



**APR 03 2013**

Gerardo C. Rios, Chief  
Permits Office  
Air Division  
U.S. EPA - Region IX  
75 Hawthorne St  
San Francisco, CA 94105

Re: **Notice of Minor Title V Permit Modification**  
**District Facility # S-1548**  
**Project # S-1104811**

Dear Mr. Rios:

Enclosed for you to review is an application for minor Title V permit modification for the facility identified above. AERA Energy LLC is proposing a Title V minor permit modification to incorporate the recently issued Authorities to Construct S-1548-113-4 and 113-6 into the Title V operating permit. The ATCs approved replacing the flare tip, revising monitoring requirements and adding a knockout vessel to Kaldair flare permit S-1548-113.

Enclosed is the engineering evaluation with the following attachments: proposed modified Title V permit, recently issued Authorities to Construct S-1548-113-4 and 113-6, emission increases, application, and previous Title V permit. Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura at (661) 392-5500.

Sincerely,



David Warner  
Director of Permit Services

Enclosures

Seyed Sadredin  
Executive Director/Air Pollution Control Officer

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**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



APR 03 2013

Brent Winn  
AERA Energy LLC  
P O Box 11164  
Bakersfield, CA 93389-1164

**Re: Notice of Minor Title V Permit Modification  
District Facility # S-1548  
Project # S-1104811**

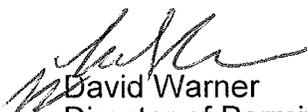
Dear Ms. Winn:

Enclosed is the District's analysis of your application for minor Title V permit modification for the facility identified above. You proposed a Title V minor permit modification to incorporate recently issued Authorities to Construct S-1548-113-4 and 113-6 into the Title V operating permit. The ATCs approved replacing the flare tip, revising monitoring requirements and adding a knockout vessel to Kaldair flare permit S-1548-113.

Enclosed is the engineering evaluation with the following attachments: proposed modified Title V permit, recently issued Authorities to Construct S-1548-113-4 and 113-6, emission increases, application, and previous Title V permit. This project will be subject to a 45-day EPA commenting period prior to the District taking final action.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura at (661) 392-5500.

Sincerely,



David Warner  
Director of Permit Services

Enclosures

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

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

# TITLE V APPLICATION REVIEW

Minor Modification  
Project #: S-1104811

Engineer: Robert Rinaldi  
Date: March 29, 2013

*Reviewed by AP sure AOE*

Facility Number: S-1548  
Facility Name: AERA Energy LLC  
Mailing Address: P O Box 11164  
Bakersfield, CA 93389-1164

APR 02 2013

Contact Name: Brent Winn  
Phone: 661-665-4363

Responsible Official: R.A. Waugh  
Title: Process Supervisor

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## I. PROPOSAL

AERA Energy LLC is proposing a Title V minor permit modification to incorporate ATCs S-1548-113-4 and S-1548-113-6 into the Title V operating permit (S-1548-113-7 and '-113-8, respectfully).

ATC S-1548-113-4 (Associated with draft permit to operate (PTO) S-1548-113-7)

The modifications approved by ATC S-1548-113-4 were for replacement of a flare tip with an equivalent KMI-12 flare tip, revision to conditions concerning pilot operation and monitoring to address maintenance and downtime issues and to designate the flare as a "safety flare".

ATC S-1548-113-6 (Tied to draft PTO S-1548-113-8)

The modifications approved by ATC S-1548-113-8 were for the addition of an inlet gas/liquid separator vessel upstream of the flare and replacement of the flare tip with an Indair model I-12 coanda effect burner.

The purpose of this evaluation is to identify all applicable requirements, determine if the facility will comply with the applicable requirements and to provide the legal and factual basis for the proposed revisions.

Facility # 1548  
Project # 1104811

## II. FACILITY LOCATION

Kern County Heavy Oil Western Stationary Source  
SW/4 Section 4 Township 27S Range 21E

## III. EQUIPMENT DESCRIPTION

### **S-1548-113-4:**

MODIFICATION OF 584,318,750 BTU/HR EMERGENCY FLARE (LOST HILLS 1 LEASE): REPLACE FLARE TIP WITH AN EQUIVALENT KMI-12 FLARE TIP AND REVISE CONDITIONS CONCERNING PILOT OPERATION AND MONITORING TO ADDRESS MAINTENANCE AND DOWNTIME ISSUES AND DESIGNATE AS A SAFETY FLARE

### **S-1548-113-6:**

MODIFICATION OF 584,318,750 BTU/HR PRESSURE ASSIST SAFETY FLARE WITH KALDAIR COANDA EFFECT BURNER: ADD AN INLET LIQUID KNOCKOUT VESSEL AND REPLACE FLARE TIP WITH INDAIR MODEL I-12. (LOST HILLS 1 LEASE)

## IV. SCOPE OF EPA AND PUBLIC REVIEW

This change to a Title V permit is considered to be a minor modification and, as such, requires no public review.

## V. APPLICABLE REQUIREMENTS

District Rule 2520, Federally Mandated Operating Permits (Adopted June 21, 2001)

## VI. DESCRIPTION OF PROPOSED MODIFICATIONS

The following change to the existing Title V permit equipment description for S-1548-113-2 are authorized by S-1548-113-4:

584,318,750 BTU/HR ~~EMERGENCY~~ SAFETY FLARE (LOST HILLS 1 LEASE)

Facility # 1548  
Project # 1104811

The following change to the existing Title V permit equipment description for S-1548-113-2 are authorized by S-1548-113-6:

584,318,750 BTU/HR SAFETY FLARE WITH INDAIR I-12 FLARE TIP (LOST HILLS 1 LEASE)

The following change to the existing Title V permit conditions for S-1548-113-2 are authorized by S-1548-113-4:

2. ~~Each quarter whenever the flare is combusting~~ If the flare is utilized to combust emergency releases of VOC for three (3) hours or more in a calendar quarter, the permittee shall perform a visible emissions inspection using EPA Method 22. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

The following change to the existing Title V permit conditions for S-1548-113-2 are authorized by S-1548-113-6:

7. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated when gases may be vented to the flare. Pilot monitoring is not required during unforeseen or essential planned power outages. [District Rule 4311, 5.4] Federally Enforceable Through Title V Permit
24. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
25. Components associated with flare and knockout vessel shall be inspected and any detected leaks repaired in accordance with inspection frequencies and repair times established in District Rule 4409. [District Rule 2201] Federally Enforceable Through Title V Permit
26. VOC content of gas served by inlet liquid knockout vessel and flare shall not exceed 40% VOC/TOC by weight. [District Rule 2201] Federally Enforceable Through Title V Permit

Facility # 1548  
Project # 1104811

27. Fugitive VOC emissions from components serving the inlet liquid knockout vessel shall not exceed 7.2 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
28. VOC content of gas shall be determined by ASTM D-1945, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit
29. Permittee shall maintain accurate records of fugitive inspection component counts and resultant emissions calculated in accordance with U.S.E.P.A. Protocol for Equipment Leak Emission Estimates (EPA-453/R95-017) Table 2-4 "Oil and Gas Production Operations Average Emission Factors" (November 1995). Permittee shall make records of component counts, and associated emissions, readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit

The following change to the existing Title V permit conditions for S-1548-113-2 are minor changes that clarify the existing conditions.

- ~~7. The outlet shall be equipped with an automatic ignition system, or, shall be operated 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, 5.3] Federally Enforceable Through Title V Permit. [Note: Redundant with condition #8, above]~~
10. For flares used during an emergency, the operator shall record of the duration of flare operation, amount of gas burned, and the nature of the emergency situation. [District Rule 4311, 6.1] Federally Enforceable Through Title V Permit
17. The operator shall monitor vent gas composition using one of the five methods pursuant to Section 6.6.1 through Section 6.6.5 in District Rule 4311. [District Rule 4311, 6.6] Federally Enforceable Through Title V Permit

Facility # 1548  
Project # 1104811

## VII. COMPLIANCE

In accordance with Rule 2520, 3.20, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
  - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
  - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

In accordance with Rule 2520, the application meets the procedural requirements of section 11.4 by including;

1. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
2. The source's suggested draft permit; and
3. Certification by a responsible official that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used.

Facility # 1548  
Project # 1104811

## **VIII. ATTACHMENTS**

- A. Proposed Modified Title V Operating Permit No. S-1548-113-8
- B. Authorities to Construct No. S-1548-113-4 & '-113-6
- C. Emissions Increases
- D. Application
- E. Previous Title V Operating Permit No. S-1548-113-2

# ATTACHMENT A

Proposed Modified Title V Operating Permit No.  
S-1548-113-8

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1548-113-8

EXPIRATION DATE: 05/31/2016

SECTION: 04 TOWNSHIP: 27S RANGE: 21E

## EQUIPMENT DESCRIPTION:

584,318,750 BTU/HR SAFETY FLARE WITH INDAIR I-12 FLARE TIP (LOST HILLS 1 LEASE)

## PERMIT UNIT REQUIREMENTS

1. Gas flared shall not exceed 15,000,000 scf/day. [District NSR Rule] Federally Enforceable Through Title V Permit
2. If the flare is utilized to combust emergency releases of VOC for three (3) hours or more in a calendar quarter, the permittee shall perform a visible emissions inspection using EPA Method 22. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
3. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To show compliance with the sulfur limits, the gas being flared shall be tested quarterly for sulfur content and higher heating value. [District Rule 2520, 9.3.2 and 4801] Federally Enforceable Through Title V Permit
4. The sulfur content of the gas being flared shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
5. Permittee shall maintain records of emergency and non-emergency operation, hours of operation for flare maintenance and testing, and the amount of gas flared for a period of five years and make such records readily available for District inspection upon request. [District NSR Rule, District Rule 1070, and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
6. A flame shall be present at all time when combustible gases are vented through the flare. [District Rule 4311, 5.2] Federally Enforceable Through Title V Permit
7. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated when gases may be vented to the flare. Pilot monitoring is not required during unforeseen or essential planned power outages. [District Rule 4311, 5.4] Federally Enforceable Through Title V Permit
8. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5] Federally Enforceable Through Title V Permit
9. Permittee shall maintain copies of the compliance determination conducted pursuant to Section 6.4.1, copies of the source testing result conducted pursuant to Section 6.4.2, effective on and after July 1, 2011, a copy of the approved flare minimization plan pursuant to Section 6.5, effective on and after July 1, 2012, a copy of annual reports submitted to the APCO pursuant to Section 6.2 and effective on and after July 1, 2011, monitoring data collected pursuant to Sections 5.10, 6.6, 6.7, 6.8, 6.9 and 6.10. [District Rule 4311, 6.1] Federally Enforceable Through Title V Permit
10. For flares used during an emergency, the operator shall record of the duration of flare operation, amount of gas burned, and the nature of the emergency situation. [District Rule 4311, 6.1] 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.

11. All records shall be maintained, retained on-site for a minimum of five years, and made available to the APCO, ARB, and EPA upon request. [District Rule 4311, 6.1] Federally Enforceable Through Title V Permit
12. VOC emissions, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case Method 25a may be used, and analysis of halogenated exempt compounds shall be analyzed by EPA Method 18 or ARB Method 422 "Determination of Volatile organic Compounds in Emission from Stationary Sources". The VOC concentration in ppmv shall be converted to pounds per million Btu (lb/MMBtu) by using the equation in District Rule 4311, Section 6.3.1. [District Rule 4311, 6.3.1] Federally Enforceable Through Title V Permit
13. NOx emissions in pounds per million BTU shall be determined by using EPA Method 19. NOx and O2 concentrations shall be determined by using EPA Method 3A, EPA Method 7E, or ARB 100. [District Rule 4311, 6.3.2 and 6.3.3] Federally Enforceable Through Title V Permit
14. Total hydrocarbon content and methane content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, EPA Method 18, EPA Method 25A or 25B, or an alternative method approved by the APCO, ARB and EPA. Hydrogen sulfide content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, ASTM Method D 4084-94, ASTM Method D 4810-88, or an alternative method approved by the APCO, ARB and EPA. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
15. If vent gas composition is monitored with a continuous analyzer employing gas chromatography the minimum sampling frequency shall be one sample every 30 minutes. If vent gas composition is monitored using continuous analyzers not employing gas chromatography, the total reduced sulfur content of vent gas shall be determined by using EPA Method D4468-85, or an alternative method approved by the APCO, ARB and EPA. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
16. Vent gas flow shall be determined using one of the following: EPA Methods 1 and 2; a verification method recommended by the manufacturer of the flow monitoring equipment; tracer gas dilution or velocity; other flow monitors or process monitors that can provide comparison data on a vent stream that is being directed past the ultrasonic flow meter; or an alternative method approved by the APCO, ARB, and EPA. [District Rule 4311, 6.3.5] Federally Enforceable Through Title V Permit
17. The operator shall monitor vent gas composition using one of the five methods pursuant to Section 6.6.1 through Section 6.6.5 in District Rule 4311. [District Rule 4311, 6.6] Federally Enforceable Through Title V Permit
18. The operator shall monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate so that volumetric flows of pilot and purge gas may be calculated based on pilot design and the parameters monitored. [District Rule 4311, 6.7] Federally Enforceable Through Title V Permit
19. The operator of a flare with a water seal shall monitor and record the water level and pressure of the water seal that services each flare daily or as specified on the Permit to Operate. [District Rule 4311, 6.8] Federally Enforceable Through Title V Permit
20. Periods of flare monitoring system inoperation greater than 24 continuous hours shall be reported by the following working day, followed by notification of resumption of monitoring. Periods of inoperation of monitoring equipment shall not exceed 14 days per any 18-consecutive-month period. Periods of flare monitoring system inoperation do not include the periods when the system feeding the flare is not operating. [District Rule 4311, 6.9.1] Federally Enforceable Through Title V Permit
21. During periods of inoperation of continuous analyzers or auto-samplers installed pursuant to Section 6.6, operators responsible for monitoring shall take one sample within 30 minutes of the commencement of flaring, from the flare header or from an alternate location at which samples are representative of vent gas composition and have samples analyzed pursuant to Section 6.3.4. During periods of inoperation of flow monitors required by Section 5.10, flow shall be calculated using good engineering practices. [District Rule 4311, 6.9.2] 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.

22. Permittee shall maintain and calibrate all required monitors and recording devices in accordance with the applicable manufacturer's specifications. In order to claim that a manufacturer's specification is not applicable, the person responsible for emissions must have, and follow, a written maintenance policy that was developed for the device in question. The written policy must explain and justify the difference between the written procedure and the manufacturer's procedure. [District Rule 4311, 6.9.3] Federally Enforceable Through Title V Permit
23. All in-line continuous analyzer and flow monitoring data must be continuously recorded by an electronic data acquisition system capable of one-minute averages. Flow monitoring data shall be recorded as one-minute averages. [District Rule 4311, 6.9.4] Federally Enforceable Through Title V Permit
24. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
25. Components associated with flare and knockout vessel shall be inspected and any detected leaks repaired in accordance with inspection frequencies and repair times established in District Rule 4409. [District Rule 2201] Federally Enforceable Through Title V Permit
26. VOC content of gas served by inlet liquid knockout vessel and flare shall not exceed 40% VOC/TOC by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Fugitive VOC emissions from components serving the inlet liquid knockout vessel shall not exceed 7.2 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
28. VOC content of gas shall be determined by ASTM D-1945, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit
29. Permittee shall maintain accurate records of fugitive inspection component counts and resultant emissions calculated in accordance with U.S.E.P.A. Protocol for Equipment Leak Emission Estimates (EPA-453/R95-017) Table 2-4 "Oil and Gas Production Operations Average Emission Factors" (November 1995). Permittee shall make records of component counts, and associated emissions, readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Formerly S-1512-1

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

DRAFT

# ATTACHMENT B

ATCs S-1548-113-4 & '-113-6



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1548-113-4

**ISSUANCE DATE:** 12/18/2007

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

**LOCATION:** LIGHT OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** 04 **TOWNSHIP:** 27S **RANGE:** 21E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 584,318,750 BTU/HR EMERGENCY FLARE (LOST HILLS 1 LEASE): REPLACE FLARE TIP WITH AN EQUIVALENT KMI-12 FLARE TIP AND REVISE CONDITIONS CONCERNING PILOT OPERATION AND MONITORING TO ADDRESS MAINTENANCE AND DOWNTIME ISSUES AND DESIGNATE AS A SAFETY FLARE

### 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. Gas flared shall not exceed 15,000,000 scf/day. [District NSR Rule] Federally Enforceable Through Title V Permit
3. If the flare is utilized to combust emergency VOC releases for three hours or more in any calendar quarter, then the permittee shall perform a visible emissions inspection using EPA Method 22. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
4. The flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311] Federally Enforceable Through Title V Permit
5. Except during required maintenance, the flare shall be operated with a pilot flame present at all times, and kept in operation when gas may be vented to it. The pilot flame shall be monitored using a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor or any other equivalent device to detect the presence of at least one pilot flame or the flare flame. Pilot monitoring is not required during unforeseen or essential planned power outages. [District Rule 2520, 9.3.2 and 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

6. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To show compliance with the sulfur limits, the gas being flared shall be tested quarterly for sulfur content and higher heating value. [District Rule 2520, 9.3.2 and 4801] Federally Enforceable Through Title V Permit
7. The sulfur content of the gas being flared shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. Permittee shall maintain records of emergency and non-emergency operation, hours of operation for flare maintenance and testing, and the amount of gas flared for a period of five years and make such records readily available for District inspection upon request. [District NSR Rule, District Rule 1070, and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. Formerly S-1512-1



# AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1548-113-6

**ISSUANCE DATE:** 07/08/2008

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

**LOCATION:** LIGHT OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** SW04 **TOWNSHIP:** 27S **RANGE:** 21E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 584,318,750 BTU/HR PRESSURE ASSIST SAFETY FLARE WITH KALDAIR COANDA EFFECT BURNER: ADD AN INLET LIQUID KNOCKOUT VESSEL AND REPLACE FLARE TIP WITH INDAIR MODEL I-12. (LOST HILLS 1 LEASE)

## 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. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. Gas flared shall not exceed 15,000,000 scf/day. [District NSR Rule] Federally Enforceable Through Title V Permit
5. If the flare is utilized to combust emergency VOC releases for three hours or more in any calendar quarter, then the permittee shall perform a visible emissions inspection using EPA Method 22. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. The 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

7. Except during required maintenance, the flare shall be operated with a pilot flame present at all times, and kept in operation when gas may be vented to it. The pilot flame shall be monitored using a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor or any other equivalent device to detect the presence of at least one pilot flame or the flare flame. Pilot monitoring is not required during unforeseen or essential planned power outages. [District Rule 2520, 9.3.2 and 4311] Federally Enforceable Through Title V Permit
8. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To show compliance with the sulfur limits, the gas being flared shall be tested quarterly for sulfur content and higher heating value. [District Rule 2520, 9.3.2 and 4801] Federally Enforceable Through Title V Permit
9. The sulfur content of the gas being flared shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Components associated with flare and knockout vessel shall be inspected and any detected leaks repaired in accordance with inspection frequencies and repair times established in District Rule 4409. [District Rule 2201] Federally Enforceable Through Title V Permit
11. VOC content of gas served by inlet liquid knockout vessel and flare shall not exceed 40% VOC/TOC by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fugitive VOC emissions from components serving the inlet liquid knockout vessel shall not exceed 7.2 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
13. VOC content of gas shall be determined by ASTM D-1945, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Permittee shall maintain accurate records of fugitive inspection component counts and resultant emissions calculated in accordance with U.S.E.P.A. Protocol for Equipment Leak Emission Estimates (EPA-453/R95-017) Table 2-4 "Oil and Gas Production Operations Average Emission Factors" (November 1995). Permittee shall make records of component counts, and associated emissions, readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Permittee shall maintain records of emergency and non-emergency operation, hours of operation for flare maintenance and testing, and the amount of gas flared for a period of five years and make such records readily available for District inspection upon request. [District NSR Rule, District Rule 1070, and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 657 lb, 2nd quarter - 657 lb, 3rd quarter - 657 lb, and fourth quarter - 657 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/06). [District Rule 2201]
17. ERC certificate Number S-2103-1 (or a 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]
18. This ATC shall be implemented concurrent with, or subsequent to, ATC S-1548-113-4. [District Rule 2201]
19. Formerly S-1512-1

# ATTACHMENT C

Emissions Increases

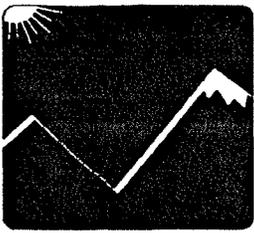
Permit #: S-1548-113-6	<b>Last Updated</b>
Facility: AERA ENERGY LLC	06/26/2008 BUSSM

Equipment Pre-Baselined: YES

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):					2268.0
Daily Emis. Limit (lb/Day)					7.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:					657.0
Q2:					657.0
Q3:					657.0
Q4:					657.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.0
Quarterly Offset Amounts (lb/Qtr)					
Q1:					657.0
Q2:					657.0
Q3:					657.0
Q4:					657.0

# ATTACHMENT D

Application

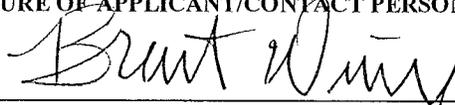


San Joaquin Valley  
Unified Air Pollution Control District

RECEIVED  
NOV-4 2010  
SJVAPCD  
Southern Region

APPLICATION FOR TITLE V MODIFICATION:

- ADMINISTRATIVE AMENDMENT
- MINOR MODIFICATION
- SIGNIFICANT MODIFICATION

1. PERMIT TO BE ISSUED TO: <p style="text-align: center;"><b>Aera Energy LLC</b></p>	
2. MAILING ADDRESS: STREET/P.O. BOX: <b>P.O. Box 11164</b> CITY: <b>Bakersfield</b> STATE: <b>CA</b> <sup>9-DIGIT</sup> ZIP CODE: <b>93389-1164</b>	
3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: STREET: <b>Lost Hills 1 Lease</b> CITY: _____ <b>1/4 SECTION 04 TOWNSHIP 27S RANGE 21E</b>	INSTALLATION DATE:
4. GENERAL NATURE OF BUSINESS: <b>Natural Gas Processing</b>	
5. EQUIPMENT FOR WHICH APPLICATION IS MADE (Include Permit Nos.): <b>Implement ATC's S-1548-113-4 and S-1548-113-6 and Incorporate into Title V Permit to Operate. Flare tip is replaced with equivalent tip and inlet knockout vessel is added. Construction on flare was commenced prior to 12/18/2009; therefore ATC's have not expired.</b> <p style="text-align: right;">(Use additional sheets if necessary)</p>	
6. DO YOU REQUEST A CERTIFICATE OF CONFORMITY WITH THIS ACTION? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
7. IS THIS APPLICATION SUBMITTED AS A RESULT OF A NOV/NTC? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO NOV/NTC No.: _____	
8. SIGNATURE OF APPLICANT/CONTACT PERSON: 	TYPE OR PRINT TITLE OF APPLICANT: <b>Environmental Engineer</b>
9. TYPE OR PRINT NAME OF APPLICANT/CONTACT: <b>Brent Winn</b>	DATE: <b>7/9/10</b>
10. FAX NUMBER: <b>(661) 665-7437</b>	TELEPHONE NUMBER: <b>(661) 665-4363</b>

FOR APCD USE ONLY:

**NO \$**

DATE STAMP	FILING FEE RECEIVED: \$ _____ /
	DATE PAID: _____
	PROJECT NO.: <b>S-1104811</b> FACILITY REGION & ID: <b>S-1548</b>

*TVmm*

RECEIVED  
NOV - 4 2010  
SJVAPCD  
Southern Region

San Joaquin Valley  
Unified Air Pollution Control District

TITLE V COMPLIANCE CERTIFICATION FORM

Lost Hills Flare (S-1548-113) : Replace tip with equivalent, add knockout vessel

I. TYPE OF PERMIT ACTION (Check appropriate box)

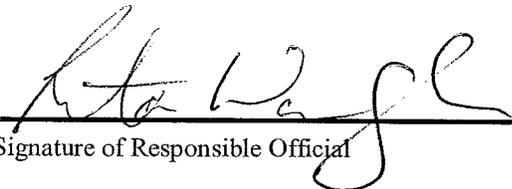
- SIGNIFICANT PERMIT MODIFICATION       ADMINISTRATIVE  
 MINOR PERMIT MODIFICATION               AMENDMENT

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

7/9/10  
Date

R.A. Waugh  
Name of Responsible Official (please print)

Process Supervisor  
Title of Responsible Official (please print)

# ATTACHMENT E

Previous Title V Operating Permit No.  
S-1548-113-2

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-1548-113-2

**EXPIRATION DATE:** 05/31/2016

**SECTION:** 04 **TOWNSHIP:** 27S **RANGE:** 21E

**EQUIPMENT DESCRIPTION:**

584,318,750 BTU/HR EMERGENCY FLARE (LOST HILLS 1 LEASE)

## PERMIT UNIT REQUIREMENTS

---

1. Gas flared shall not exceed 15,000,000 scf/day. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Each quarter whenever the flare is combusting emergency releases of VOC for three (3) hours or more, the permittee shall perform a visible emissions inspection using EPA Method 22. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
3. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To show compliance with the sulfur limits, the gas being flared shall be tested quarterly for sulfur content and higher heating value. [District Rule 2520, 9.3.2 and 4801] Federally Enforceable Through Title V Permit
4. The sulfur content of the gas being flared shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
5. Permittee shall maintain records of emergency and non-emergency operation, hours of operation for flare maintenance and testing, and the amount of gas flared for a period of five years and make such records readily available for District inspection upon request. [District NSR Rule, District Rule 1070, and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
6. A flame shall be present at all time when combustible gases are vented through the flare. [District Rule 4311, 5.2] Federally Enforceable Through Title V Permit
7. The outlet shall be equipped with an automatic ignition system, or, shall be operated 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, 5.3] Federally Enforceable Through Title V Permit
8. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. [District Rule 4311, 5.4] Federally Enforceable Through Title V Permit
9. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5] Federally Enforceable Through Title V Permit
10. Permittee shall maintain copies of the compliance determination conducted pursuant to Section 6.4.1, copies of the source testing result conducted pursuant to Section 6.4.2, effective on and after July 1, 2011, a copy of the approved flare minimization plan pursuant to Section 6.5, effective on and after July 1, 2012, a copy of annual reports submitted to the APCO pursuant to Section 6.2 and effective on and after July 1, 2011, monitoring data collected pursuant to Sections 5.10, 6.6, 6.7, 6.8, 6.9 and 6.10. [District Rule 4311, 6.1] 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.

11. For flares used during an emergency, record of the duration of flare operation, amount of gas burned, and the nature of the emergency situation. [District Rule 4311, 6.1] Federally Enforceable Through Title V Permit
12. All records shall be maintained, retained on-site for a minimum of five years, and made available to the APCO, ARB, and EPA upon request. [District Rule 4311, 6.1] Federally Enforceable Through Title V Permit
13. VOC emissions, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case Method 25a may be used, and analysis of halogenated exempt compounds shall be analyzed by EPA Method 18 or ARB Method 422 "Determination of Volatile organic Compounds in Emission from Stationary Sources". The VOC concentration in ppmv shall be converted to pounds per million Btu (lb/MMBtu) by using the equation in District Rule 4311, Section 6.3.1. [District Rule 4311, 6.3.1] Federally Enforceable Through Title V Permit
14. NOx emissions in pounds per million BTU shall be determined by using EPA Method 19. NOx and O2 concentrations shall be determined by using EPA Method 3A, EPA Method 7E, or ARB 100. [District Rule 4311, 6.3.2 and 6.3.3] Federally Enforceable Through Title V Permit
15. Total hydrocarbon content and methane content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, EPA Method 18, EPA Method 25A or 25B, or an alternative method approved by the APCO, ARB and EPA. Hydrogen sulfide content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, ASTM Method D 4084-94, ASTM Method D 4810-88, or an alternative method approved by the APCO, ARB and EPA. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
16. If vent gas composition is monitored with a continuous analyzer employing gas chromatography the minimum sampling frequency shall be one sample every 30 minutes. If vent gas composition is monitored using continuous analyzers not employing gas chromatography, the total reduced sulfur content of vent gas shall be determined by using EPA Method D4468-85, or an alternative method approved by the APCO, ARB and EPA. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
17. Vent gas flow shall be determined using one of the following: EPA Methods 1 and 2; a verification method recommended by the manufacturer of the flow monitoring equipment; tracer gas dilution or velocity; other flow monitors or process monitors that can provide comparison data on a vent stream that is being directed past the ultrasonic flow meter; or an alternative method approved by the APCO, ARB, and EPA. [District Rule 4311, 6.3.5] Federally Enforceable Through Title V Permit
18. The shall monitor vent gas composition using one of the five methods pursuant to Section 6.6.1 through Section 6.6.5 in District Rule 4311. [District Rule 4311, 6.6] Federally Enforceable Through Title V Permit
19. The operator shall monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate so that volumetric flows of pilot and purge gas may be calculated based on pilot design and the parameters monitored. [District Rule 4311, 6.7] Federally Enforceable Through Title V Permit
20. The operator of a flare with a water seal shall monitor and record the water level and pressure of the water seal that services each flare daily or as specified on the Permit to Operate. [District Rule 4311, 6.8] Federally Enforceable Through Title V Permit
21. Periods of flare monitoring system inoperation greater than 24 continuous hours shall be reported by the following working day, followed by notification of resumption of monitoring. Periods of inoperation of monitoring equipment shall not exceed 14 days per any 18-consecutive-month period. Periods of flare monitoring system inoperation do not include the periods when the system feeding the flare is not operating. [District Rule 4311, 6.9.1] Federally Enforceable Through Title V Permit
22. During periods of inoperation of continuous analyzers or auto-samplers installed pursuant to Section 6.6, operators responsible for monitoring shall take one sample within 30 minutes of the commencement of flaring, from the flare header or from an alternate location at which samples are representative of vent gas composition and have samples analyzed pursuant to Section 6.3.4. During periods of inoperation of flow monitors required by Section 5.10, flow shall be calculated using good engineering practices. [District Rule 4311, 6.9.2] 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.

23. Permittee shall maintain and calibrate all required monitors and recording devices in accordance with the applicable manufacturer's specifications. In order to claim that a manufacturer's specification is not applicable, the person responsible for emissions must have, and follow, a written maintenance policy that was developed for the device in question. The written policy must explain and justify the difference between the written procedure and the manufacturer's procedure. [District Rule 4311, 6.9.3] Federally Enforceable Through Title V Permit
24. All in-line continuous analyzer and flow monitoring data must be continuously recorded by an electronic data acquisition system capable of one-minute averages. Flow monitoring data shall be recorded as one-minute averages. [District Rule 4311, 6.9.4] Federally Enforceable Through Title V Permit
25. Formerly S-1512-1

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