



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

SEP 24 2013



HEALTHY AIR LIVING™

Mr. John Haley
Aera Energy LLC
PO Box 11164
Bakersfield, CA 93389

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1548
Project # 1133533**

Dear Mr. Haley:

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 restatement of the VOC emissions limit from number of fugitive components to a Daily Emissions Limit (lb/day), addition of fugitive emissions component I & M conditions, and additional revisions and deletions of permit conditions.

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,

David Warner
Director of Permit Services

DW:RE/st

Enclosures

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

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

Newspaper notice for publication in Bakersfield Californian and for posting on valleyair.org

**NOTICE OF PRELIMINARY DECISION
FOR THE ISSUANCE OF AUTHORITY TO CONSTRUCT AND
THE PROPOSED SIGNIFICANT MODIFICATION OF FEDERALLY
MANDATED OPERATING PERMIT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed significant modification of Aera Energy LLC at NW Section 13, T28S, R20E within Aera Energy LLC's light oil production stationary source in the western Kern County fields, California. The project authorizes restatement of the VOC emissions limit from number of fugitive components to a Daily Emissions Limit (lb/day), addition of fugitive emissions component I & M conditions, and additional revisions and deletions of permit conditions.

The District's analysis of the legal and factual basis for this proposed action, project #1133533, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and at any District office. There are no emission increases associated with this proposed action. This will be the public's only opportunity to comment on the specific conditions of the modification. If requested, the District will hold a public hearing regarding issuance of this modification. For additional information, please contact the District at (661) 392-5500. Written comments on the proposed initial permit must be submitted by October 28, 2013 to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

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

Facility Name: Aera Energy LLC Date: September 17, 2013
Mailing Address: PO Box 11164 Engineer: Richard Edgehill
Bakersfield, CA 93389 Lead Engineer: Richard Karrs
Contact Person: John Haley
Telephone: (661) 665-7424 (661) 665-5279 (cell)
Fax: (661) 665-7437
E-Mail: jehaley@aeraenergy.com
Application #(s): S-1548-178-5
Project #: 1133533
Deemed Complete: September 5, 2012

I. Proposal

Aera Energy LLC (Aera) has requested an Authority to Construct (ATC) to revise the VOC permit limit for a Sulfa-Treat system S-1548-179. The existing permit conditions limiting component numbers will be replaced by a Daily Emissions Limit (DEL) which is calculated using higher component numbers than is listed on the current PTO. However, the project results in no increase in daily emissions.

The proposed changes are indicated below:

~~Fugitive emission components in gas service shall not exceed: 35 valves, 40 connectors, 130 flanges, and 15 open ended lines without prior District approval. [District NSR Rule] Y~~

~~Fugitive emission components in water/oil service shall not exceed: 40 valves, 20 connectors, 140 flanges, and 10 open ended lines without prior District approval. [District NSR Rule] Y~~

VOC emissions from fugitive emissions components associated with this equipment shall not exceed 0.5 lb/day. [District Rule 2201]

Permittee shall maintain accurate component counts according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Y

Please note that the component count conditions to be deleted from the permit are unnecessary (redundant) because records of daily fugitive emissions, calculated using component counts and fugitive emissions factors, are sufficient to verify compliance with the DEL (0.5 lb/day).

Aera also requested that conditions listed below be revised/deleted. These changes, followed by a justification for the change, are listed below (deleted text in strikeout and new words underlined).

3. ~~All vessel hatches and openings shall remain closed during operation of H₂S scrubber. [District NSR Rule, 4102] Y~~

Aera has stated that, because the H₂S scrubber is a pressure vessel, its design and operation require that it is closed. It does not have a hatch. Therefore this condition is not necessary.

5. ~~Influent and effluent gas streams of sulfa treat system shall be monitored at least monthly for H₂S content of effluent gas to determine when recharging is required. [District NSR Rule] Y~~

The permit does not require a maximum control efficiency and both inlet and outlet H₂S concentrations may be too low to accurately measure the decrease in H₂S affected by the vessel (Aera email 9-6-13). Further, combustion devices downstream of the sulfur scrubber have sulfur limits which reflect proper operation (with recharge when required) of the sulfur scrubber.

8. ~~Record of H₂S content of effluent gas shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Y~~

The permit does not require that the vessel be inspected.

The District has added the following I & M Program conditions which reflect leak-free operation which is the basis for the DEL:

All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rule 2201] Y

Any component found to be leaking on two consecutive annual inspections is in violation of the permit. [District Rule 2201] Y

Operator shall visually inspect vessel shell, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the vessel and within five feet of the vessel at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shell and roof of the vessel for structural integrity annually. [District Rule 2201] Y

Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2201] Y

Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after

minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 2201] Y

Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2201] Y

Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified above shall not constitute a violation. Leaking components discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified above shall constitute a violation of this rule. [District Rule 2201] Y

If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 2201] Y

The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201] Y

Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2201] Y

The project results in no change in emissions. BACT and offsets are not required. Public notice is required as the project is a Title V Significant Modification.

Disposition of Outstanding ATCs

There are no outstanding ATCs for S-1543-134. Current PTO S-1543-134-5 is included in **Attachment I**.

Aera received their Title V Permit on December 31, 2004. Kern received their Title V Permit on December 17, 2002. The project is a Federal Major Modification and therefore it is classified as a Title V Significant Modification pursuant to Rule 2520, Section 3.20, 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 Operating Permit to include the requirements of the ATC(s) issued with this project.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4101	Visible Emissions (02/17/2005)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4311	Flares (06/15/2006)
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 Sulfa-Treat unit is located within NW Section 13, Township 28S, Range 20E in Aera's light oil western stationary source. There is no school within 1,000 feet of the plant. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

Project S-1548, 1073098

The Sulfa-Treat fuel gas scrubbing system S-1548-178 consists of a contactor vessel, a separator/ knockout vessel and associated piping and components. The packing material in the contactor vessel consists of a dry-based scrubbing agent that absorbs sulfur in the produced gas upon contact. During recharging of the sulfur scrubber, the untreated produced gas (S content greater than 1.0 grains/100 dscf) is prohibited from being introduced into the fuel system. Produced gas will not be vented to the atmosphere during recharging, regardless of sulfur content.

If the sulfur content exceeds 1.0 grain/100 dscf (during media change out) permit S-1548-451 (Various unspecified location H₂S scavenging operation) is used to scrub the gas to < 1.0 grain/100 dscf, oil and gas production is shut in temporarily, such that the gas volumes handled at compressor station #26 do not exceed the capacity of the other compressor at the station (electric compressor) S-1548-426.

V. Equipment Listing

Pre-Project Equipment Description:

PTO S-1548-178-2: SULFATREAT FUEL GAS SCRUBBING SYSTEM WITH LIQUID
KNOCKOUT VESSEL AND CONTACTOR VESSEL

Proposed Modification:

PTO S-1548-178-4: MODIFICATION OF SULFATREAT FUEL GAS SCRUBBING SYSTEM
WITH LIQUID KNOCKOUT VESSEL AND CONTACTOR VESSEL:
REPLACE COMPONENT LIMITS WITH EMISSIONS LIMIT, INCREASE
COMPONENTS ASSIGNED TO EMISSIONS UNIT, ADD FUGITIVE
EMISSIONS COMPONENTS I & M PLAN, DELETE H₂S INLET
MONITORING AND EXTRANEIOUS CLOSED VESSEL REQUIREMENT

Post Project Equipment Description:

PTO S-1548-178-4: SULFATREAT FUEL GAS SCRUBBING SYSTEM WITH LIQUID
KNOCKOUT VESSEL AND CONTACTOR VESSEL

VI. Emission Control Technology Evaluation

Project S-1548, 1073098

Dry-based gas scrubbing systems, including systems incorporating the Sulfa-Treat brand scrubbing agent, are typically utilized to reduce the sulfur content of produced gas prior to being burned in combustion equipment to ensure compliance with existing sulfur limits. The sulfur in natural gas is removed by reaction with the solid bed material as the gas flows through the permeable solid bed of the sweetening/scrubbing agent. The resulting compound of reaction and sweetening/scrubbing agent matrix is disposed of at appropriate solid waste handling locations. Fresh sweetening/scrubbing material is periodically introduced into the contact vessel to ensure adequate sulfur removal.

VII. General Calculations

A. Assumptions

- Facility will operate 24 hours per day, 7 days per week, and 52 weeks per year.
- The fugitive emissions for all tanks are calculated using California Implementation Guidelines for Estimating Mass Emissions of fugitive Hydrocarbon Leaks at Petroleum Facilities, CAPCOA/CARB, February 1999 "revised screening" emissions factors.
- Only fugitive VOCs emitted from components in gas service and light crude oil service are calculated.
- The percentage of VOCs of the total hydrocarbons is 100%.

Pre- and post-project fugitive emissions component counts follow.

Pre-Project (Conditions #1 and #2 PTO S-1548-178-2):

Component	Gas	Light Crude Oil
Valves	35	40
Pump Seals	0	0
Other	0	0
Threaded Connections	40	20
Flanges	130	140
Open-ended Lines	15	10

Post-Project

Component	Gas	Light Crude Oil
Valves	69	24
Pump Seals	0	0
Other	9	2
Threaded Connections	163	34
Flanges	54	38
Open-ended Lines	0	0

B. Emission Factors

Emissions factors were taken from the "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities". Table IV-2c. Oil and Gas Production Screening Value Ranges Emission Factors".

C. Calculations

1. Potential to Emit (PE1)

Equipment Type	Service	Component Count	Total allowable leaking components	Screening Value EF	
				< 10,000 ppmv (lb/day/source)	≥ 10,000 ppmv (lb/day/source)
Valves	Gas/Light Liquid	35	0	1.852E-03	7.333E+00
	Light Crude Oil	40	0	1.005E-03	3.741E+00
	Heavy Crude Oil	0	0	7.408E-04	N/A*
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00
	Light Crude Oil	0	0	1.402E-02	4.709E+00
	Heavy Crude Oil	0	0	N/A	N/A
Others	Gas/Light Liquid	0	0	7.778E-03	7.281E+00
	Light Crude Oil	0	0	6.931E-03	3.757E-01
	Heavy Crude Oil	0	0	3.016E-03	N/A*
Connectors	Gas/Light Liquid	40	0	6.349E-04	1.370E+00
	Light Crude Oil	20	0	5.291E-04	1.238E+00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04
Flanges	Gas/Light Liquid	130	0	1.482E-03	3.228E+00
	Light Crude Oil	140	0	1.270E-03	1.376E+01
	Heavy Crude Oil	0	0	1.217E-03	N/A*
Open-ended Lines	Gas/Light Liquid	15	0	1.270E-03	2.905E+00
	Light Crude Oil	10	0	9.524E-04	1.175E+00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00

$$35 \times 1.852E-03 + 40 \times 1.005E-03 + 40 \times 6.349E-04 + 20 \times 5.291E-04 + 130 \times 1.482E-03 + 140 \times 1.270E-03 + 15 \times 1.270E-03 + 10 \times 9.524E-04$$

$$= 0.5 \text{ lb/day, } 183 \text{ lb/yr}$$

2. Post Project Potential to Emit (PE2)

Equipment Type	Service	Component Count	Total allowable leaking components	Screening Value EF	
				< 10,000 ppmv (lb/day/source)	≥ 10,000 ppmv (lb/day/source)
Valves	Gas/Light Liquid	69	0	1.852E-03	7.333E+00
	Light Crude Oil	24	0	1.005E-03	3.741E+00
	Heavy Crude Oil	0	0	7.408E-04	N/A*
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00
	Light Crude Oil	0	0	1.402E-02	4.709E+00
	Heavy Crude Oil	0	0	N/A	N/A
Others	Gas/Light Liquid	9	0	7.778E-03	7.281E+00
	Light Crude Oil	2	0	6.931E-03	3.757E-01
	Heavy Crude Oil	0	0	3.016E-03	N/A*
Connectors	Gas/Light Liquid	163	0	6.349E-04	1.370E+00
	Light Crude Oil	34	0	5.291E-04	1.238E+00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04
Flanges	Gas/Light Liquid	54	0	1.482E-03	3.228E+00
	Light Crude Oil	38	0	1.270E-03	1.376E+01
	Heavy Crude Oil	0	0	1.217E-03	N/A*
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00
	Light Crude Oil	0	0	9.524E-04	1.175E+00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00

$$69 \times 1.852E-03 + 24 \times 1.005E-03 + 9 \times 7.778E-03 + 2 \times 6.931E-03 + 163 \times 6.349E-04 + 34 \times 5.291E-04 + 54 \times 1.482E-03 + 38 \times 1.270E-03 + 15 \times 1.270E-03 + 10 \times 9.524E-04$$

$$= 0.5 \text{ lb/day lb/day, } 183 \text{ lb/yr}$$

The emissions profiles are included in **Attachment II**.

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.

Pre-project, facility-wide VOC emissions exceed both the offset threshold for VOC's (20,000 lb VOC/ yr) and the Major Source threshold for VOC's (20,000 lb VOC/ yr). No other pollutants are emitted by this project; therefore, SSPE1 calculations for these pollutants are not necessary.

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.

Post-project, facility-wide VOC emissions exceed both the offset threshold for VOC's (20,000 lb VOC/ yr) and the Major Source threshold for VOC's (20,000 lb VOC/ yr). No other pollutants are emitted by this project; therefore, SSPE2 calculations for these pollutants are not necessary.

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

This 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.

Rule 2410 Major Source Determination:

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, increases in fugitive emissions are not included in the Rule 2410 Major Source Determination. All post project emissions associated with this project are fugitive emissions; therefore, a Rule 2410 Major source determination is not required.

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

As PE2 is ≤ 0.5 lb/day offsets cannot be required (see offsets discussion in Compliance Section) and therefore a BE determination is not necessary.

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.

Therefore this project is not an SB 288 Major Modification.

8. Federal Major Modification

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

Since this 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 Federal Major Modification determination.

Therefore, this project does not constitute a Federal Major Modification.

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

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 Rule 2410 Prevention of Significant Deterioration (PSD) Applicability determination. All post project emissions associated with this project are fugitive emissions; therefore, a Rule 2410 Prevention of Significant Deterioration (PSD) Applicability determination is not required.

10. 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. There is no change in emissions and therefore QNEC = 0.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

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

As 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 PE 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

$$AIPE = PE2 - (PE1 * (EF2 / EF1))$$

$$EF1 = EF2$$

$$AIPE = 0.5 - (0.5 * (1))$$

$$= 0.0 \text{ lb/day}$$

As demonstrated above, the AIPE is not greater than 2.0 lb/day for VOC emissions. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification for NO_x emissions. Therefore BACT is not triggered for any pollutant.

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	--	--	--	--	>20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets calculations required?	No	No	No	No	Yes

2. Quantity of Offsets Required

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

Please note that District policy APR 1130 states that IPEs less than or equal to 0.5 lb/day are to be set to zero for purposes of providing emission

offsets. This change allows an IPE that rounds to 0.5 lb/day, e.g. less than 0.54 lb/day, to be set to zero for purposes of providing emission offsets.

As PE2 = 0.5 lb/day for S-1548-178 offsets cannot be required.

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. As shown in Section VII.C.5 above, the SSPE2 is not greater than the Major Source threshold for any pollutant. Therefore, public noticing is not required for this project for new Major Source purposes.

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 Sections VII.C.7 and VII.C.8, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb/day

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	103,227	103,227	20,000 lb/year	No
SO _x	78,751	78,751	54,750 lb/year	No
PM ₁₀	2,943	2,943	29,200 lb/year	No
CO	900,649	900,649	200,000 lb/year	No
VOC	639,071	639,071	20,000 lb/year	No

*District SSPE calculator

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	103,227	103,227	0	20,000 lb/year	No
SO _x	78,751	78,751	0	20,000 lb/year	No
PM ₁₀	2,943	2,943	0	20,000 lb/year	No
CO	900,649	900,649	0	20,000 lb/year	No
VOC	639,071	639,071	0	20,000 lb/year	No

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

2. Public Notice Action

As discussed above, public noticing is required for this project as the project is a Title V Significant modification (relaxation in monitoring and recordkeeping). Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions:

VOC emissions from fugitive emissions components associated with this equipment shall not exceed 0.5 lb/day. [District Rule 2201] Y

Permittee shall maintain accurate component counts according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201] 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

The ATC includes the following monitoring condition:

Effluent gas streams of sulfa treat system shall be monitored at least monthly for H₂S content to determine when recharging is required. [District NSR Rule] Y

Monitoring of leaks from fugitive emissions components will be required as stated in the proposal section.

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:

Record of H₂S content of effluent gas shall be maintained. [District Rule 2520, 9.4.2] Y

{918} All records of required monitoring data and support information shall be maintained for at least five years. [District Rule 2520, 9.5.2] Y

Records of leaks from fugitive emissions components will be required as stated in the proposal section.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. A significant permit modification is defined as a “permit amendment that does not qualify as a minor permit modification or administrative amendment.”

Minor permit modifications do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions. There is a proposed relaxation in monitoring (only Sulfa-Treat effluent gas sulfur) and recordkeeping (delete “identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection”). As a result, the proposed project constitutes a Significant Modification to the Title V Permit.

Aera’s Title V Compliance Certification form is included in **Attachment III**.

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.

As demonstrated above, there are no increases in emissions associated with this project, therefore a health risk assessment is not necessary and no further risk analysis is required.

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.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) are exempt from Best Available Control Technology (BACT) requirements. Furthermore, the District has determined that potential emission increases would have a less than significant health impact on sensitive receptors.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue ATC S-1548-178-5 subject to the permit conditions on the attached draft ATC in **Attachment IV**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1548-178	3020-06	Miscellaneous	\$105.00

ATTACHMENTS

- I: Current PTO S-1548-178-2
- II: Emissions Profiles
- III: Title V Compliance Certification Form
- IV: Draft ATC

ATTACHMENT I
Current PTO S-1548-178-2

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1548-178-2

EXPIRATION DATE: 05/31/2016

SECTION: NE13 **TOWNSHIP:** 28S **RANGE:** 20E

EQUIPMENT DESCRIPTION:

SULFATREAT FUEL GAS SCRUBBING SYSTEM WITH LIQUID KNOCKOUT VESSEL AND CONTACTOR VESSEL

PERMIT UNIT REQUIREMENTS

1. Fugitive emission components in gas service shall not exceed: 35 valves, 40 connectors, 130 flanges, and 15 open ended lines without prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Fugitive emission components in water/oil service shall not exceed: 40 valves, 20 connectors, 140 flanges, and 10 open ended lines without prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
3. All vessel hatches and openings shall remain closed during operation of H₂S scrubber. [District NSR Rule, 4102] Federally Enforceable Through Title V Permit
4. No components (i.e., valves, flanges, etc.) associated with the Sulfa treat unit shall be the source of any leak greater than 10,000 ppmv (as methane) when measured at a distance no greater than 1 cm from the potential source per EPA Method 21. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Influent and effluent gas streams of sulfa treat system shall be monitored at least monthly for H₂S content of effluent gas to determine when recharging is required. [District NSR Rule] Federally Enforceable Through Title V Permit
6. During recharging of the sulfur scrubber, untreated vapors shall not be introduced into the fuel system or vented to the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The following test method shall be used for fuel gas sulfur content - ASTM D3246 or double GC for H₂S and mercaptans. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
8. Record of H₂S content of effluent gas shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. All records of required monitoring data and support information shall be maintained for at least five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit

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

ATTACHMENT II
Emissions Profiles

Permit #: S-1548-178-5	Last Updated
Facility: AERA ENERGY LLC	09/09/2013 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):	0.0	0.0	0.0	0.0	183.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.5
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:					

ATTACHMENT III
Title V Compliance Certification Form

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

TITLE V 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-1548
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: N/A	

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

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

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



Signature of Responsible Official

9-9-13

Date

R. A. Roeder

Name of Responsible Official (please print)

Process Supervisor

Title of Responsible Official (please print)

ATTACHMENT IV
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1548-178-5

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

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
CA

SECTION: NE13 TOWNSHIP: 28S RANGE: 20E

EQUIPMENT DESCRIPTION:

MODIFICATION OF SULFATREAT FUEL GAS SCRUBBING SYSTEM WITH LIQUID KNOCKOUT VESSEL AND CONTACTOR VESSEL: REPLACE COMPONENT LIMITS WITH EMISSIONS LIMIT, INCREASE COMPONENTS ASSIGNED TO EMISSIONS UNIT, ADD FUGITIVE EMISSIONS COMPONENTS I & M PLAN, DELETE H2S INLET MONITORING AND EXTRANEIOUS CLOSED VESSEL REQUIREMENT

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. No components (i.e., valves, flanges, etc.) associated with the Sulfa Treat unit shall be the source of any leak greater than 10,000 ppmv (as methane) when measured at a distance no greater than 1 cm from the potential source per EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Effluent gas streams of Sulfa Treat system shall be monitored at least monthly for H2S content to determine when recharging is required. [District Rule 2201] Federally Enforceable Through Title V Permit
5. During recharging of the sulfur scrubber, untreated vapors shall not be introduced into the fuel system or vented to the atmosphere. [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

DAVID WARNER, Director of Permit Services

S-1548-178-5: Sep 17 2013 12:37PM - EDGEMLR : Joint Inspection NOT Required

6. VOC emissions from fugitive emissions components associated with this equipment shall not exceed 0.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Permittee shall maintain accurate component counts according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
8. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Any component found to be leaking on two consecutive annual inspections is in violation of this permit, even if it is under the voluntary inspection and maintenance program. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Operator shall visually inspect vessel shell, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the vessel and within five feet of the vessel at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shell and roof of the vessel for structural integrity annually. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified above shall not constitute a violation. Leaking components discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified above shall constitute a violation. [District Rule 2201] Federally Enforceable Through Title V Permit
15. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The following test method shall be used for fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

19. Record of H₂S content of effluent gas shall be maintained. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
20. {918} All records of required monitoring data and support information shall be maintained for at least five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit

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