENTAL OF ELK HILLS INC	05/14/2012 JONESW

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	0.0
Daily Emis. Limit (lb/Day)	2856.0	126.0	336.0	15540.0	2646.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					