



**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT



**HEALTHY AIR LIVING™**

APR 02 2013

Shams Hasan  
E&B Natural Resources  
3000 James Road  
Bakersfield, CA 93308

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Project Number: S-1130130**

Dear Mr. Hasan:

Enclosed for your review and comment is the District's analysis of E&B Natural Resources's application for an Authority to Construct for the installation of an emergency waste gas flare, at E&B's Wilcox Lease.

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. Kris Rickards of Permit Services at 661-392-5611.

Sincerely,

David Warner  
Director of Permit Services

DW:ktr

Enclosures

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

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APR 02 2013

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-1130130**

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of E&B Natural Resources's application for an Authority to Construct for the installation of an emergency waste gas flare, at E&B's Wilcox Lease.

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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Enclosure

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Bakersfield Californian  
Bakersfield Californian

**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 E&B Natural Resources for the installation of an emergency waste gas flare, at E&B's Wilcox Lease.

The analysis of the regulatory basis for this proposed action, Project #S-1130130, 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 at any District office. For additional information, please contact the District at (661) 392-5500. Written comments on this project must be submitted by May 6, 2013 to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

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

Facility Name:	E&B Natural Resources	Date:	March 19, 2013
Mailing Address:	3000 James Road Bakersfield, CA 93308	Engineer:	Kris Rickards
Contact Person:	Shams Hasan	Lead Engineer:	Allan Phillips <i>ASUR AQE</i>
Telephone:	661-616-6446	Scott Faulkenburg (Consultant)	<b>MAR 28 2013</b>
Fax:	661-616-6179	661-377-0073 x15	
E-Mail:		<a href="mailto:sfaulkenburg@ix.netcom.com">sfaulkenburg@ix.netcom.com</a>	
Application #(s):	S-1624-256-0		
Project #:	S-1130130		
Deemed Complete:	February 4, 2013		

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**I. Proposal**

E&B Natural Resources (E&B) has requested Authority to Construct (ATC) an 83.3 MMBtu/hr John Zink flare to provide additional emergency flaring capacity to the existing flare listed on Permit to Operate (PTO) S-1624-218. The proposed flare will operate solely during emergencies as defined in Rule 4311 §3.7.

**II. Applicable Rules**

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 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 equipment will be located within E&B's Heavy Oil Central Stationary Source near the Wilcox tank battery on the Wilcox Lease, within the SW/4 of Section 5, Township 28S, Range 27E. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

### **IV. Process Description**

The proposed new flare will act as a backup emergency release device to the flare listed on PTO S-1624-218, which serves as the vapor control device for the Blackhawk Lease vapor recovery system when gas fired equipment (microturbines, steam generators, and heaters) are not operating.

### **V. Equipment Listing**

S-1624-256-0: 83.3 MMBTU/HR AIR ASSIST JOHN ZINK EEF-FA-8 EMERGENCY FLARE WITH AUTOMATIC IGNITION SYSTEM AND GAS FLOW METER (SECTION 5)

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

The flare tip will be air-assisted and the pilot flame will be fueled by the produced gas stream. The tip uses large amounts of air in order to increase turbulent mixing and promote complete combustion of hydrocarbons. This reduces carbon monoxide (CO) emissions and smoke/particulate matter (PM10) which are caused by high temperatures and incomplete combustion.

The VOC combustion efficiency for flares is typically greater than 99%. The gas combusted in the flare is expected to have a very low sulfur content (1.0 gr S/100 scf maximum) as proposed by the applicant.

The proposed emergency flare is only authorized for use during an emergency situation as defined by Rule 4311 §3.7 and is not authorized for operation for testing or maintenance purposes.

### **VII. General Calculations**

#### **A. Assumptions**

- Emergency operating schedule: 24 hours/day
- Non-emergency operating schedule: 0 hours/year
- Produced gas flow rate is 83.333 Mscf/hr (per applicant)
- Gross heating value of produced gas is 1,000 Btu/scf (per applicant)
- Sulfur content of produced gas is less than 1.0 gr-S/100 scf (limit for S-1624-218)
- Pilot fuel emissions are negligible (FYI 310, at 5 scf/hr of pilot fuel usage stated by applicant, emission are not expected to exceed 2 lbs/day for any criteria pollutant)

- EPA F-factor (adjusted to 60 °F) is 8,578 dscf/MMBtu (40 CFR 60 Appendix B)
- Molar specific volume of air is 379.5 scf/lb-mole

### 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 operated in an oil production operation; therefore, the emission factors from FYI 83 will be used:

Emission Factors		
	lb/MMBtu	Source
NO <sub>x</sub>	0.068	AP-42/FYI-83
SO <sub>x</sub>	0.00286 <sup>†</sup>	1.0 gr-S/100 scf & 1,275 Btu/scf
PM <sub>10</sub>	0.008*	AP-42/FYI-83-BACT
CO	0.37	AP-42/FYI-83
VOC	0.063	AP-42/FYI-83

$$\dagger \frac{1.0 \text{ gr} \cdot \text{S}}{100 \text{ scf}} \left( \frac{\text{lb}}{7,000 \text{ gr}} \right) \frac{\text{scfu}}{1,000 \text{ Btu}} \left( \frac{10^6 \text{ Btu}}{\text{MMBtu}} \right) \frac{64 \text{ lb} \cdot \text{SO}_2}{32 \text{ lb} \cdot \text{S}} = 0.00286 \frac{\text{lb} \cdot \text{SO}_2}{\text{MMBtu}}$$

\*Flare triggers and complies with BACT for PM<sub>10</sub>; therefore, in accordance with FYI 83, the PM<sub>10</sub> emissions factor is equal to 0.008 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 the flare is calculated as follows (based on 83.333 Mscf/hr limit and a gross heat content of the produced gas of 1,000 Btu/scf), and summarized in the table below (annual emissions are not quantified for emissions resulting solely from emergency operation):

$$\frac{1,999,992 \text{ scf}}{\text{day}} \left( \frac{1,000 \text{ Btu}}{\text{scf}} \right) \frac{\text{MMBtu}}{10^6 \text{ Btu}} \left( \frac{\text{lb} \cdot \text{EF}}{\text{MMBtu}} \right) = \frac{\text{lb} \cdot \text{EF}}{\text{day}}$$

Post Project Potential to Emit (PE2)		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO <sub>x</sub>	136.0	0
SO <sub>x</sub>	5.7	0
PM <sub>10</sub>	16.0	0
CO	740.0	0
VOC	126.0	0

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

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

The SSPE1 is calculated in Appendix E and presented in the following table.

SSPE1 (lb/year)					
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE1	50,578	19,864	57,129	366,348	4,005,261

### 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.

The SSPE2 is not changing as a result of this project; therefore SSPE2 is equal to the SSPE1 shown previously.

SSPE2 (lb/year)					
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE2	50,578	19,864	57,129	366,348	4,005,261

### 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
SSPE1	50,578	19,864	57,129	366,348	3,911,416
SSPE2	50,578	19,864	57,129	366,348	3,911,416
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 will remain a Major Source for these pollutants.

**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.

Since this facility currently has Permits to Operate steam generators and boilers totaling 202.5 MMBtu/hr the resultant CO<sub>2</sub>e using the factor listed previously (not including other combustion equipment) is approximately (202.5 MMBtu/hr)(116.67 lb-CO<sub>2</sub>e/MMBtu)(8,760 hrs/yr) = 103,480 tons-CO<sub>2</sub>e/yr.

<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>2</sub> e
Estimated Facility PE before Project Increase	25	1,956	10	183	29	29	103,480
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ? (Y/N)	N	Y	N	N	N	N	Y

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

**6. Baseline Emissions (BE)**

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



Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.  
As shown in Section VII.C.5 above, the facility is not a Major Source for SO<sub>x</sub> or PM<sub>10</sub>.

Therefore BE=PE1 for SO<sub>x</sub> and PM<sub>10</sub>.

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 SO<sub>x</sub> or PM<sub>10</sub>.

Since this facility is a major source for NO<sub>x</sub> and VOC, 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
VOC	0*	50,000	No

\*As discussed previously, annual emissions resulting from emergency operation are not quantified.

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> or PM<sub>10</sub>, this project does not constitute a Federal Major Modification. Additionally, since the facility is not a major source for PM<sub>10</sub> (140,000 lb/year), it is not a major source for PM<sub>2.5</sub> (200,000 lb/year).

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> *	0	0	No
VOC*	0	0	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. 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).

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

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

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

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

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

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

<b>PSD Significant Emission Increase Determination: Potential to Emit (tons/year)</b>						
	<b>NO<sub>2</sub></b>	<b>SO<sub>2</sub></b>	<b>CO</b>	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>CO<sub>2</sub>e</b>
<b>Total PE from New and Modified Units</b>	0	0	0	0	0	0
<b>PSD Significant Emission Increase Thresholds</b>	40	40	100	25	15	75,000
<b>PSD Significant Emission Increase?</b>	N	N	N	N	N	N

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.

## VIII. Compliance

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

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

##### 1. BACT Applicability

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

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

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

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

As seen in Section VII.C.2 above, the applicant is proposing to **install a new flare** with a PE greater than 2 lb/day for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, and VOC. BACT is triggered for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, and VOC.

##### 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 an SB 288 and/or Federal Major Modification for any pollutant. 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:

- NO<sub>x</sub>: Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable
- PM<sub>10</sub>: Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas.
- SO<sub>x</sub>: 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, and no nonemergency operation of the flare is proposed, offsets are not required for this flare, and no offset calculations are required.

## C. Public Notification

### 1. Applicability

Public noticing is required for:

- New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- Any project which results in the offset thresholds being surpassed, and/or
- Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

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

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

As demonstrated in VII.C.7, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

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

The PE2 for this new unit is compared to the daily PE Public Notice thresholds 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>	136.0	100 lb/day	Yes
SO <sub>x</sub>	5.7	100 lb/day	No
PM <sub>10</sub>	16.0	100 lb/day	No
CO	740.0	100 lb/day	Yes
VOC	126.0	100 lb/day	Yes

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

**c. Offset Threshold**

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

<b>Offset Thresholds</b>				
<b>Pollutant</b>	<b>SSPE1 (lb/year)</b>	<b>SSPE2 (lb/year)</b>	<b>Offset Threshold</b>	<b>Public Notice Required?</b>
NO <sub>x</sub>	50,578	50,578	20,000 lb/year	No
SO <sub>x</sub>	19,864	19,864	54,750 lb/year	No
PM <sub>10</sub>	57,129	57,129	29,200 lb/year	No
CO	366,348	366,348	200,000 lb/year	No
VOC	4,005,261	4,005,261	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.

<b>SSIPE Public Notice Thresholds</b>					
<b>Pollutant</b>	<b>SSPE2 (lb/year)</b>	<b>SSPE1 (lb/year)</b>	<b>SSIPE (lb/year)</b>	<b>SSIPE Public Notice Threshold</b>	<b>Public Notice Required?</b>
NO <sub>x</sub>	50,578	50,578	0	20,000 lb/year	No
SO <sub>x</sub>	19,864	19,864	0	20,000 lb/year	No
PM <sub>10</sub>	57,129	57,129	0	20,000 lb/year	No
CO	366,348	366,348	0	20,000 lb/year	No
VOC	4,005,261	4,005,261	0	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 for this project for NO<sub>x</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)

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

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

- Sulfur content of the natural gas burned shall not exceed 1.0 grain/100 scf. [District Rules 2201 and 4801]
- Emission rates from this unit shall not exceed any of the following limits: 0.068 lb-NO<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]
- Maximum amount of gas combusted shall not exceed 2.0 MMscf/day. [District Rule 2201]
- 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]

- Except for the pilot flame, this unit shall not be operated for maintenance or testing. [District Rule 2201]

## **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) are listed 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]
- Permittee shall maintain accurate records of flared gas concentration of H<sub>2</sub>S. [District Rules 1070 and 2201]
- 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**.

## **F. Ambient Air Quality Analysis (AAQA)**

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

The proposed location is in an attainment area for NO<sub>x</sub>, CO, and SO<sub>x</sub> and non-attainment area for PM<sub>10</sub>. As shown by the following table and on the AAQA summary sheet in Appendix D, the proposed equipment will not cause a violation of an air quality standard for NO<sub>x</sub>, CO, or SO<sub>x</sub>, and the contribution from PM<sub>10</sub> is below EPA's level of significance:



### Criteria Pollutant Modeling Results

Emergency Flare	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>

<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).

#### Rule 2520 Federally Mandated Operating Permits

Since this facility's emissions exceed the major source thresholds of District Rule 2201, this facility is a major source. However, this facility has elected to comply with Rule 2530, which exempts it from the requirements of Rule 2520.

#### Rule 2530 Federally Enforceable Potential to Emit

The purpose of this rule is to restrict the emissions of a stationary source so that the source may elect to be exempt from the requirements of Rule 2520. Pursuant to Rule 2530, since this facility has elected exemption from the requirements of Rule 2520 by ensuring actual emissions from the stationary source in every 12-month periods to not exceed the following: ½ the major source thresholds for NO<sub>x</sub>, VOCs, CO, and PM<sub>10</sub>; 50 tons per year SO<sub>2</sub>; 5 tons per year of a single HAP; 12.5 tons per year of any combination of HAPs; 50 percent of any lesser threshold for a single HAP as the EPA may establish by rule; and 50 percent of the major source threshold for any other regulated air pollutant not listed in Rule 2530.

#### 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 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to produced gas flaring operations.

**Rule 4101 Visible Emissions**

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). 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.

**Rule 4102 Nuisance**

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

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

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

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

The cancer risk for this project is shown below:

<b>HRA Summary</b>		
<b>Unit</b>	<b>Cancer Risk</b>	<b>T-BACT Required</b>
S-1624-256-0	0.0005 per million	No

**Discussion of T-BACT**

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

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

- The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
- This unit must be at least 1113 meters away from the property boundary. [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.

Emissions from the flare are the result of burning gaseous fuel only. Particulate emissions greater than 0.1 gr/dscf are not expected. The following condition will be listed on the permit to ensure compliance with this rule:

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

#### **Rule 4301 Fuel Burning Equipment**

The purpose of this rule is to limit the emission of air contaminants from fuel burning equipment. Fuel burning equipment is defined in the rule as "any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer."

The purpose of the flare is not to produce heat or power by indirect heat transfer; therefore, Rule 4301 does not apply to the flare.

#### **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 condition will be listed on the ATC to ensure this exemption:

- 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]

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 flare is an emergency flare and is 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 flare is an emergency flare and is not subject to requirements of Section 5.7 pursuant to Section 5.1.

Section 5.8 prohibits flaring 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 requires 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. The flare in this project does not have a flaring capacity greater than 50 MMBtu/hr; therefore, this section does not apply.

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 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. Since this flare will operate under emergency conditions only, a flare minimization plan is not required.
- 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 occurs first. The notification shall include the flare source identification, the start date and time, and the end date and time. Since this flare is not required to abide by a Flare Minimization Plan, this section is not applicable.

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

Section 6.5 lists requirements of a Flare Minimization Plan. Flare Minimization Plans do not apply to emergency flaring events; therefore, an FMP will not be required.

Sections 6.6, requires an 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.

- 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]

Sections 6.7, requires an operator of a petroleum refinery flare or any flare that has a flaring capacity equal to or greater than 50 MMBtu per hour to 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.

- Flare shall be equipped with recording, volumetric flow meters that shall be used to individually monitor and record the volumes of produced gas and pilot gas combusted in this unit. [District Rules 2201 and 4311]

Sections 6.8, requires an 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 to 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]

Section 6.9 requires an 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

Rule 4801 requires that sulfur compound emissions (as SO<sub>2</sub>) shall not exceed 0.2% by volume. Using the ideal gas equation, the proposed flare sulfur compound emissions are calculated as follows (using limits of 1 gr-S/100 dscf and 1,275 Btu/dscf):

$$\frac{1.0 \text{ gr} \cdot S}{100 \text{ scf}} \left( \frac{\text{lb}}{7,000 \text{ gr}} \right) \frac{379.5 \text{ scf}}{\text{lb} \cdot \text{mole}} \left( \frac{\text{lb} \cdot \text{mole}}{32 \text{ lb} \cdot S} \right) = 16.9 \times 10^{-6} \text{ or } 16.9 \text{ ppm as } S$$

Since 16.9 ppmv is  $\leq$  2,000 ppmv, this flare is expected to comply with Rule 4801. Therefore, the following condition (previously proposed in this engineering evaluation) will be listed on the ATC to ensure compliance:

- Sulfur content of the natural gas burned shall not exceed 1.0 grain/100 scf. [District Rules 2201 and 4801]

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

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

## 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.

## 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. Pending a successful NSR Public Noticing period, issue ATC S-1624-256-0 subject to the permit conditions on the attached draft ATC in **Appendix A**.

**X. Billing Information**

<b>Annual Permit Fees</b>			
<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>	<b>Annual Fee</b>
S-1624-256-0	3020-02-H	83.3 MMBtu/hr	\$1,030.00

**Appendices**

- A: Draft ATC
- B: BACT Guideline
- C: BACT Analyses
- D: HRA/AAQA Summary
- E: SSPE1 Calculations



# **Appendix A**

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Draft ATC

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-1624-256-0

**LEGAL OWNER OR OPERATOR:** E&B NATURAL RESOURCES MGMT  
**MAILING ADDRESS:** ATTN: SHAMS HASAN  
3000 JAMES ROAD  
BAKERSFIELD, CA 93308

**LOCATION:** HEAVY OIL CENTRAL  
CA

**SECTION:** SW5 **TOWNSHIP:** 28S **RANGE:** 27E

**EQUIPMENT DESCRIPTION:**  
83.3 MMBTU/HR AIR ASSIST JOHN ZINK EEF-FA-8 EMERGENCY FLARE WITH AUTOMATIC IGNITION SYSTEM AND GAS FLOW METER (SECTION 5)

**CONDITIONS**

1. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
2. {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]
3. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
4. This unit must be at least 1113 meters away from the property boundary. [District Rule 4102]
5. 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]
6. Except for the pilot flame, this unit shall not be operated for maintenance or testing. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-6500 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

**DRAFT**

DAVID WARNER, Director of Permit Services

S-1624-256-0 : Mar 28 2013 1:48PM - RICKARDK : Joint Inspection NOT Required

7. Flare shall be equipped with recording, volumetric flow meters that shall be used to individually monitor and record the volumes of produced gas and pilot gas combusted in this unit. [District Rules 2201 and 4311]
8. Flare air-assist blower shall be maintained and operated for smokeless combustion, i.e. no visible emissions in excess of 5% opacity or 1/4 Ringelmann except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. [District Rules 2201 and 4311]
9. A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311]
10. The flare shall be operated according to the manufacturer's specifications, a copy of which shall be maintained on site. [District Rule 2201]
11. 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]
12. 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]
13. 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]
14. The sulfur content of gas combusted in the flare shall not exceed 1 gr/100 scf. [District Rules 2201 and 4801]
15. Maximum amount of gas combusted shall not exceed 2.0 MMscf/day. [District Rule 2201]
16. Emission rates from this unit shall not exceed any of the following limits: 0.068 lb-NO<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]
17. To show compliance with sulfur emission limits (ppmv as H<sub>2</sub>S), the gas being flared shall be tested weekly for sulfur content. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for the flared gas, then the compliance testing frequency shall be semi-annually. If the semi-annual sulfur content test fails to show compliance, weekly testing shall resume. [District Rule 2201]
18. The sulfur content of the gas being flared shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rules 1070 and 2201]
19. 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]
20. 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]
21. 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]
22. 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]
23. Permittee shall maintain accurate records of flared gas concentration of H<sub>2</sub>S. [District Rules 1070 and 2201]
24. The permittee shall maintain all records of emergency operations. Records shall include the date and number of hours of each emergency flaring operation and the amount of gas burned. [District Rules 2201 and 4311]
25. 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]

DRAFT

**Appendix B**  
**BACT Guideline**

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

**Best Available Control Technology (BACT) Guideline 1.4.2\***

Last Update 12/31/1998

**Waste Gas Flare - Incinerating Produced Gas**

<b>Pollutant</b>	<b>Achieved in Practice or contained in the SIP</b>	<b>Technologically Feasible</b>	<b>Alternate Basic Equipment</b>
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.

**\*This is a Summary Page for this Class of Source**

**Appendix C**  
**BACT Analyses**

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## **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 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 and a 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. Therefore it is not applicable to the proposed emergency flare.

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

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

Since flared gas for this equipment has a limit of 1 gr-S/100 dscf, this is considered equivalent to natural gas required to fuel the pilot. BACT is then:

1. Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable and a pilot light fired solely on LPG or natural gas



## **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 and a 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**

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

Since flared gas for this equipment has a limit of 1 gr-S/100 dscf, this is considered equivalent to natural gas required to fuel the pilot. BACT is then:

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

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

To: Kris Rickards – Permit Services  
 From: Kyle Melching – Technical Services  
 Date: March 19, 2013  
 Facility Name: E&B Natural Resources  
 Location: S4/T28S/R27E  
 Application #(s): S-1624-256-0  
 Project #: S-1130130

### A. RMR SUMMARY

<b>RMR Summary</b>			
<b>Categories</b>	<b>Produced Gas Flare (Unit 256-0)</b>	<b>Project Totals</b>	<b>Facility Totals</b>
<b>Prioritization Score</b>	0.00	0.00	>1.0
<b>Acute Hazard Index</b>	0.00	0.00	0.75
<b>Chronic Hazard Index</b>	0.00	0.00	0.02
<b>Maximum Individual Cancer Risk (10<sup>-6</sup>)</b>	4.78E-10	4.78E-10	<b>7.08E-06</b>
<b>T-BACT Required?</b>	No		
<b>Special Permit Conditions?</b>	Yes		

### Proposed Permit Conditions

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

#### Unit # 256-0

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. [District Rule 4102]
2. This unit must be at least 1113 meters away from the property boundary

**B. RMR REPORT**

**I. Project Description**

Technical Services received a request on March 15, 2013, to perform an Ambient Air Quality Analysis and a Risk Management Review for a 83.3 MMBtu/hr emergency flare incinerating produced gas.

**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. Stack parameter were calculated utilizing District Approved: Flare Modeling Parameter Estimator. Emissions calculated using emission factors for Natural Gas Flares were input into the HEARTs database. The AERMOD model was used, with the parameters outlined below and meteorological data for 2005-2009 from Bakersfield 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:

<b>Analysis Parameters Unit 256-0</b>			
<b>Source Type</b>	Point	<b>Location Type</b>	Rural
<b>Stack Height (m)</b>	8.26	<b>Closest Receptor (m)</b>	305
<b>Stack Diameter. (m)</b>	1.85	<b>Type of Receptor</b>	Residential/ Business
<b>Stack Exit Velocity (m/s)</b>	27.67	<b>Max Hours per Year</b>	8760
<b>Stack Exit Temp. (°K)</b>	811	<b>Fuel Type</b>	Produced/ Natural Gas
<b>Natural Gas Emissions (mmscf/hr)</b>	0.0000283	<b>Natural Gas Emissions (mmscf/yr)</b>	0.2479

Technical Services performed modeling for criteria pollutants CO, NOx, SOx and PM<sub>10</sub>; as well as a RMR. The emission rates used for criteria pollutant modeling were 30.83 lb/hr and 16 lb/yr CO, 5.67 lb/hr and 3 lb/yr NOx, 0.24 lb/hr and 0 lb/yr SOx, 0.67 lb/hr and 0 lb/yr PM<sub>10</sub>, and 0.67 lb/hr and 0 lb/yr PM<sub>2.5</sub>.

The results from the Criteria Pollutant Modeling are as follows:

**Criteria Pollutant Modeling Results\***

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

The acute and chronic indices are below 1.0; and the maximum individual cancer risk associated with the project is **4.78E-10**, which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on Page 1 of this report must be included for this permit 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. Stack Parameter Worksheet
- D. Flare Modeling Parameter Estimator
- E. Prioritization score w/ toxic emissions summary
- F. HARP Risk Report
- G. Facility Summary
- H. AAQA Summary

## **Appendix E**

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### **SSPE1 Calculations**

# Detailed SSPE Report

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	1624	0	0						0
S	1624	4	1	0	0	0	0	44644	0
S	1624	5	1	0	0	0	0	102785	2
S	1624	6	1	0	0	0	0	102785	1
S	1624	7	1	0	0	0	0	102785	1
S	1624	8	1	0	0	0	0	102785	1
S	1624	9	2	0	0	0	0	29421	1
S	1624	10	1	0	0	0	0	257003	1
S	1624	11	1	0	0	0	0	12868	0
S	1624	13	10	2650	3445	1590	71306	723	0
S	1624	25	3	1418	516	1289	129	645	0
S	1624	26	3	1850	673	1682	168	841	0
S	1624	27	3	552	90	230	9505	166	0
S	1624	28	1	0	0	0	0	154144	0
S	1624	29	1	0	0	0	0	22372	0
S	1624	30	2	0	0	0	0	12868	0
S	1624	31	1	0	0	0	0	154144	1
S	1624	32	1	0	0	0	0	44644	1
S	1624	33	1	0	0	0	0	154144	1
S	1624	34	1	0	0	0	0	6234	0
S	1624	36	1	0	0	0	0	51424	0
S	1624	37	1	0	0	0	0	51424	0
S	1624	38	1	0	0	0	0	51424	0
S	1624	39	1	0	0	0	0	51424	0
S	1624	41	1	0	0	0	0	12868	0
S	1624	43	1	0	0	0	0	12868	0

Friday, February 01, 2013

Page 1 of 7

**Notes:**

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

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

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

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

\* = Fugitive Emissions



<i>Region</i>	<i>Facility</i>	<i>Unit</i>	<i>Mod</i>	<i>NOx</i>	<i>SOx</i>	<i>PM10</i>	<i>CO</i>	<i>VOC</i>	<i>Number of Outstanding ATCs</i>
S	1624	129	0						0
S	1624	130	0						0
S	1624	131	0	0	0	0	0	0	0
S	1624	132	0	0	0	0	0	0	0
S	1624	133	0	0	0	0	0	0	0
S	1624	134	0						0
S	1624	135	0						0
S	1624	136	1	0	0	0	0	15897	0
S	1624	137	0						0
S	1624	138	0						0
S	1624	139	0						0
S	1624	140	0	0	0	0	0	296	0
S	1624	141	0						0
S	1624	142	0						0
S	1624	143	0						0
S	1624	145	0						0
S	1624	146	0						0
S	1624	147	0						0
S	1624	148	0						0
S	1624	149	2	552	90	230	9505	166	0
S	1624	150	0						0
S	1624	151	0						0
S	1624	152	0						0
S	1624	153	0						0
S	1624	154	0						0
S	1624	155	0						0
S	1624	156	0						0
S	1624	157	2	0	0	0	0	3431	0
S	1624	158	0						0

Friday, February 01, 2013

Page 4 of 7

*Notes:*

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

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

<i>Region</i>	<i>Facility</i>	<i>Unit</i>	<i>Mod</i>	<i>NOx</i>	<i>SOx</i>	<i>PM10</i>	<i>CO</i>	<i>VOC</i>	<i>Number of Outstanding ATCs</i>
S	1624	159	0						0
S	1624	160	1	0	0	0	0	158	0
S	1624	161	2	0	0	0	0	365 *	0
S	1624	162	0	0	0	0	0	249	0
S	1624	163	1	0	0	0	0	168 *	0
S	1624	164	0	0	0	0	0	6429	0
S	1624	165	0	0	0	0	0	6427	0
S	1624	166	0	0	0	0	0	47 *	0
S	1624	167	0	0	0	0	0	746 *	0
S	1624	168	0	0	0	0	0	110	1
S	1624	169	4	0	0	0	0	62 *	0
S	1624	170	1	0	0	0	0	53 *	0
S	1624	171	1	0	0	0	0	47 *	0
S	1624	172	1	0	0	0	0	47 *	0
S	1624	173	0						0
S	1624	174	0	2117	402	949	14235	584	2
S	1624	175	0						0
S	1624	176	0						0
S	1624	177	0						0
S	1624	178	3	0	0	0	0	179 *	0
S	1624	179	1	143	82	189	3180	57	0
S	1624	180	1	143	82	189	3180	57	0
S	1624	181	1	143	82	189	3180	57	0
S	1624	182	1	143	82	189	3180	57	0
S	1624	183	1	0	0	0	0	47 *	0
S	1624	184	1	0	0	0	0	47 *	0
S	1624	185	1					62 *	0
S	1624	186	1	0	0	0	0	53 *	0
S	1624	187	0	0	0	0	0	2279	1

Friday, February 01, 2013

Page 5 of 7

**Notes:**

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	1624	188	0	0	0	0	0	12848	0
S	1624	189	1	0	0	0	0	51424	0
S	1624	190	1	0	0	0	0	51424	0
S	1624	191	1	0	0	0	0	51424	0
S	1624	192	0	0	0	0	0	119	0
S	1624	193	0						1
S	1624	194	0						1
S	1624	195	0						1
S	1624	196	0						1
S	1624	197	0						1
S	1624	198	0						0
S	1624	199	0						0
S	1624	200	0						0
S	1624	201	0						0
S	1624	202	0						0
S	1624	203	0						0
S	1624	204	0						0
S	1624	205	0						0
S	1624	206	0						0
S	1624	207	0						0
S	1624	208	0						0
S	1624	210	1	0	0	0	0	62	0
S	1624	212	1	0	0	0	0	73	0
S	1624	213	1	0	0	0	0	73	0
S	1624	214	1	0	0	0	0	717	0
S	1624	215	0	1927	3445	1831	17827	1325	0
S	1624	217	0	0	0	0	0	1423	1
S	1624	218	1	8078	339	950	43956	7484	0
S	1624	219	0	0	0	0	0	87	0

Friday, February 01, 2013

Page 6 of 7

**Notes:**

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	1624	228	0						0
S	1624	229	0	0	0	0	0	9821	0
S	1624	230	0	0	0	0	0	0	0
S	1624	231	0	0	0	0	0	0	0
S	1624	232	0	0	0	0	0	2945	0
S	1624	233	0						0
S	1624	234	0	0	0	0	0	956	0
S	1624	235	0	0	0	0	0	956	0
S	1624	236	0	0	0	0	0	48	0
S	1624	237	0	0	0	0	0	0	0
S	1624	238	0	28470	6901	45958	170820	1119	0
S	1624	239	0	2392	3635	1664	16177	1205	0
S	1624	240	0	0	0	0	0	0	0
S	1624	241	0	0	0	0	0	0	0
S	1624	242	0	0	0	0	0	3873	0
S	1624	243	0	0	0	0	0	0	0
S	1624	244	0	0	0	0	0	0	0
S	1624	245	0	0	0	0	0	1944	0

SSPE (lbs)

50578      19864      57129      366348      4005261

3,911,416 = less fugitive emissions identified with an (\*)

Friday, February 01, 2013

Page 7 of 7

Notes:

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

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

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

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