



FEB 04 2013

Shams Hassan
E & B Natural Resources
34740 Merced Avenue
Bakersfield, CA 93308

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: S-1123679

Dear Mr. Hassan:

Enclosed for your review and comment is the District's analysis of E & B Natural Resources's application for an Authority to Construct for increasing the heat input of a waste gas flare from 600 MMBtu/day to 2,000 MMBtu/day, at Section 5, T28S, R27E.

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. Dan Klevann of Permit Services at (661) 392-5500.

Sincerely,

David Warner
Director of Permit Services

DW:dk

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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

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



FEB 04 2013

Gerardo C. Rios (AIR 3)
Chief, Permits Office
Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: S-1123679

Dear Mr. Rios:

Enclosed for your review and comment is the District's analysis of E & B Natural Resources's application for an Authority to Construct for increasing the heat input of a waste gas flare from 600 MMBtu/day to 2,000 MMBtu/day, at Section 5, T28S, R27E.

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FEB 04 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-1123679

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 increasing the heat input of a waste gas flare from 600 MMBtu/day to 2,000 MMBtu/day, at Section 5, T28S, R27E.

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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 increasing the heat input of a waste gas flare from 600 MMBtu/day to 2,000 MMBtu/day, at Section 5, T28S, R27E.

The analysis of the regulatory basis for this proposed action, Project #S-1123679, is available for public inspection at 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.**

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Increase daily flare usage

Facility Name: E&B Natural Resources
Mailing Address: 34740 Merced Avenue
Bakersfield, CA 93308
Contact Person: Shams Hassan
Telephone: 661-766-2501
Fax: 661-392-7579

Date: January 29, 2013
Engineer: Dan Klevann
Lead Engineer: Richard Karrs

RuK

1-29-13

Application #(s): S-1624-218-2
Project #: S-1123679
Deemed Complete: October 31, 2012

I. Proposal

The primary business of E& B Natural Resources (E&B) is oil production. E&B has submitted an Authority to Construct (ATC) application for the following:

- Increase the daily throughput limit of flare S-1624-218 from 660 MMBtu/day to 2,000 MMBtu/day.

Disposition of Outstanding ATCs

ATC S-1624-218-1 has been implemented and serves as the base document. ATC S-1624-218-1 is included in **Appendix B**.

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 2530	Federally Enforceable Potential to Emit (12/18/08)
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 4311	Flares (06/18/09)
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 at the Blackhawk lease in E&B's heavy oil central stationary source, within 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 flare will be used to incinerate TEOR and tank vapors from the Blackhawk lease.

V. Equipment Listing

Pre-Project Equipment Description:

S-1624-218-1: MODIFICATION OF JOHN ZINK AIR ASSIST FLARE WITH MODEL EEF-FA-8 FLARE TIP SERVING TANK VAPOR RECOVERY SYSTEM AND TEOR SYSTEM (BLACKHAWK LEASE)

Proposed Modification:

Increase the daily permitted throughput limit from 660 MMBtu/day to 2,000 MMBtu/day.

S-1624-281-2: MODIFICATION OF JOHN ZINK AIR ASSIST FLARE WITH MODEL EEF-FA-8 FLARE TIP SERVING TANK VAPOR RECOVERY SYSTEM AND TEOR SYSTEM (BLACKHAWK LEASE); INCREASE DAILY THROUGHPUT LIMIT TO 2,000 MMBTU/DAY

Post Project Equipment Description:

S-1624-218-2: JOHN ZINK AIR ASSIST FLARE WITH MODEL EEF-FA-8 FLARE TIP SERVING TANK VAPOR RECOVERY SYSTEM AND TEOR SYSTEM (BLACKHAWK LEASE)

VI. Emission Control Technology Evaluation

Flares typically achieve greater than 99% destruction efficiency of VOCs. The subject flare operates with an auto-ignition propane pilot and is air assist to prevent smoking.

VII. General Calculations

A. Assumptions

- Facility will operate 24 hours per day, 7 days per week, and 52 weeks per year.

Flare S-1624-218's pre-project throughput: 660 MMBtu/day and 118,000 MMBtu/yr.

Flare S-1624-218's post-project throughput: 2,000 MMBtu/day and 118,800 MMBtu/yr.

B. Emission Factors

Emission Factors Flare S-1624-218		
	lb/MMBtu	Source
NO _x	0.068	Current Permit
SO _x	0.00285	Current Permit
PM ₁₀	0.008	Current Permit
CO	0.37	Current Permit
VOC	0.063	Current Permit

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The potential to emit for the operation is calculated as follows, and summarized in the table below:

Pollutant	S-1624-218-1 Daily Pre-Project Potential to Emit (PE1)			
	Emission Factors	Heat Input	Days	Daily PE2
NO _x	0.0680 (lb-NO _x /MMBtu)	x 660 (MMBtu/day)	x 1 day	= 44.9 (lb-NO _x /day)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 660 (MMBtu/day)	x 1 day	= 1.9 (lb-SO _x /day)
PM ₁₀	0.0080 (lb-PM ₁₀ /MMBtu)	x 660 (MMBtu/day)	x 1 day	= 5.3 (lb-PM ₁₀ /day)
CO	0.3700 (lb-CO/MMBtu)	x 660 (MMBtu/day)	x 1 day	= 244.2 (lb-CO/day)
VOC	0.0630 (lb-VOC/MMBtu)	x 660 (MMBtu/day)	x 1 day	= 41.6 (lb-VOC/day)

Pollutant	S-1624-218-1 Annual Pre-Project Potential to Emit (PE1)		
	Emission Factors	Annual Max Heat Input	Annual PE2
NO _x	0.0680 (lb-NO _x /MMBtu)	x 118.8 (billion Btu/year)	= 8,078 (lb-NO _x /year)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 118.8 (billion Btu/year)	= 339 (lb-SO _x /year)
PM ₁₀	0.0080 (lb-PM ₁₀ /MMBtu)	x 118.8 (billion Btu/year)	= 950 (lb-PM ₁₀ /year)
CO	0.3700 (lb-CO/MMBtu)	x 118.8 (billion Btu/year)	= 43,956 (lb-CO/year)
VOC	0.0630 (lb-VOC/MMBtu)	x 118.8 (billion Btu/year)	= 7,484 (lb-VOC/year)

2. Post Project Potential to Emit (PE2)

S-1624-218-2 Daily Post-Project Potential to Emit (PE2)					
Pollutant	Emission Factors	Heat Input	Days	Daily PE2	
NO _x	0.0680 (lb-NO _x /MMBtu)	x 2000 (MMBtu/day)	x 1 day	=	136.0 (lb-NO _x /day)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 2000 (MMBtu/day)	x 1 day	=	5.7 (lb-SO _x /day)
PM ₁₀	0.0080 (lb-PM ₁₀ /MMBtu)	x 2000 (MMBtu/day)	x 1 day	=	16.0 (lb-PM ₁₀ /day)
CO	0.3700 (lb-CO/MMBtu)	x 2000 (MMBtu/day)	x 1 day	=	740.0 (lb-CO/day)
VOC	0.0630 (lb-VOC/MMBtu)	x 2000 (MMBtu/day)	x 1 day	=	126.0 (lb-VOC/day)

S-1624-218-2 Annual Post-Project Potential to Emit (PE2)					
Pollutant	Emission Factors	Annual Max Heat Input	Annual PE2		
NO _x	0.0680 (lb-NO _x /MMBtu)	x 118.8 (billion Btu/year)	=	8,078 (lb-NO _x /year)	
SO _x	0.00285 (lb-SO _x /MMBtu)	x 118.8 (billion Btu/year)	=	339 (lb-SO _x /year)	
PM ₁₀	0.0080 (lb-PM ₁₀ /MMBtu)	x 118.8 (billion Btu/year)	=	950 (lb-PM ₁₀ /year)	
CO	0.3700 (lb-CO/MMBtu)	x 118.8 (billion Btu/year)	=	43,956 (lb-CO/year)	
VOC	0.0630 (lb-VOC/MMBtu)	x 118.8 (billion Btu/year)	=	7,484 (lb-VOC/year)	

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.

SSPE1 (lb/year)*					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	19,103	6,403	7,895	113,412	»20,000

*from recent project S-1122045

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.

E&B is not making any changes to the annual emission limits for the flare only daily increases. Therefore, the SSPE2 is not changed.

SSPE2 (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	19,103	6,403	7,895	113,412	»20,000

5. 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. However, for the purposes of determining major source status, the SSPE2 shall not include 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."

Major Source Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	19,103	6,403	7,895	113,412	»20,000
SSPE2	19,103	6,403	7,895	113,412	»20,000
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	Yes

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 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.

Flare S-1624-218 is equipped with Air-assist which meets the requirements for achieved-in-practice BACT. Therefore, its BE=PE1 for all pollutants.

7. SB 288 Major Modification

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

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the SB 288 Major Modification calculation.

Since this facility is a major source for 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 _x	8,078	50,000	No
SO _x	339	80,000	No
PM ₁₀	950	30,000	No
VOC	7,484	50,000	No

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

8. Federal Major Modification

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

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

The applicant has provided historical fuel use and projected fuel use operation data in Appendix E. Emissions are calculated below.

	MMBtu/yr
Historical Actual use previous 2 yrs	38,158
Projected use	59,400
Federal increase	21,242

Emissions	VOC	NOx	CO	PM10	Sox	Units
Emission factors	0.063	0.068	0.37	0.008	0.00285	Lb/MMBtu
Historical Actual	2,404	2,595	14,118	305	109	Lb/yr
Projected Actual	3,742	4,039	21,978	475	169	Lb/yr
Federal Increase	1,338	1,444	7,860	170	60	Lb/yr

For existing emissions units, the increase in emissions is calculated as follows.

$$\text{Emission Increase} = \text{PAE} - \text{BAE}$$

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity or potential to emit). If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit.

The BAE is calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period. The BAE must be adjusted to exclude any non-compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete.

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

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO _x *	1,444	0	Yes
VOC*	1,338	0	Yes
PM ₁₀	0	30,000	No
PM _{2.5}	0	20,000	No
SO _x	0	80,000	No

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

Since there is an increase in NO_x and VOC emissions, this project constitutes a Federal Major Modification.

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. The annual emission are not changing therefore there are no QNEC calculations required.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

Rule 1020, Section 3.46 excludes air pollution abatement operation from the definition of "source operation". Since the standby flare is designed to control the VOC emissions from tank vapor and TEOR operation control systems, the flare is considered an air pollution abatement operation and is not an emissions unit. Therefore, BACT is not required for the flare. The project is a Federal Major modification and would require BACT. However, the flare is an air-assist flare which meets the achieved in practice requirements. There are no other controls, so it meets the BACT requirements.

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	19,103	6,403	7,895	113,412	»20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	Yes

2. Quantity of Offsets Required

As seen above, the facility is an existing Major Source for VOC and the SSPE2 is greater than the offset thresholds. The project is also a Federal Major Modification. Therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year for NO_x is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = $(\Sigma[PE2 - BE] + ICCE) \times DOR$, for all new or modified emissions units in the project,

Where,

PE2 = Post Project Potential to Emit, (lb/year)

BE = Baseline Emissions, (lb/year)

ICCE = Increase in Cargo Carrier Emissions, (lb/year)

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

As calculated in Section VII.C.6 above, the BE from this unit are equal to the PE1 since the unit is a Clean Emissions Unit.

Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

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

PE2 (VOC) = 7,484 lb/year

BE (VOC) = 7,484 lb/year

ICCE = 0 lb/year

Offsets Required (lb/year) = $([7,484-7,484] + 0) \times DOR$
= 0 lb NO_x/year

As demonstrated in the calculation above, the amount of offsets is zero. Therefore, offsets will not be required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:

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

- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed, and/or
- d. Any project with an 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 is a Federal Major Modification; therefore, public noticing for Federal Major Modification purposes is required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	19,103	19,103	20,000 lb/year	No
SO _x	6,403	6,403	54,750 lb/year	No
PM ₁₀	7,895	7,895	29,200 lb/year	No
CO	113,412	113,412	200,000 lb/year	No
VOC	>>20,000	>>20,000	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	19,103	19,103	0	20,000 lb/year	No
SO _x	6,403	6,403	0	20,000 lb/year	No
PM ₁₀	7,895	7,895	0	20,000 lb/year	No
CO	113,412	113,412	0	20,000 lb/year	No
VOC	>>20,000	>>20,000	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, this project will result in emissions increases for NO_x and VOC, which would subject the project to noticing requirements listed above. Therefore, public notice will be required for this project.

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:

- Emissions from the flare shall not exceed any of the following limits (based on total gas combusted): NO_x (as NO₂): 0.068 lb/MMBtu; PM₁₀: 0.008 lb/MMBtu; CO: 0.37 lb/MMBtu; or VOC: 0.063 lb/MMBtu. [District Rule 2201]
- Maximum amount of gas combusted shall not exceed 2,000 MMBtu/day nor 118,800 MMBtu/yr. [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:

- Permittee shall maintain accurate records of flared gas higher heating value, daily and annual quantities of produced gas, pilot gas, and sweep gas combusted in the flare, and flared gas concentration of H₂S. [District Rules 1070 and 2201] N
- {3246} All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] N

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 E of this document for the AAQA summary sheet. Technical Services performed modeling for criteria pollutants CO, NO_x, SO_x and PM₁₀; as well as a RMR. The emission rates used for criteria pollutant modeling were 30.8 lb/hr CO, 5.67 lb/hr NO_x, 0.23 lb/hr SO_x, and 0.67 lb/hr PM₁₀. The engineer supplied the maximum fuel rate for the IC engine used during the analysis. The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Diesel ICE	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass	X	X	X	X
SO _x	Pass	Pass	X	Pass	X
PM ₁₀	X	X	X	Pass ¹	X
PM _{2.5}	X	X	X	Pass ²	X

*Results were taken from the attached PSD spreadsheet.

¹The project was compared to the 1-hour NO₂ National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.

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

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Title I Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this facility is a new major source and this project does constitute a Title I modification, therefore this requirement is applicable. E&B Natural Resources' compliance certification is included in Appendix F.

H. Alternate Siting Analysis

The current project occurs at an existing facility. Since the project will provide flaring capacity to be used at the same locations, the existing sites will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

Rule 2520 Federally Mandated Operating Permits

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, 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_x, VOCs, CO, and PM₁₀; 50 tons per year SO₂; 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. However, no subparts of 40 CFR Part 60 apply to produced gas flares.

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 oilfield flare 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 flare 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 C**), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
S-1624-218-2	N/A	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 E of this report, the emissions increases for this project was determined to be less than significant.

- Unit S-1624-218 shall not operate within 1,000 ft. of a business or residential receptor.

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. The subject equipment is currently in compliance with this rule and the proposed modifications are not expected to affect compliance; therefore, compliance is expected.

District Rule 4311 Flares

Section 5.1 states that flares that are permitted to operate only during an emergency are not subject to the requirements of Sections 5.6 and 5.7. Section 5.6 states that open flares with flare gas pressure less than 5 psig shall comply with 40 CFR 60.18. Section 5.7 lists requirement for ground level enclosed flares. The flare is not an emergency flare but operates with a flare gas pressure exceeding 5 psig and so is not subject to Section 5.6.

The subject flare is not enclosed. Section 5.7 is not applicable.

Section 5.2 The flame shall be present at all times when combustible gases are vented through the flare. The following condition is included on the ATC to ensure compliance:

Flare shall be operated with a flame present at all times, and kept in operation when emissions may be vented to them. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [District Rule 2201] N

Section 5.3 The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. The following conditions are included on the ATC:

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. The pilot need not be present when the flare is isolated for required flare maintenance. [District Rule 4311] N

Flare shall be equipped with an automatic flow sensing device capable of continuously detecting at least one pilot flame or the flare flame is present. The flame detection device shall be kept operational at all times except during flare maintenance and unforeseen or necessary planned power outages. [District Rule 4311] N

Section 5.4: 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. The flare is not equipped with a heat sensing device.

Section 5.5 Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. The following conditions are included on the ATC:

Flare shall use purge gas for purging. [District Rule 4311] N

Flare shall be equipped with an automatic flow sensing device capable of continuously detecting at least one pilot flame or the flare flame is present. The flame detection device shall be kept operational at all times except during flare maintenance and unforeseen or necessary planned power outages. [District Rule 4311] N

Section 5.6 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 this section shall not apply to Coanda effect flares. The following condition is included on the ATC:

{2333} Open flares in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. [District Rule 4311, 5.6] Y

Section 5.8 Flare Minimization Plan

Effective on and after July 1, 2011, flaring is prohibited unless it is consistent with an approved flare minimization plan (FMP), pursuant to Section 6.5 of Rule 4311, 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 as defined by Section 3.7 of Rule 4311 and is necessary to prevent an accident, hazard or release of vent gas directly to the atmosphere. [District Rule 4311]

Permittee shall submit and have approved by the APCO a flare minimization plan prior to operating the flare authorized by this permit. [District Rule 4311] N

Section 5.9 Petroleum Refinery SO₂ Performance Targets – not applicable – facility is not a petroleum refinery

Section 5.10 Effective on and after July 1, 2011, the operator of a flare subject to flare minimization requirements pursuant to Section 5.8 shall monitor the vent gas flow to the flare with a flow measuring device or other parameters as specified in the Permit to Operate. The operator shall maintain records pursuant to Section 6.1.7. Flares that the operator can verify,

based on permit conditions, are not capable of producing reportable flare events pursuant to Section 6.2.2 shall not be required to monitor vent gas flow to the flare.

The operator of a flare subject to flare minimization requirements pursuant to Section 5.8 shall monitor the vent gas flow to the flare with a flow measuring device or other parameters as specified in the Permit to Operate. The operator shall maintain records pursuant to Section 6.1.7 of Rule 4311. Flares that the operator can verify, based on permit conditions, are not capable of producing reportable flare events pursuant to Section 6.2.2 of Rule 4311 shall not be required to monitor vent gas flow to the flare. [District Rule 4311] N

6.0 Administrative Requirements

Section 6.1 Recordkeeping

The following subsections are relevant:

6.1.5 Effective on and after July 1, 2011, a copy of the approved flare minimization plan pursuant to Section 6.5. The following ATC condition is included:

On and after July 1, 2011, permittee shall keep a copy of flare minimization plan on site for District inspection upon request. [40 CFR 60.18, Rule 4311]

Section 6.1.7 Effective on and after July 1, 2011, where applicable, monitoring data collected pursuant to Sections 5.10 (flare minimization vent gas flow rate)

Section 6.5 Flare Minimization Plan

6.5.1 By July 1, 2010, the operator of a petroleum refinery flare or any flare that has a flaring capacity of greater than or equal to 5.0 MMBtu per hour shall submit a flare minimization plan (FMP) to the APCO for approval. The project flare has a rating of 2,000 MMBtu/day and therefore is subject to this section.

Permittee shall submit and have approved by the APCO a flare minimization plan prior to operating the flare authorized by this permit. [District Rule 4311] N

Sections 6.6, 6.7, 6.8, and 6.9 are applicable to flares with an hourly heat input exceeding 50 MMBtu/hr and therefore is not applicable.

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

Section 7.0 Compliance Schedule

Operators of flares, that are exempt under Section 4.0 and that lose exemption status, shall not operate flares until in full compliance with all applicable requirements of this rule effective on the date the exemption status is lost – not applicable.

Compliance with the rule is expected.

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. Issue ATC S-1624-218-2 subject to the permit conditions on the attached draft ATC in **Appendix A**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1624-218-2	3020-02-H	83.3 MMBtu/hr	\$1,030.00

Appendixes

- A: Draft ATC
- B: Current base ATC
- C: HRA Summary
- D: Emission Profile
- E: Historical emissions
- F: Compliance Certification

APPENDIX A
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1624-218-2

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:

MODIFICATION OF JOHN ZINK 660 MMBTU/DAY AIR ASSIST FLARE WITH MODEL EEF-FA-8 FLARE TIP SERVING TANK VAPOR RECOVERY SYSTEM AND TEOR SYSTEM (BLACKWELL LEASE): INCREASE DAILY FUEL USE LIMIT TO 2,000 MMBTU/DAY

CONDITIONS

1. Unit S-1624-218 shall not operate within 1,000 ft. of a business or residential receptor. [District Rule 4102]
2. Assist air blower shall be capable of providing at least 20% of stoichiometric combustion air requirement. [District Rule 2080]
3. 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]
4. Flare shall be operated with a flame present at all times, and kept in operation when emissions may be vented to them. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [District Rule 2201]
5. The flare shall be operated according to the manufacturer's specifications, a copy of which shall be maintained on site. [District Rule 2201]
6. Flare shall use purge gas for purging. [District Rule 4311]

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

DAVID WARNER, Director of Permit Services

S-1624-218-2; Jan 24 2013 8:56AM - KLEVANNND : 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 Rule 2201]
8. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare. The pilot need not be present when the flare is isolated for required flare maintenance. [District Rule 4311, 5.3]
9. Flare shall be equipped with an automatic flow sensing device capable of continuously detecting at least one pilot flame or the flare flame is present. The flame detection device shall be kept operational at all times except during flare maintenance and unforeseen or necessary planned power outages. [District Rule 4311]
10. {2333} Open flares in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. [District Rule 4311, 5.6] Federally Enforceable Through Title V Permit
11. The sulfur content of gas combusted in the flare shall not exceed 1 gr/100 scf. [District Rule 2201]
12. Maximum amount of gas combusted shall not exceed 2,000 MMBtu/day nor 118,800 MMBtu/yr. [District Rule 2201]
13. Emissions from the flare shall not exceed any of the following limits (based on total gas combusted): NO_x (as NO₂): 0.068 lb/MMBtu; PM₁₀: 0.008 lb/MMBtu; CO: 0.37 lb/MMBtu; or VOC: 0.063 lb/MMBtu. [District Rule 2201]
14. Measured heating value and quantity of gas flared shall be used to determine compliance with heat input limits. [District Rule 2201]
15. Permittee shall submit and have approved by the APCO a flare minimization plan prior to operating the flare authorized by this permit.. [District Rule 4311]
16. Permittee shall keep a copy of flare minimization plan on site for District inspection upon request. [District Rule 4311 and 40 CFR 60.18]
17. Flaring shall be consistent with the operator's approved flare minimization plan (FMP), pursuant to Section 6.5 of Rule 4311, 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 as defined by Section 3.7 of Rule 4311 and is necessary to prevent an accident, hazard or release of vent gas directly to the atmosphere. [District Rule 4311]
18. The operator of a flare subject to flare minimization requirements pursuant to Section 5.8 shall monitor the vent gas flow to the flare with a flow measuring device or other parameters as specified in the Permit to Operate. The operator shall maintain records pursuant to Section 6.1.7 of Rule 4311. Flares that the operator can verify, based on permit conditions, are not capable of producing reportable flare events pursuant to Section 6.2.2 of Rule 4311 shall not be required to monitor vent gas flow to the flare. [District Rule 4311]
19. To show compliance with sulfur emission limits (ppmv as H₂S), 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]
20. 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]
21. Permittee shall maintain accurate records of flared gas higher heating value, daily and annual quantities of produced gas, pilot gas, and sweep gas combusted in the flare, and flared gas concentration of H₂S. [District Rules 1070 and 2201]
22. {3246} All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

DRAFT

APPENDIX B

Current Base ATC



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1624-218-1

ISSUANCE DATE: 05/02/2012

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:

MODIFICATION OF JOHN ZINK 660 MMBTU/DAY AIR ASSIST FLARE WITH MODEL EEF-FA-8 FLARE TIP SERVING TANK VAPOR RECOVERY SYSTEM AND TEOR SYSTEM (BLACKWELL LEASE): INCREASE THROUGHPUT LIMIT TO 660 MMBTU/DAY AND 118,800 MMBTU/YEAR

CONDITIONS

1. Unit 218-1 shall not operate within 1,000 ft. of a business or residential receptor. [District Rule 4102]
2. Assist air blower shall be capable of providing at least 20% of stoichiometric combustion air requirement. [District Rule 2080]
3. 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]
4. Flare shall be operated with a flame present at all times, and kept in operation when emissions may be vented to them. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [District Rule 2201]
5. The flare shall be operated according to the manufacturer's specifications, a copy of which shall be maintained on site. [District Rule 2201]
6. Flare shall use purge gas for purging. [District Rule 4311]

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

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 Rule 2201]
8. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare. The pilot need not be present when the flare is isolated for required flare maintenance. [District Rule 4311, 5.3]
9. Flare shall be equipped with an automatic flow sensing device capable of continuously detecting at least one pilot flame or the flare flame is present. The flame detection device shall be kept operational at all times except during flare maintenance and unforeseen or necessary planned power outages. [District Rule 4311]
10. Open flares in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. [District Rule 4311, 5.6] Federally Enforceable Through Title V Permit
11. The sulfur content of gas combusted in the flare shall not exceed 1 gr/100 scf. [District Rule 2201]
12. Maximum amount of gas combusted shall not exceed 660 MMBtu/day nor 118,800 MMBtu/yr. [District Rule 2201]
13. Emissions from the flare shall not exceed any of the following limits (based on total gas combusted): NO_x (as NO₂): 0.068 lb/MMBtu; PM₁₀: 0.008 lb/MMBtu; CO: 0.37 lb/MMBtu; or VOC: 0.063 lb/MMBtu. [District Rule 2201]
14. Measured heating value and quantity of gas flared shall be used to determine compliance with heat input limits. [District Rule 2201]
15. Permittee shall submit and have approved by the APCO a flare minimization plan prior to operating the flare authorized by this permit.. [District Rule 4311]
16. Permittee shall keep a copy of flare minimization plan on site for District inspection upon request. [District Rule 4311 and 40 CFR 60.18]
17. Flaring shall be consistent with the operator's approved flare minimization plan (FMP), pursuant to Section 6.5 of Rule 4311; 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 as defined by Section 3.7 of Rule 4311 and is necessary to prevent an accident, hazard or release of vent gas directly to the atmosphere. [District Rule 4311]
18. The operator of a flare subject to flare minimization requirements pursuant to Section 5.8 shall monitor the vent gas flow to the flare with a flow measuring device or other parameters as specified in the Permit to Operate. The operator shall maintain records pursuant to Section 6.1.7 of Rule 4311. Flares that the operator can verify, based on permit conditions, are not capable of producing reportable flare events pursuant to Section 6.2.2 of Rule 4311 shall not be required to monitor vent gas flow to the flare. [District Rule 4311]
19. To show compliance with sulfur emission limits (ppmv as H₂S), 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]
20. 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]
21. Permittee shall maintain accurate records of flared gas higher heating value, daily and annual quantities of produced gas, pilot gas, and sweep gas combusted in the flare, and flared gas concentration of H₂S. [District Rules 1070 and 2201]
22. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]
23. This ATC shall be implemented concurrently with or subsequent to ATCs S-1624-25-3, '26-3 and '72-3. [District Rule 2201]

APPENDIX C

HRA Summary

Revised
San Joaquin Valley Air Pollution Control District
Risk Management Review

To: Dan Klevann – Permit Services
 From: Kyle Melching – Technical Services
 Date: January 15, 2013
 Facility Name: E & B Natural Resources
 Location: Bakersfield, CA
 Application #(s): S-1624-218-2
 Project #: S-1123679

A. RMR SUMMARY

RMR Summary			
Categories	NG Flare (Unit 218-2)	Project Totals	Facility Totals
Prioritization Score	0.03	0.03	>1
Acute Hazard Index	0.00	0.00	0.7
Chronic Hazard Index	N/A*	N/A*	0.02
Maximum Individual Cancer Risk (10⁻⁶)	N/A*	N/A*	6.46E-06
T-BACT Required?	No		
Special Permit Conditions?	Yes		

There is no increase in annual usage, therefore, there is no Chronic Hazard Index or Cancer Risk associated with the project

Proposed Permit Conditions

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

Unit # 218-2

1. Unit 218-2 shall not operate within 1,000 ft. of a business or residential receptor.
 [District Rules 2201]

B. RMR REPORT

I. Project Description

Technical Services received a request on January 15, 2013, to revise a Risk Management Review and Ambient Air Quality Analysis (AAQA) for a proposed modification of a natural gas flare. The applicant is proposing to increase the throughput of the flare by

17.1MMBtu/hr. The annual throughput will not change. The increase in throughput triggered a major modification and requires public notice.

II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. Emissions calculated using the District's "NG Flare External Combustion" spreadsheet 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:

Analysis Parameters Unit 218-2			
Source Type	Point	Location Type	Rural
Stack Height (m)	5.75	Closest Receptor (m)	304.8
Stack Diameter. (m)	0.84	Type of Receptor	Residential
Stack Exit Velocity (m/s)	3.25	Max Hours per Year	8760
Stack Exit Temp. (°K)	811	Fuel Type	NG
Throughput Increase (MMBtu/hr)	17.1		

For the AAQA, stack parameter were calculated utilizing District Approved: Flare Modeling Parameter Estimator. The AERMOD model was used, with the parameters 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.

Technical Services performed modeling for criteria pollutants CO, NOx, SOx and PM₁₀; as well as a RMR. The emission rates used for criteria pollutant modeling were 30.8 lb/hr CO, 5.67 lb/hr NOx, 0.23 lb/hr SOx, and 0.67 lb/hr PM₁₀.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Diesel ICE	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass	X	X	X	X
SO _x	Pass	Pass	X	Pass	X
PM ₁₀	X	X	X	Pass	X
PM _{2.5}	X	X	X	Pass	X

*Results were taken from the attached PSD spreadsheet.

¹The project was compared to the 1-hour NO₂ National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.

²The 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 risk is less than 1 and there is no chronic Hi or cancer risk associated with this project. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

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

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

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

IV. Attachments

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

APPENDIX D

Emission Profile

Permit #: S-1624-218-2	Last Updated
Facility: E&B NATURAL RESOURCES MGMT	01/15/2013 KLEVANND

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	8078.0	339.0	950.0	43956.0	7484.0
Daily Emis. Limit (lb/Day)	136.0	5.7	16.0	740.0	126.0
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:					

APPENDIX E

Historical Emissions

Historical fuel use

Total flare volume in 2012 was 79,912 mcf = 76,316 MMBtu

Historical emissions are based on a 2 year period. So $76,316 \text{ MMBtu} / 2 \text{ years} = 38,158 \text{ MMBtu/yr}$

Projected annual fuel use is 50% of permitted limit 118,800 MMBtu/yr per applicant. So Projected annual fuel use is 59,400 MMBtu/yr.

The federal increase in emissions is the projected actual emissions minus the historical actual emissions.

Federal Increase = $59,400 \text{ MMBtu/yr} - 38,158 \text{ MMBtu/yr}$
= 21,242 MMBtu/yr

APPENDIX F

Compliance Certification

E&B Natural Resources

RECEIVED

January 15, 2013

JAN 22 2013

SJVAPCD
Southern Region

Mr. Leonard Scandura
Manager of Permit Services
San Joaquin Valley Unified APCD
34946 Flyover Court
Bakersfield, CA 93308

DJK

**Subject: Compliance Certification (Project S-1123679) – Poso Creek Flare
Volume Increase**

Dear Mr. Scandura:

I hereby certify that all major Stationary Sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in California, which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable emission limitations and standards.

Alternative siting analysis is required for any project, which constitutes a New Major Source or a Federal Major Modification.

The current project occurs at existing facilities. The applicant proposes to increase the gas volume through an existing flare.

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



Signature

Air Compliance Coordinator

Title