



SEP 22 2017

Mr. John Ludwick
Aera Energy LLC
PO Box 11164
Bakersfield, CA 93389-1164

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1547
Project # 1171938**

Dear Mr. Ludwick:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The project authorizes a modification to a flare.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,



Arnaud Marjollet
Director of Permit Services

Enclosures

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

Syed 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

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Increase Annual Throughput to Flare

Facility Name: Aera Energy, LLC. Date: July 27, 2017
Mailing Address: PO Box 11164 Engineer: Richard Edgehill
Bakersfield, CA 93389-1164 Lead Engineer: Steve Leonard
Contact Person: John Ludwick
Telephone: (661) 665-4472
Email: jjludwick@aeraenergy.com
Application #(s): S-1547-414-16
Project #: S-1171938
Deemed Complete: May 30, 2017

I. Proposal

Aera Energy, LLC has requested an Authority to Construct permit to modify an existing flare permit (S-1547-414) by increasing its annual flared gas limit from 12.6 MMscf/yr to 22 MMscf/yr.

The project project results in an increase in annual combustion emissions and is a Federal Major Modification requiring BACT, offsets, and public notice.

Aera facility S-1547 operates under a Title V Permit. This modification can be classified as a Title V Significant Modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Aera must apply to administratively amend their Title V permit.

Current PTO (draft Title V PTO S-1547-~~414~~-15 is included in **Attachment I**.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (2/18/16)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (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

Flare S-1547-414 is located at the A/F DEHY, within Section 26, Township 29S, Range 22E in Aera's Heavy Oil Western stationary source in Aera's Heavy Oil Western stationary source. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The flare is part of the Anderson-Fitzgerald TEOR and tank vapor control systems. The flare has been designated for standby service and is used to incinerate collected vapor when the steam generators approved for that purpose are unable to do so. The flare has fuel use limits of 1.2 MM scf/day and 12.6 MMscf/yr, indicative of its standby status.

Aera plans to increase the annual flared gas limit to 22 MMscf/yr. Applicant has stated that the flare does not operate continuously. The flare operates intermittently and flows to the flare are not constant. It is used only when the S-1547-704 CVR compressors are down or cannot process all of the gas from the TEOR systems (applicant emails dated 5-25-17 and 7-3-17). The ATC requires that the flare not operate more than 15 consecutive days during such periods.

V. Equipment Listing

Pre-Project Equipment Description:

S-1547-414-14: 49 MMBTU/HR KALDAIR MODEL P-20-E PIPE STANDBY FLARE, WITH UP TO TWO SULFATREAT VESSELS (A/F DEHY)

Proposed Modification:

S-1547-414-16: MODIFICATION OF 49 MMBTU/HR KALDAIR MODEL P-20-E PIPE STANDBY FLARE, WITH UP TO TWO SULFATREAT VESSELS (A/F DEHY): INCREASE ANNUAL FLARED GAS LIMIT TO 22 MMSCF/YR

Post Project Equipment Description:

S-1547-414-16: 49 MMBTU/HR KALDAIR MODEL P-20-E PIPE STANDBY FLARE, WITH UP TO TWO SULFATREAT VESSELS (A/F DEHY)

VI. Emission Control Technology Evaluation

Emissions from flares include oxides of nitrogen (NOx), carbon monoxide (CO), oxides of sulfur (SOx), volatile organic compounds (VOCs), and particulate emissions less than 10 micron (PM10). Smoking may result from incomplete combustion due to the quantity and

distribution of combustion air. An external momentum force, such as steam injection or air provides efficient air/waste gas mixing and turbulence which promotes smokeless combustion. No change in control technology is proposed.

VII. General Calculations

A. Assumptions

- Flare shall not combust gas in excess of 1.2 MMscf/day and 12.6 MMscf/year (Pre-project)
- Flare shall not combust gas in excess of 1.2 MMscf/day and 22 MMscf/year (Post-project)
- Btu value for gas = 507.4 Btu/scf (project 1163550)
- Maximum H₂S emissions rate 961 ppm (current PTO limit)

B. Emission Factors

Per District FYI 83 (Flare Emission Factors), the following emission factors shall be used for the flare:

Flare Emission Factors		
	lb/MMBtu	Source
NO _x	0.068	FYI 83 (AP 42 Sec 13.5)
SO _x	0.3194*	961 ppmv H ₂ S Permitted Limit
PM ₁₀	0.008	FYI 83 (AP 42 Sec 13.5)
CO	0.37	FYI 83 (AP 42 Sec 13.5)
VOC	0.063	FYI 83(AP 42 Sec 13.5)

$$* [961 \text{ lbmols H}_2\text{S/E} + 06 \text{ lbmol-gas}] \times [\text{lbmol SO}_x/\text{lbmol H}_2\text{S}] \times [64 \text{ lb SO}_x/\text{lbmol SO}_x] \times [\text{lb-mol-gas}/379.5 \text{ ft}^3\text{-gas}] \times [\text{ft}^3\text{-gas}/0.0005074 \text{ MMBtu}]$$

$$= 0.3194 \text{ lb SO}_x/\text{MMBtu}$$

Note that the current permit also includes the quarterly emissions limits deleted by project 1163550 (base document ATC S-1547-13). ATC S-1547-13 also corrected the flare emissions factors to reflect the FYI 83 emissions factors. The project 1163550 changes to the permit are indicated below:

Current draft PTO S-1547-414-15

9. Volume of gas combusted in flare shall not exceed 1.2 MMscf/day and ~~3.15 MMscf/calendar quarter.~~ [District Rule 2201] Y

10. Emissions from flare shall not exceed any of the following: ~~PM10: 2.5 lb/MMscf, SO_x: 240.65 lb/MMscf (as SO₂), NO_x: 140 lb/MMscf (as NO₂), VOC: 2.8 lb/MMscf, CO: 35 lb/MMscf.~~ [District Rule 2201] Y

Revised Emissions Factors (based on FYI-83)

NO_x: 0.068 lb/MMBtu x 507.4 MMBtu/MMscf = 34.5 lb/MMscf
 SO_x: 0.3194 lb/MMBtu x 507.4 MMBtu/MMscf = 162.06 lb/MMscf
 PM₁₀: 0.008 lb/MMBtu x 507.4 MMBtu/MMscf = 4.06 lb/MMscf
 CO: 0.37 lb/MMBtu x 507.4 MMBtu/MMscf = 187.74 lb/MMscf
 VOC: 0.063 lb/MMBtu x 507.4 MMBtu/MMscf = 31.97 lb/MMscf

Revised DEL Condition

10. Emissions from flare shall not exceed any of the following: PM₁₀: 4.06 lb/MMscf, SO_x: 162.06 lb/MMscf (as SO₂), NO_x: 34.5 lb/MMscf (as NO₂), VOC: 31.97 lb/MMscf, CO: 187.74 lb/MMscf. [District Rule 2201] Y

C. Calculations

1. Pre-Project Potential to Emit (PE1)

NO_x: 0.068 lb/MMBtu x 1.2 MMscf/day x 507.4 MMBtu/MMscf = 41.4 lb/day
 SO_x: 0.3194 lb/MMBtu x 1.2 MMscf/day x 507.4 MMBtu/MMscf = 194.4 lb/day
 PM₁₀: 0.008 lb/MMBtu x 1.2 MMscf/day x 507.4 MMBtu/MMscf = 4.9 lb/day
 CO: 0.370 lb/MMBtu x 1.2 MMscf/day x 507.4 MMBtu/MMscf = 225.3 lb/day
 VOC: 0.063 lb/MMBtu x 1.2 MMscf/day x 507.4 MMBtu/MMscf = 38.4 lb/day

NO_x: 0.068 lb/MMBtu x 12.6 MMscf/yr x 507.4 MMBtu/MMscf = 435 lb/yr
 SO_x: 0.3194 lb/MMBtu x 12.6 MMscf/yr x 507.4 MMBtu/MMscf = 2042 lb/yr
 PM₁₀: 0.008 lb/MMBtu x 12.6 MMscf/yr x 507.4 MMBtu/MMscf = 51 lb/yr
 CO: 0.370 lb/MMBtu x 12.6 MMscf/yr x 507.4 MMBtu/MMscf = 2385 lb/yr
 VOC: 0.063 lb/MMBtu x 12.6 MMscf/yr x 507.4 MMBtu/MMscf = 403 lb/yr

PE1		
Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	41.4	435
SO _x	194.4	2042
PM ₁₀	4.9	51
CO	225.3	2385
VOC	38.4	403

2. Post-Project Potential to Emit (PE2)

NO_x: 0.068 lb/MMBtu x 1.2 MMscf/day x 507.4 MMBtu/MMscf = 41.4 lb/day
 SO_x: 0.3197 lb/MMBtu x 1.2 MMscf/day x 507.4 MMBtu/MMscf = 194.7 lb/day
 PM₁₀: 0.008 lb/MMBtu x 1.2 MMscf/day x 507.4 MMBtu/MMscf = 4.9 lb/day

CO: 0.370 lb/MMBtu x 1.2 MMscf/day x 507.4 MMBtu/MMscf = 225.3 lb/day
VOC: 0.063 lb/MMBtu x 1.2 MMscf/day x 507.4 MMBtu/MMscf = 38.4 lb/day

NOx: 0.068 lb/MMBtu x 22 MMscf/yr x 507.4 MMBtu/MMscf = 759 lb/yr
SOx: 0.3197 lb/MMBtu x 22 MMscf/yr x 507.4 MMBtu/MMscf = 3,569 lb/yr
PM10: 0.008 lb/MMBtu x 22 MMscf/yr x 507.4 MMBtu/MMscf = 89 lb/yr
CO: 0.370 lb/MMBtu x 22 MMscf/yr x 507.4 MMBtu/MMscf = 4,130 lb/yr
VOC: 0.063 lb/MMBtu x 22 MMscf/yr x 507.4 MMBtu/MMscf = 703 lb/yr

Post-Project Potential to Emit (PE2)		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	41.4	759
SO _x	194.7	3,569
PM ₁₀	4.9	89
CO	225.3	4,130
VOC	38.4	703

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

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

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

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

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

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

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

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. 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

Rule 2201 Major Source Determination (lb/year)						
	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO	VOC
SSPE1	2,439,273	2,638,685	1,768,003	1,768,003	4,951,217	3,769,230
PE2	759	3,569	89	89	4,130	703
PE1	-435	-2,042	-51	-51	-2385	-403
SSPE2	2,439,597	2,640,212	1,768,041	1,768,041	4,952,962	3,769,530
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	Yes	Yes	Yes	Yes	Yes	Yes

Note: PM_{2.5} assumed to be equal to PM₁₀
Project 1170828 (most recent project in PAS in public notice)

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)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀
Estimated Facility PE before Project Increase	1220					
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	Y					

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

6. Baseline Emissions (BE)

a. Annual 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.

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.23

The flare operates smokelessly limited to visible emissions less than 5% opacity except for a period or periods aggregating three minutes or less in any one hour which is equivalent to Air Assist or steam assist when steam unavailable the current BACT requirement.

Therefore, the flare is a Clean Emissions Unit and BE is equal to the pre-project Potential to Emit (PE1).

7. SB 288 Major Modification

Since this facility is a major source for NO_x and VOCs, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	759	50,000	No
SO _x	3,569	80,000	No
PM ₁₀	89	30,000	No
VOC	703	50,000	No

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.

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

$$\text{Emission Increase (EI)} = \text{PAE} - \text{BAE} - \text{UBC}$$

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions
UBC = Unused baseline capacity

UBC: Portion of PAE that the emission units could have accommodated during the baseline period.

The applicant has provided the required historical operation data. The average flare volume during 2015 and 2016 is 5,610 Mscf/yr (5.61 MMscf/yr). Sufficient information to calculate PAE was not available. Therefore, the District elected to use PE2 as allowed by 40 CFR 51.165 (a)(1) (xxviii)(B)(4). Note that, UBC is not considered when PE2 is used to calculate post-project emissions. Additionally, as this project is to increase annual utilization, it will result in a Federal Major Modification regardless of the applicability calculations.

	BAE	PE2	EI
NOx	0.068 lb/MMBtu x 507.4 MMBtu/MMscf x 5.610 MMscf/yr = 194 lb/yr	759	565
SOx	0.3197 lb/MMBtu x 507.4 MMBtu/MMscf x 5.610 MMscf/yr = 910 lb/yr	3,569	2,659
PM10	0.008 lb/MMBtu x 507.4 MMBtu/MMscf x 5.610 MMscf/yr = 23 lb/yr	89	66
VOC	0.063 lb/MMBtu x 507.4 MMBtu/MMscf x 5.610 MMscf/yr = 179 lb/yr	703	524

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO _x	565	0	Yes
VOC	524	0	Yes
PM ₁₀	66	30,000	No
SO _x	2,659	80,000	No

This project constitutes a Federal Major Modification for NO_x and VOC and no further analysis is required.

Federal Offset Quantities:

The Federal offset quantity is calculated only for the pollutants for which the project is a Federal Major Modification. The Federal offset quantity is the sum of the annual emission changes for all new and modified emission units in a project calculated as the potential to emit after the modification (PE2) minus the actual emissions (AE) during the baseline period for each emission unit times the applicable federal offset ratio. There are no special calculations performed for units covered by an SLC.

Only pollutants for which the project is a Federal Major Modification have Federal offset quantities. The calculated Federal offset quantity, listed in the table below, is entered into the Major Modification tracking spreadsheet under the heading "Federal Offset Quantity"

Actual Emissions

NO_x: $0.068 \text{ lb/MMBtu} \times 507.4 \text{ MMBtu/MMscf} \times 5.610 \text{ MMscf/yr} = 194 \text{ lb/yr}$

VOCs: $0.063 \text{ lb/MMBtu} \times 507.4 \text{ MMBtu/MMscf} \times 5.610 \text{ MMscf/yr} = 179 \text{ lb/yr}$

NO_x		Federal Offset Ratio	1.5
Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
S-1547-414	194	759	565
Net Emission Change (lb/year):			565
Federal Offset Quantity: (NEC * 1.5)			848

VOC

Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
S-1547-414	179	703	524
Net Emission Change (lb/year):			524
Federal Offset Quantity: (NEC * 1.5)			786

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

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- Hydrogen sulfide (H₂S)
- Total reduced sulfur (including H₂S)
- Reduced sulfur compounds

I. Project Location Relative to Class 1 Area

As demonstrated in the “PSD Major Source Determination” Section above, the facility was determined to be a existing PSD Major Source. Because the project is not located within 10 km (6.2 miles) 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. Project Emission Increase – Significance Determination

a. Evaluation of Calculated Post-project Potential to Emit for New or Modified Emissions Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the post-project potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if the total potentials to emit from all new and modified units are below the applicable thresholds, no further PSD analysis is needed.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)					
	NO₂	SO₂	CO	PM	PM₁₀
Total PE from New and Modified Units	0.4	1.8	2.1	0.04	0.04
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	N	N	N	N	N

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

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated to establish emissions that are used to complete the District's PAS emissions profile screen. The QNEC shall be calculated as follows:

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
 PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
 PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly PE1 are shown below.

	PE2 (lb/yr)	PE1 (lb/yr)	QNEC (lb/qtr)
NOx	759	435	81
SOx	3,569	2,042	381.75
PM10	89	51	9.5
CO	4,130	2,385	436.25
VOC	703	403	75

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless exempted pursuant to Section 4.2, BACT shall be required for the following actions*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB288 Major Modification or a Federal Major Modification, as defined by the rule.

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

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

As discussed in Section I above, there are no new emissions units associated with this project; therefore BACT for new units with PE > 2 lb/day purposes is not triggered.

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

$$\text{AIPE} = \text{PE2} - \text{HAPE}$$

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)

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

HAPE = Historically Adjusted Potential to Emit, (lb/day)

$$\text{HAPE} = \text{PE1} \times (\text{EF2}/\text{EF1})$$

Where,

PE1 = The emissions unit's Potential to Emit prior to modification or relocation, (lb/day)

EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1

EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

$$\text{AIPE} = \text{PE2} - (\text{PE1} * (\text{EF2} / \text{EF1}))$$

District Policy APR 1350-0 BACT Applicability for Increase in Annual Utilization states that "Modifications to existing emission units that result in permitted utilization such that the AIPE increases more than 2.0 lb in any one day, including, but not limited to, increasing daily permitted utilization, increasing the number of days or hours of annual operation, increasing annual throughput limitations, and increasing annual fuel use limitation, are required to satisfy the BACT requirements of Rule 2201 section 4.1.2."

BACT is triggered for NO_x, SO_x, CO, and VOCs since emissions are > 2 lb/day (>2 lb/yr increase could be >2 lb/day increase on any given day). BACT is not triggered for PM₁₀ as New and Modified Source Review (NSR) rule requirements are not triggered. The average annual emissions increase for PM₁₀ is (89 lb/yr – 51 lb/yr)/365 < 0.5 lb/day).

d. SB 288/Federal Major Modification

As discussed in Section VII.C.7 and VIII.C.8 above, this project constitutes a Federal Major Modification for NO_x and VOC emissions; therefore, BACT is triggered for NO_x and VOCs for all emissions units in the project for which there is an emission increase.

2. BACT Guideline

All District BACT guidelines for flares have been rescinded. Therefore, a project specific BACT analysis is necessary for this project.

3. Top-Down BACT Analysis

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

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

NO_x, CO, VOC: The flare operates smokelessly limited to visible emissions less than 5% opacity except for a period or periods aggregating three minutes or less in any one hour. Flare shall not be operated with continuous and constant flow exceeding 15 consecutive days.

SOx: Natural gas pilot fuel (Condition #2 current PTO)

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The following table compares the post-project facility-wide annual emissions in order to determine if offsets will be required for this project.

Offset Determination (lb/year)					
	NO_x	SO_x	PM₁₀	CO	VOC
Post Project SSPE (SSPE2)	>20,000	>54,750	>29,200	>200,000	>20,000
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets calculations required?	Yes	Yes	Yes	Yes	Yes

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for NO_x only. Therefore, offset calculations will be required for this project.

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

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

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

The facility is proposing to install increase the annual flare gas limit of a flare; therefore BE = 0. 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) x DOR

The project is a Federal Major Modification and therefore the correct offset ratio (DOR) for NO_x and VOCs is 1.5:1.

NO_x

Assuming an offset ratio of 1.5:1, the amount of NO_x ERCs that need to be withdrawn is:

Offsets Required (lb/year) = ([759 – 435] + 0) x 1.5
 = 324 x 1.5
 = 486 lb NO_x/year

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

Quarterly offsets required (lb/qtr) = (486 lb NO_x/year) ÷ (4 quarters/year)
 = 121.5 lb/qtr

As shown in the calculation above, the quarterly amount of offsets required for this project, when evenly distributed to each quarter, results in fractional pounds of offsets being required each quarter. Since offsets are required to be withdrawn as whole pounds, the quarterly amounts of offsets need to be adjusted to ensure the quarterly values sum to the total annual amount of offsets required.

To adjust the quarterly amount of offsets required, the fractional amount of offsets required in each quarter will be summed and redistributed to each quarter based on the number of days in each quarter. The redistribution is based on the Quarter 1 having the fewest days and the Quarters 3 and 4 having the most days. The redistribution method is summarized in the following table:

Redistribution of Required Quarterly Offsets (where X is the annual amount of offsets, and X ÷ 4 = Y.z)				
Value of z	Quarter 1	Quarter 2	Quarter 3	Quarter 4
.0	Y	Y	Y	Y
.25	Y	Y	Y	Y+1
.5	Y	Y	Y+1	Y+1
.75	Y	Y+1	Y+1	Y+1

Therefore the appropriate quarterly emissions to be offset are as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
121	121	122	122	486

The applicant has stated that the facility plans to use ERC certificate S-4284-2 to offset the increases in NO_x emissions associated with this project. The above certificate has available quarterly NO_x credits as follows:


	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #S-4284-2	735	735	734	735

As seen above, the facility has sufficient credits to fully offset the quarterly NO_x emissions increases associated with this project.

SO_x

The offset ratio is 1.5:1 as the site of reduction is > 15 miles from S-1547, the amount of SO_x ERCs that need to be withdrawn is:

ERC S-2008-5

Reduction Info.	 Comments
Original Site of Reduction	
Facility:	S 1511 MOBIL EXPLOR & PROD US INC
Address:	HEAVY OIL WESTERN SOURCE
City:	
	St: Zip:
Section: NE02 Township: 29S Range: 21E	

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([3,569 - 2,042] + 0) \times 1.5 \\ &= 1,527 \times 1.5 \\ &= 2,291 \text{ lb SO}_x\text{/year} \end{aligned}$$

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

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (2,291 \text{ lb SO}_x\text{/year}) \div (4 \text{ quarters/year}) \\ &= 572.75 \text{ lb/qtr} \end{aligned}$$

Therefore the appropriate quarterly emissions to be offset are as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
572	573	573	573	2,291

The applicant has stated that the facility plans to use ERC certificate S-2008-5 to offset the increases in SO_x emissions associated with this project. The above certificate has available quarterly SO_x credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #S-2008-5	85,594	40,615	57,148	91,993

As seen above, the facility has sufficient credits to fully offset the quarterly SO_x emissions increases associated with this project.

CO:

PE2 = 2,365 lb/yr

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

VOC

Assuming an offset ratio of 1.5:1, the amount of VOC ERCs that need to be withdrawn is:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([703 - 403] + 0) \times 1.5 \\ &= 300 \times 1.5 \\ &= 450 \text{ lb VOC/year} \end{aligned}$$

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

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (450 \text{ lb VOC/year}) \div (4 \text{ quarters/year}) \\ &= 112.5 \text{ lb/qtr} \end{aligned}$$

Therefore the appropriate quarterly emissions to be offset are as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
112	112	113	113	450

The applicant has stated that the facility plans to use ERC certificate S-4444-1 to offset the increases in VOC emissions associated with this project. The above certificate has available quarterly VOC credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #S-4444-1	118,983	120,436	121,890	121,890

As seen above, the facility has sufficient credits to fully offset the quarterly VOC emissions increases associated with this project.

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender NO_x emission reduction credits for the following quantity of emissions: 1st quarter - 121 lb, 2nd quarter – 121 lb, 3rd quarter - 122 lb, and fourth quarter - 122 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- ERC Certificate Number S-4284-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender SO_x emission reduction credits for the following quantity of emissions: 1st quarter - 572 lb, 2nd quarter - 573 lb, 3rd quarter - 573 lb, and fourth quarter - 573 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- ERC Certificate Number S-2008-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 112 lb, 2nd quarter - 112 lb, 3rd quarter - 113 lb, and fourth quarter - 113 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- ERC Certificate Number S-4444-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

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

b. PE > 100 lb/day

Applications which include a new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units with a Potential to Emit greater than 100 pounds during any one day; therefore public noticing is not required for this project for Potential to Emit Purposes.

c. Offset Threshold

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

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	>20,000	>20,000	20,000 lb/year	No
SO _x	>54,750	>54,750	54,750 lb/year	No
PM ₁₀	>29,200	>29,200	29,200 lb/year	No
CO	>200,000	>200,000	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 Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any

affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. $SSIPE = SSPE2 - SSPE1$. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The project IPE is compared to the project IPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	Project PE2 (lb/year)	Project PE1 (lb/year)	Project IPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	759	435	324	20,000 lb/year	No
SO _x	3,569	2,043	1,526	20,000 lb/year	No
PM ₁₀	89	51	38	20,000 lb/year	No
CO	4,130	2,365	1,765	20,000 lb/year	No
VOC	703	403	300	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 not result in emissions, for any pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

D. Daily Emission Limits (DELs)

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

For this flare, the DELs are stated in the form of emission factors, the maximum heat input capacity (in MMBtu/hr), daily flare combustion limit, and the maximum operational time of 24 hours per day.

Proposed Rule 2201 (DEL) Conditions:

- *Volume of gas combusted in flare shall not exceed 1.2 MMscf/day nor 22 MMscf/yr. [District NSR Rule] Y*
- *Sulfur compound concentration (as H₂S) of gas flared shall not exceed 961 ppmv. [District NSR Rule] Y*

- *Emissions shall not exceed PM10: 2.5 lb/MMscf, SOx: 240.65 lb/MMscf (as SO2), NOx: 140 lb/MMscf (as NO2), VOC: 2.8 lb/MMscf, CO: 35 lb/MMscf. [District NSR Rule] Y*

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 will appear on the permit to operate:

Permittee shall keep accurate records of dates and volumes of gas flared. Such records shall be retained for a period of at least five years and be made readily available for District inspection upon request.

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 **Attachment V** of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_x, CO, and SO_x. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_x, CO, or SO_x.

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM₁₀ and PM_{2.5}.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Federal Major 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 Federal Major Modification, therefore this requirement is applicable. Aera Energy's Compliance Certification is included in **Attachment VI**.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to modify an existing flare.

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

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII.C.9 above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

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

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

Rule 4101 Visible Emissions

Per Section 5.0, no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). The flare's visible emissions are limited to less than Ringelmann ¼ or equivalent to 5% opacity. Provided the flaring system is operating correctly, compliance with this rule is expected.

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

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

The cancer risk for this project is shown below:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
S-1547-414-16	0.006 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.

Rule 4311 Flares

Rule 4311 limits the emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx), and sulfur from the operation of flares.

The flare is currently in compliance with this rule and this project is not expected to affect compliance status; therefore, compliance with District Rule 4801 requirements is expected.

Rule 4801 Sulfur Compounds

This rule contains a limit on sulfur compounds. The limit at the point of discharge is 0.2 percent by volume, 2000 ppmv, calculated as sulfur dioxide (SO₂), on a dry basis averaged over 15 consecutive minutes.

The flare is currently in compliance with this rule and this project is not expected to affect their SOx emissions; therefore, compliance with District Rule 4801 requirements 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

District is a Responsible Agency

Oil and gas operations in Kern County must comply with the *Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting*. In 2015, Kern County revised the Kern County Zoning Ordinance Focused on Oil and Gas Activities (Kern Oil and Gas Zoning Ordinance) in regards to future oil and gas exploration, and drilling and production of hydrocarbon resource projects occurring within Kern County.

Kern County served as lead agency for the revision to their ordinance under the California Environmental Quality Act (CEQA), and prepared an Environmental Impact Report (EIR) that was certified on November 9, 2015. The EIR evaluated and disclosed to the public the environmental impacts associated with the growth of oil and gas exploration in Kern County, and determined that such growth will result in significant GHG impacts in the San Joaquin Valley. As such, the EIR included mitigation measures for GHG.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). As a Responsible Agency, the District is limited to mitigating or avoiding impacts for which it has statutory authority. The District does not have statutory authority for regulating GHGs. The District has determined that the applicant is responsible for implementing GHG mitigation measures imposed in the EIR by the Kern County for the Kern County Zoning Ordinance.

District CEQA Findings

The proposed project is located in Kern County and is thus subject to the *Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting*. The *Kern County Zoning Ordinance* was developed by the Kern County Planning Agency as a comprehensive set of goals, objectives, policies, and standards to guide development, expansion, and operation of oil and gas exploration within Kern County.

In 2015, Kern County revised their *Kern County Zoning Ordinance* in regards to exploration, drilling and production of hydrocarbon resources projects. Kern County served as lead agency for the revision to their ordinance under the California Environmental Quality Act (CEQA), and prepared an Environmental Impact Report (EIR) that was certified on November 9, 2015. The revised Kern County Zoning Ordinance establishes a written process (Conformity Review permit process or Minor Activity permit) by which oil and gas exploration projects involving site-specific operations can be evaluated to determine whether the environmental effects of the operation were covered in the *Kern County Zoning Ordinance* EIR.

For stationary source emissions that are below the offset threshold, i.e. not required to surrender ERCs, and for non-stationary source emissions, Kern County entered into an Oil and Gas Emission Reduction Agreement (Oil and Gas ERA) with the District pursuant to the EIR. Per the Oil and Gas ERA, the applicant shall fully mitigate project emissions that are not required to be offset by District permit rules and regulations. Such mitigation can be achieved through any of the three options: (1) the applicants pay an air quality mitigation fee with each Oil and Gas Conformity Review permit issued by the Kern County, (2) the applicants may develop and propose to implement their own emission reduction projects instead of paying all or part of the mitigation fee, or (3) the applicants will be allowed to enter into an agreement directly with the District (if approved by Kern County) to develop an alternative fee schedule.

Kern County, as the lead agency, is the agency that will enforce the mitigation measures identified in the EIR, including the mitigation requirements of the Oil and Gas ERA. As a responsible agency the District complies with CEQA by considering the EIR prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project involved (CCR §15096). The District has reviewed the EIR prepared by Kern County, the Lead Agency for the project, and finds it to be adequate. To reduce project related impacts on air quality, the District evaluates emission controls for the project such as Best Available Control Technology (BACT) under District Rule 2201 (New and Modified Stationary Source Review). In addition, the District is requiring the applicant to surrender emission reduction credits (ERC) for stationary source emissions above the offset threshold.

Thus, the District concludes that through a combination of project design elements, permit conditions, and the Oil and Gas ERA, the project will be fully mitigated to result in no net increase in emissions. Pursuant to CCR §15096, prior to project approval and issuance of ATCs the District prepared findings.

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project’s potential for litigation risk, which in turn may be based on a project’s potential to generate public concern, its potential for significant impacts, and the project proponent’s ability to pay for the costs of litigation without a letter of credit, among other factors.

The revision to the *Kern County Zoning Ordinance* went through an extensive public process that included a Notice of Preparation, a preparation of an EIR, scoping meetings, and public hearings. The process led to the certification of the final EIR and approval of the revised *Kern County Zoning Ordinance* in November 2015 by the Kern County Board of Supervisors. As mentioned above, the proposed project will be fully mitigated and will result in no net increase in emissions. In addition, the proposed project is not located at a facility of concern; therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct S-1547-414-16 subject to the permit conditions on the attached draft Authority to Construct in **Attachment VII**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1547-414-16	3020-02-H	49 MMBtu/hr	\$ 1030.00

Attachments

- I: ATC S-1547-414-13 and Current PTO
- II: HAE Calculations
- III: Emissions Profiles
- IV: BACT Analysis
- V: AAQA/HRA
- VI: Compliance Certification Documents
- VII: Draft ATC

ATTACHMENT I
ATC S-1547-414-13 and Current PTO

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-414-14

EXPIRATION DATE: 05/31/2016

SECTION: SW26 **TOWNSHIP:** 29S **RANGE:** 22E

EQUIPMENT DESCRIPTION:

49 MMBTU/HR KALDAIR MODEL P-20-E PIPE STANDBY FLARE, WITH UP TO TWO SULFATREAT VESSELS (A/F DEHY)

PERMIT UNIT REQUIREMENTS

1. Visible emissions from flare shall be less than 5% opacity, except for a period or periods aggregating three minutes or less in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Only natural gas shall be used as pilot fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Flare shall be equipped with an operational gas volume flow meter. [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit
4. Flare shall be equipped with a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device capable of continuously detecting at least one pilot flame or the flare flame is present. The flame detection device shall be kept operational at all times except during flare maintenance when the flare is isolated from gas flow. During essential planned power outages when the flare is operating, the pilot monitor is allowed to be non-functional if the flare flame is clearly visible to onsite operators. Effective on and after July 1, 2012, all pilot monitor downtime shall be reported annually pursuant to Rule 4311, section 6.2.3.6. [District Rule 4311] Federally Enforceable Through Title V Permit
5. A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311] Federally Enforceable Through Title V Permit
6. Flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311] Federally Enforceable Through Title V Permit
7. If the flare uses a flow-sensing automatic ignition system and does not use a continuous flame pilot, the flare shall use purge gas for purging. [District Rule 4311] Federally Enforceable Through Title V Permit
8. 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
9. Volume of gas combusted in flare shall not exceed 1.2 MMscf/day and 12.6 MMscf/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Emissions from flare shall not exceed any of the following: PM10: 4.06 lb/MMscf, SOx: 162.06 lb/MMscf (as SO₂), NOx: 34.5 lb/MMscf (as NO₂), VOC: 31.97 lb/MMscf, CO: 187.74 lb/MMscf. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Sulfur compound concentration (as H₂S) of gas flared shall not exceed 961 ppmv. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Efficiency of sulfur removal unit shall be maintained at not less than 95% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

13. Permittee shall demonstrate compliance with sulfur compound concentration limit and sulfur removal efficiency at least once every 12.6 MMscf of gas treated, by sample analysis of inlet and outlet gas streams of sulfur removal unit. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Permittee shall maintain a record of all sample analysis made of inlet and outlet gas streams, and upon request, shall make the most recent record available for District inspection. [District Rule 2201] Federally Enforceable Through Title V Permit
15. The VOC content of the gas handled by the SulfaTreat vessels shall not exceed 10% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Operator shall conduct quarterly gas sampling for gas handled by the SulfaTreat vessels and their associated components to qualify for exemption from fugitive component counts for components handling fluids with VOC content equal to or less than 10% by weight. Representative gas samples are acceptable to determine VOC content (i.e. the SulfaTreat units and flare do not need to be operated to obtain sample). Quarterly samplings shall be reduced to annual samplings if gas samples contain VOC content equal to or less than 10% by weight for eight (8) consecutive quarterly samplings [District Rule 2201] Federally Enforceable Through Title V Permit
17. VOC content of gas handled by the SulfaTreat vessels and their associated components shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Permittee shall maintain a record of the VOC content test results for the gas handled by the SulfaTreat vessels and their associated components for a period of five years and make such records available for inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Permittee shall keep accurate records of dates and volumes of gas flared. Such records shall be retained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit

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

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-414-13

ISSUANCE DATE: 11/15/2016

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SW26 TOWNSHIP: 29S RANGE: 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 49 MMBTU/HR KALDAIR MODEL P-20-E PIPE STANDBY FLARE, WITH UP TO TWO SULFATREAT VESSELS (A/F DEHY): REVISE FROM QUARTERLY TO ANNUAL FLARED GAS VOLUME LIMIT

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Visible emissions from flare shall be less than 5% opacity, except for a period or periods aggregating three minutes or less in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Only natural gas shall be used as pilot fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Flare shall be equipped with an operational gas volume flow meter. [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit
5. Flare shall be equipped with a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device capable of continuously detecting at least one pilot flame or the flare flame is present. The flame detection device shall be kept operational at all times except during flare maintenance when the flare is isolated from gas flow. During essential planned power outages when the flare is operating, the pilot monitor is allowed to be non-functional if the flare flame is clearly visible to onsite operators. Effective on and after July 1, 2012, all pilot monitor downtime shall be reported annually pursuant to Rule 4311, section 6.2.3.6. [District Rule 4311] Federally Enforceable Through Title V Permit
6. A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-1547-414-13 : May 30 2017 8:59AM -- EDGEHILR : Joint Inspection NOT Required

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

7. Flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311] Federally Enforceable Through Title V Permit
8. If the flare uses a flow-sensing automatic ignition system and does not use a continuous flame pilot, the flare shall use purge gas for purging. [District Rule 4311] Federally Enforceable Through Title V Permit
9. 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
10. Volume of gas combusted in flare shall not exceed 1.2 MMscf/day and 12.6 MMscf/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Emissions from flare shall not exceed any of the following: PM10: 4.06 lb/MMscf, SOx: 162.06 lb/MMscf (as SO₂), NOx: 34.5 lb/MMscf (as NO₂), VOC: 31.97 lb/MMscf, CO: 187.74 lb/MMscf. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Sulfur compound concentration (as H₂S) of gas flared shall not exceed 961 ppmv. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Efficiency of sulfur removal unit shall be maintained at not less than 95% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Permittee shall demonstrate compliance with sulfur compound concentration limit and sulfur removal efficiency at least once every 12.6 MMscf of gas treated, by sample analysis of inlet and outlet gas streams of sulfur removal unit. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Permittee shall maintain a record of all sample analysis made of inlet and outlet gas streams, and upon request, shall make the most recent record available for District inspection. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The VOC content of the gas handled by the SulfaTreat vessels shall not exceed 10% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Operator shall conduct quarterly gas sampling for gas handled by the SulfaTreat vessels and their associated components to qualify for exemption from fugitive component counts for components handling fluids with VOC content equal to or less than 10% by weight. Representative gas samples are acceptable to determine VOC content (i.e. the SulfaTreat units and flare do not need to be operated to obtain sample). Quarterly samplings shall be reduced to annual samplings if gas samples contain VOC content equal to or less than 10% by weight for eight (8) consecutive quarterly samplings [District Rule 2201] Federally Enforceable Through Title V Permit
18. VOC content of gas handled by the SulfaTreat vessels and their associated components shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Permittee shall maintain a record of the VOC content test results for the gas handled by the SulfaTreat vessels and their associated components for a period of five years and make such records available for inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Permittee shall keep accurate records of dates and volumes of gas flared. Such records shall be retained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit

ATTACHMENT II
HAE Calculations

S-1547-414 (Anderson/Fitzgerald Dehy)

Month	Flare volumes (Mcf)
January-2015	222.57
February-2015	167.00
March-2015	120.40
April-2015	187.05
May-2015	118.90
June-2015	149.21
July-2015	36.16
August-2015	53.11
September-2015	268.68
October-2015	1,086.53
November-2015	58.58
December-2015	343.98
January-2016	465.64
February-2016	230.62
March-2016	216.36
April-2016	132.24
May-2016	311.08
June-2016	748.24
July-2016	845.86
August-2016	632.32
September-2016	691.44
October-2016	1,094.76
November-2016	1,902.52
December-2016	1,137.62

Quarter	Flare volumes (Mcf)
1st qtr 2015	509.97
2nd qtr 2015	455.16
3rd qtr 2015	357.95
4th qtr 2015	1,489.09
1st qtr 2016	912.62
2nd qtr 2016	1,191.56
3rd qtr 2016	2,169.62
4th qtr 2016	4,134.90

Year	Flare volumes (Mcf)
2015	2,812.17
2016	8,408.70

ATTACHMENT III
Emissions Profiles

Permit #: S-1547-414-16	Last Updated
Facility: AERA ENERGY LLC	05/28/2017 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	759.0	3569.0	89.0	4130.0	703.0
Daily Emis. Limit (lb/Day)	41.4	194.7	4.9	225.3	38.4
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	81.0	381.0	9.0	436.0	75.0
Q2:	81.0	382.0	9.0	436.0	75.0
Q3:	81.0	382.0	10.0	436.0	75.0
Q4:	81.0	382.0	10.0	437.0	75.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio	1.5	1.5			1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	121.0	572.0			112.0
Q2:	121.0	573.0			112.0
Q3:	122.0	573.0			113.0
Q4:	122.0	573.0			113.0

ATTACHMENT IV BACT Analysis

All current BACT Guidelines for flares have been rescinded. Therefore, a project specific BACT analysis will be done for this project.

1. BACT Analyses for NO_x , CO, and VOCs:

a. Step 1 - Identify all control technologies

Low NO_x flare or vapor destruction device capable of combusting steady state flows of gas with NO_x emissions of 15-25 ppmv @ 3% O₂ and an acceptable VOC destruction efficiency (99%+).

Smokeless combustion with visible emissions less than 5% opacity, except for a period or periods aggregating three minutes or less in any one hour.

b. Step 2 - Eliminate technologically infeasible options

According to the District memorandum "Rule 4311 Flare Minimization and FMP Findings," which reviewed the operational characteristics of several flares in the SJVAPCD and technologies for NO_x reduction, low NO_x flares have been demonstrated in practice to be feasible if the flow rate to the flare is constant. Flare S-1547-414 combusts gas with a non-constant, erratic flow rate. Therefore, a low NO_x flare is not technologically feasible.

c. Step 3 - Rank remaining options by control effectiveness

Smokeless combustion with visible emissions less than 5% opacity, except for a period or periods aggregating three minutes or less in any one hour.

d. Step 4 - Cost effectiveness analysis

Because the applicant is proposing the one listed control technology listed Step 3 above, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

The flare operates smokelessly limited to visible emissions less than 5% opacity except for a period or periods aggregating three minutes or less in any one hour. 19. The ATC includes the following condition to ensure that it operates as proposed, i.e. non-steady flow conditions:

Flare shall not be operated continuously for more than 30 consecutive days. Flare is not continuous when flaring has ceased for three (3) or more consecutive hours. [District Rule 2201] Y

BACT is satisfied.

2. BACT Analyses for SOx:

a. Step 1 - Identify all control technologies

Pilot light fired solely on LPG or Natural Gas (Achieved-in-Practice)

b. Step 2 - Eliminate technologically infeasible options

There are no technologically feasible options.

c. Step 3 - Rank remaining options by control effectiveness

Pilot light fired solely on LPG or Natural Gas (Achieved-in-Practice)

d. Step 4 - Cost effectiveness analysis

Pilot light fired solely on LPG or Natural Gas is the only technology not. A cost effectiveness analysis is not required.

e. Step 5 - Select BACT

Pilot light fired solely on natural gas.

ATTACHMENT VI
AAQA/HRA

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Richard Edgehill – Permit Services
 From: Georgia Stewart – Technical Services
 Date: July 6, 2017
 Facility Name: Aera Energy LLC
 Location: SW Sec 26, T29S, R22E
 Application #(s): S-1547-414-16
 Project #: S-1171938

A. RMR SUMMARY

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Unit 414-16 FLARE	0.09	N/A	0.00	5.76E-09	No	Yes
Project Totals	0.09	N/A	0.00	5.76E-09		
Facility Totals	>1	0.3	0.14	1.24E-05		

Proposed Permit Requirements

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

Unit # 414-16

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

B. RMR REPORT

I. Project Description

Technical Services received a request on July 4, 2017, to perform an Ambient Air Quality Analysis and a Risk Management Review for a proposed modification to a petroleum and natural gas processing operation. The modification consisted of an increased annual flare volume from 12.6 MMscf/year to 22 MMscf/year.

II. Analysis

Toxic emissions for this proposed unit were calculated using 2001 Ventura County's Air Pollution Control District's emission factors for Natural Gas Fired external combustion and from a refinery gas composition analysis from the 2005 report FINAL REPORT Test of TDA's Direct Oxidation Process for Sulfur Recovery, and input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). The facility's prioritization score was greater than 1.0. Therefore, a refined health risk assessment was required. The AERMOD model was used, with the parameters outlined below and meteorological data for 2004-2008 from Missouri Triangle 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 SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) 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 414-16			
Source Type	Point	Location Type	Rural
Stack Height (m)	2.438	Closest Receptor (m)	380
Stack Diameter. (m)	0.127	Type of Receptor	Business
Stack Exit Velocity (m/s)	52.605	Max Hours per Year	8760
Stack Exit Temp. (°K)	868	Fuel Type	NG/WG
NG/WG Emission Rates (MMscf/hr)¹	0	NG/WG Emission Rates (MMscf/yr)	9.4

¹No Increase in hourly rate.

Technical Services performed modeling for criteria pollutants CO, NO_x, SO_x, and PM₁₀ with the emission rates below:

Unit #	NO _x (Lbs.)		SO _x (Lbs.)		CO (Lbs.)		PM ₁₀ (Lbs.)	
	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.
414-16	0.0	324	0.00	1,527	0.0	1,745	0.0	38

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

	Background Site	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Bakersfield-Muni (2016)	N/A ¹	X	N/A ¹	X	X
NO _x	Bakersfield-Muni (2016)	N/A ¹	X	X	X	Pass
SO _x	Fresno – Garland (2016)	N/A ¹	N/A ¹	X	N/A ¹	Pass
PM ₁₀	Bakersfield – CA Ave (2016)	X	X	X	N/A ¹	Pass ²
PM _{2.5}	Bakersfield – CA Ave (2016)	X	X	X	N/A ¹	Pass ³

*Results were taken from the attached PSD spreadsheet.

¹The project did not have an hourly increase in emissions, therefore, only the annual increase was modeled.

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

³The court has vacated EPA's PM_{2.5} SILs. Until such time as new SIL values are approved, the District will use the corresponding PM₁₀ SILs for both PM₁₀ and PM_{2.5} analyses.

III. Conclusion

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

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. Prioritization score w/ toxic emissions summary
- D. AAQA Summary
- E. Facility Summary

ATTACHMENT VII
Compliance Certification



San Joaquin Valley Unified Air Pollution Control District



TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE AMENDMENT
 MINOR PERMIT MODIFICATION

COMPANY NAME: Aera Energy LLC	FACILITY ID: S-1547
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: Aera Energy LLC	
3. Agent to the Owner: NA	

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

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true, accurate, and complete.
- For minor modifications, this application meets the criteria for use of minor permit modification procedures pursuant to District Rule 2520.

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

Signature of Responsible Official

5/15/17
 Date

Ivan Tomazin

 Name of Responsible Official (please print)

 Process Supervisor

 Title of Responsible Official (please print)

Title I Compliance Certification - SJVUAPCD

CERTIFICATION

Aera Energy LLC hereby certifies as follows:

1. Aera Energy LLC owns or operates certain major stationary sources in the State of California. Such sources are comprised of a large number of emission points. As used in this certification, the term "major stationary source" shall, with respect to Aera Energy LLC stationary sources in the SJVUAPCD, have the meaning ascribed thereto in SJVUAPCD Rule 2201.3.15, and shall, with respect to all of Aera Energy LLC's other stationary sources in the State of California, have the meaning ascribed thereto in section 302(J) of the Clean Air Act (42 U.S.C. Section 7602 (J)).

2. Subject to paragraphs 3 and 4 below, all major stationary sources owned or operated by Aera Energy LLC in the State of California are either in compliance, or on a schedule of compliance, with all applicable emission limitations and standards under the Clean Air Act and all of the State Implementation Plan approved by the Environmental Protection Agency.

3. This certification is made on information and belief and is based upon a review of Aera Energy LLC's major stationary sources in the State of California by those employees of Aera Energy LLC who have operational responsibility for compliance. In conducting such reviews, Aera Energy LLC and its employees have acted in good faith and have exercised reasonable best efforts to identify any exceedances of the emission limitations and standards referred to in paragraph 2 thereof.

4. This certification shall speak as of the time and date of its execution.

CERTIFICATION

By: 
Title: Vice President

Date: April 6, 2017

Time: 3:07 PM

ATTACHMENT VIII
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-414-16

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SW26 TOWNSHIP: 29S RANGE: 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 49 MMBTU/HR KALDAIR MODEL P-20-E PIPE STANDBY FLARE, WITH UP TO TWO SULFATREAT VESSELS (A/F DEHY); INCREASE ANNUAL FLARED GAS LIMIT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. ATC shall be implemented subsequent to or concurrently with ATC S-1547-414-13. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 121 lb, 2nd quarter - 121 lb, 3rd quarter - 122 lb, and fourth quarter - 122 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

Arnaud Marjolle, Director of Permit Services

S-1547-414-16 : Aug 24 2017 3:36PM - EDGEHLR : Joint Inspection NOT Required

5. ERC Certificate Number S-4284-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 572 lb, 2nd quarter - 573 lb, 3rd quarter - 573 lb, and fourth quarter - 573 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
7. ERC Certificate Number S-2008-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 112 lb, 2nd quarter - 112 lb, 3rd quarter - 113 lb, and fourth quarter - 113 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
9. ERC Certificate Number S-4444-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Visible emissions from flare shall be less than 5% opacity, except for a period or periods aggregating three minutes or less in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Only natural gas shall be used as pilot fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Flare shall be equipped with an operational gas volume flow meter. [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit
13. Flare shall be equipped with a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device capable of continuously detecting at least one pilot flame or the flare flame is present. The flame detection device shall be kept operational at all times except during flare maintenance when the flare is isolated from gas flow. During essential planned power outages when the flare is operating, the pilot monitor is allowed to be non-functional if the flare flame is clearly visible to onsite operators. Effective on and after July 1, 2012, all pilot monitor downtime shall be reported annually pursuant to Rule 4311, section 6.2.3.6. [District Rule 4311] Federally Enforceable Through Title V Permit
14. A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311] Federally Enforceable Through Title V Permit
15. Flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311] Federally Enforceable Through Title V Permit
16. If the flare uses a flow-sensing automatic ignition system and does not use a continuous flame pilot, the flare shall use purge gas for purging. [District Rule 4311] Federally Enforceable Through Title V Permit
17. 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
18. Flare shall operate only when S-1547-704 CVR compressors are not operating or are incapable of compressing all gas from TEOR systems. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Flare shall not be operated continuously for more than 30 consecutive days. Flare is not continuous when flaring has ceased for three (3) or more consecutive hours. [District Rule 2201] Federally Enforceable Through Title V Permit

DRAFT
CONDITIONS CONTINUE ON NEXT PAGE

20. Volume of gas combusted in flare shall not exceed 1.2 MMscf/day and 22 MMscf/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Emissions from flare shall not exceed any of the following: PM10: 4.06 lb/MMscf, SOx: 162.06 lb/MMscf (as SO₂), NOx: 34.5 lb/MMscf (as NO₂), VOC: 31.97 lb/MMscf, CO: 187.74 lb/MMscf. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Sulfur compound concentration (as H₂S) of gas flared shall not exceed 961 ppmv. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Efficiency of sulfur removal unit shall be maintained at not less than 95% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Permittee shall demonstrate compliance with sulfur compound concentration limit and sulfur removal efficiency at least once every 12.6 MMscf of gas treated, by sample analysis of inlet and outlet gas streams of sulfur removal unit. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Permittee shall maintain a record of all sample analysis made of inlet and outlet gas streams, and upon request, shall make the most recent record available for District inspection. [District Rule 2201] Federally Enforceable Through Title V Permit
26. The VOC content of the gas handled by the SulfaTreat vessels shall not exceed 10% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Operator shall conduct quarterly gas sampling for gas handled by the SulfaTreat vessels and their associated components to qualify for exemption from fugitive component counts for components handling fluids with VOC content equal to or less than 10% by weight. Representative gas samples are acceptable to determine VOC content (i.e. the SulfaTreat units and flare do not need to be operated to obtain sample). Quarterly samplings shall be reduced to annual samplings if gas samples contain VOC content equal to or less than 10% by weight for eight (8) consecutive quarterly samplings [District Rule 2201] Federally Enforceable Through Title V Permit
28. VOC content of gas handled by the SulfaTreat vessels and their associated components shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit
29. Permittee shall maintain a record of the VOC content test results for the gas handled by the SulfaTreat vessels and their associated components for a period of five years and make such records available for inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Permittee shall keep accurate records of dates and volumes of gas flared. Such records shall be retained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit

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