



SEP 02 2010

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

Re: **Proposed Authority to Construct / Certificate of Conformity (Minor Mod)**  
**District Facility # C-1121**  
**Project # C-1102737**

Dear Mr. Rios:

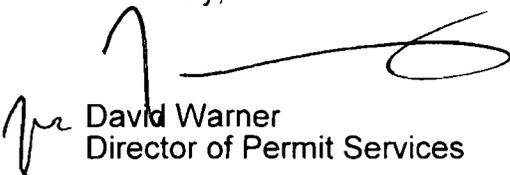
Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for Aera Energy LLC, located at on the Heavy Oil Production Fields of Fresno County, which has been issued a Title V permit. Aera Energy LLC is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The applicant proposes to add a second vapor compressor skid to existing TEOR operation.

Enclosed is the engineering evaluation of this application, a copy of the current Title V permit, and proposed Authority to Construct # C-1121-39-11 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,



David Warner  
Director of Permit Services

Enclosures  
cc: Jesse A. Garcia, Permit Services

**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  
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34946 Flyover Court  
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SEP 02 2010

Tim Parcel  
Aera Energy LLC  
PO Box 11164  
Bakersfield, CA 93389-1164

**Re: Proposed Authority to Construct / Certificate of Conformity (Minor Mod)  
District Facility # C-1121  
Project # C-1102737**

Dear Mr. Parcel:

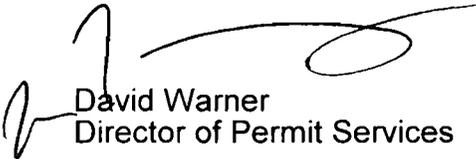
Enclosed for your review is the District's analysis of your application for Authority to Construct for the facility identified above. You have requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The applicant proposes to add a second vapor compressor skid to existing TEOR operation.

After addressing any EPA comments made during the 45-day comment period, the Authority to Construct will be issued to the facility with a Certificate of Conformity. 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. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,



David Warner  
Director of Permit Services

Enclosures  
cc: Jesse A. Garcia, Permit Services

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

Facility Name: Aera Energy, LLC  
Mailing Address: P.O. Box 11164  
Bakersfield, CA 93389-1164  
Contact Person: Tim Parcel  
Telephone: (559) 935-7418  
Application # (#'s): C-1121-39-11  
Project #: C-1102737  
Deemed Complete: August 2, 2010

Date: August 31, 2010  
Engineer: Jesse A. Garcia  
Lead Engineer: Joven Refuerzo

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## I. Proposal

Aera Energy LLC, is applying for an Authority to Construct (ATC) permit to modify an existing CVR-2 Thermally Enhanced Oil Recovery (TEOR) operation (permit unit C-1121-39) to add a second vapor compressor skid.

Aera Energy LLC received their Title V Permit on December 31, 2001. This modification can be classified as a Title V minor 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 Energy LLC 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 2010      Permits Required (12/17/92)  
Rule 2201      New and Modified Stationary Source Review Rule (12/18/08)  
Rule 2520      Federally Mandated Operating Permits (6/21/01)  
Rule 4101      Visible Emissions (11/15/01)  
Rule 4102      Nuisance (12/17/92)  
Rule 4401      Steam-Enhanced Crude Oil Production Well Vents (12/14/06)  
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

Aera Energy LLC operates this piece of equipment within the Fresno County Heavy Oil Central Stationary Source. The TEOR operation is not located within 1,000 feet of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project

### IV. Process Description

Steam is utilized to enhance heavy oil recovery. Steam generators produce steam that is injected into the strata to reduce viscosity. Condensed water is extracted with the produced oil and routed to vapor-controlled water/oil separators and tanks.

Crude oil production tank batteries receive produced fluids from enhanced oil recovery operations. These facilities separate the produced water from the crude oil prior to shipment. Produced water is piped to percolation ponds and the dehydrated oil is pumped into a sales line for delivery to a refining operation. A slop oil tank is used to collect sand dumps from the FWKO vessel and the discharge of the sample drains from the storage tanks.

Produced vapors may be collected and used as fuel for combustion equipment, combusted in a waste gas flare, or injected into a permitted disposal well. Non-condensable vapors with a high H<sub>2</sub>S content must be treated in a sulfur removal system prior to reaching the combustion source or they must be injected into a permitted disposal well.

### V. Equipment Listing

#### Pre-Project Equipment Description:

**C-1121-39-9:** CVR-2: 213 STEAM-DRIVE WELLS SERVED BY 140 HP CASING VAPOR RECOVERY SYSTEM WITH HEAT EXCHANGER E-200, FIN-FAN COOLER E-210, SEPARATOR V-200, CONDENSATE PUMPS P-200 & P-201, AND GAS COMPRESSOR SKID WITH COMPRESSOR C-20, FIN-FAN COOLER E-20, SEPARATORS V-20 & V-21, AND CONDENSATE PUMP P-20. RECOVERED VAPOR LINE CONNECTED TO RECOVERED VAPOR LINES OF PERMIT UNITS C-1121-116 & C-1121-114

#### Proposed Modification:

**C-1121-39-11:** MODIFICATION OF CVR-2: 213 STEAM-DRIVE WELLS SERVED BY 140 HP CASING VAPOR RECOVERY SYSTEM WITH HEAT EXCHANGER E-200, FIN-FAN COOLER E-210, SEPARATOR V-200, CONDENSATE PUMPS P-200 & P-201,

AND GAS COMPRESSOR SKID WITH COMPRESSOR C-20, FIN-FAN COOLER E-20, SEPARATORS V-20 & V-21, AND CONDENSATE PUMP P-20. RECOVERED VAPOR LINE CONNECTED TO RECOVERED VAPOR LINES OF PERMIT UNITS C-1121-116 & C-1121-114: ADD 75 HP VAPOR COMPRESSOR SKID WITH OUTLET FIN-FAN COOLER, GAS LIQUID SEPARATORS, AND CONDENSATE PUMPS

Post Project Equipment Description:

**C-1121-39-11:** CVR-2: 213 STEAM-DRIVE WELLS SERVED BY 140 HP CASING VAPOR RECOVERY SYSTEM WITH HEAT EXCHANGER E-200, FIN-FAN COOLER E-210, SEPARATOR V-200, CONDENSATE PUMPS P-200 & P-201, AND GAS COMPRESSOR SKID WITH COMPRESSOR C-20, FIN-FAN COOLER E-20, SEPARATORS V-20 & V-21, AND CONDENSATE PUMP P-20 AND 75 HP VAPOR COMPRESSOR SKID WITH OUTLET FIN-FAN COOLER, GAS LIQUID SEPARATORS, AND CONDENSATE PUMPS. RECOVERED VAPOR LINE CONNECTED TO RECOVERED VAPOR LINES OF PERMIT UNITS C-1121-116 & C-1121-114

**VI. Emission Control Technology Evaluation**

There will not be any increase in emissions from the result of this project as shown below. Therefore, control technology does not need to be evaluated.

**VII. General Calculations**

**A. Assumptions**

- The facility operates 24 hours per day, 7 days per week, and 52 weeks per year.
- Pursuant to District policy SSP 1910, the wells have no stuffing box emissions.
- Pursuant to District Policy SSP 2015:
  - VOC emissions are not assessed to components handling produced fluids with API gravity less than 30°.
- VOC content of hydrocarbons in the gas stream are <10% by weight (See Appendix D)
- Components in gas service handling vapors with less than 10% by weight VOCs are not counted for emissions calculations.

- Components in heavy oil and heavy oil/water service are not counted for emissions calculations

## **B. Emission Factors (EF)**

Per District Policy APR 1110 (Use of Revised EFs), the VOC emission factor will be revised to the generally accepted emission factor for fugitive components processing gas that has a VOC content less than or equal to 10% by weight VOC. As stated above, the VOC emissions are considered negligible for components in gas service handling vapors with less than 10% by weight of VOCs. Per the applicant, this entire operation handles only vapors with less than 10% VOC by weight.

## **C. Calculations**

### **1. Pre-Project Potential to Emit (PE<sub>1</sub>)**

As stated above, fugitive components process gas that has a VOC content less than or equal to 10% by weight VOC, the components are considered to have negligible emissions pursuant to District Policy SSP 2015.

Therefore, PE<sub>1</sub> = 0.0 lbs-VOC/day

### **2. Post-Project Potential to Emit (PE<sub>2</sub>)**

As stated above, fugitive components process gas that has a VOC content less than or equal to 10% by weight VOC, the components are considered to have negligible emissions pursuant to District Policy SSP 2015.

Therefore, PE<sub>2</sub> = PE<sub>1</sub> = 0.0 lbs-VOC/day

### **3. Pre-Project Stationary Source Potential to Emit (SSPE<sub>1</sub>)**

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE<sub>1</sub>) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for all pollutants; therefore, SSPE<sub>1</sub> calculations are not necessary and will not be performed for the purposes of this project.

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

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

Facility emissions are already above the Offset and Major Source Thresholds for all pollutants; therefore, SSPE2 calculations are not necessary and will not be performed for the purposes of this project.

#### **5. Major Source Determination**

Pursuant to Section 3.24 of District Rule 2201, a Major Source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values. However, Section 3.24.2 states, "for the purposes of determining major source status, the SSPE2 shall not include the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site."

As discussed above, this source is an existing Major Source for all criteria pollutants and will remain above the Major Source after this project.

#### **6. Baseline Emissions (BE)**

The annual BE is performed pollutant by pollutant to determine the amount of offsets required, where necessary, when the SSPE1 is greater than the offset threshold.

BE = Pre-project Potential to Emit for:

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

otherwise,

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

The wells and tanks are controlled by a vapor recovery system that vents to either steam generators or a flare. BACT from the previous five years for the

wells was a casing vent system tied to the tank vapor control system. BACT for the tank was incineration of the waste gas. The affected units had these controls during the last five years. Therefore, they are considered clean emission units. Thus, BE is equal to PE<sub>1</sub>.

## **7. SB 288 Major Modification**

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.*"

Fugitive emissions are not included in Major Modification calculations except for those sources enumerated in 40 CFR 51.165(a)(4). The proposed operation is not a source enumerated in 40 CFR 51.165 (a)(4).

Therefore, the project does not constitute a Major Modification.

## **8. Federal Major Modification**

District Rule 2201, Section 3.17 states that major modifications are also federal major modifications, unless they qualify for either a "Less-Than-Significant Emissions Increase" exclusion or a "Plantwide Applicability Limit" (PAL) exclusion.

Fugitive emissions are not included in Federal Major Modification calculations except for those sources enumerated in 40 CFR 51.165(a)(4). The proposed operation is not a source enumerated in 40 CFR 51.165 (a)(4).

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

## **VIII. Compliance**

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

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

##### **BACT Applicability**

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following\*:

- 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, and/or

c) Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day.

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

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

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

**b. Relocation of emissions units – PE > 2 lb/day**

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

**c. Modification of emissions units – AIPE > 2 lb/day**

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

Where,

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

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

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

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

Where,

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

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

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

AIPE = PE2 – (PE1 \* (EF2 / EF1)); however, PE2 = PE1 and EF2 = EF1 for all pollutants.

$$\begin{aligned} \text{Therefore, AIPE} &= \text{PE2} - (\text{PE1} * (1)) \text{ or } \text{AIPE} = \text{PE2} - (\text{PE2} * (1)) \\ &= \text{PE2} - \text{PE2} \\ &= 0.0 \text{ lb/day} \end{aligned}$$

As demonstrated above, the AIPE is not greater than 2.0 lb/day for all pollutants; therefore BACT is not triggered.

#### **d. Major Modification**

As discussed in Section VII.C.7 above, this project does not constitute a Major Modification; therefore BACT is not triggered.

### **B. Offsets**

#### **1. Offset Applicability**

Offset requirements shall be triggered on a pollutant-by-pollutant basis. Unless exempted pursuant to Section 4.6, offsets shall be required if the post-project Stationary Source Potential to Emit (SSPE2) equals or exceeds the following offset threshold levels.

As discussed above, offsets are required for this project for any increases in criteria pollutant emissions since all criteria pollutants are above the offset threshold levels.

#### **2. Quantity of Offsets Required**

For sources with SSPE1 exceeding the offset thresholds, offsets required are calculated as the increase in Stationary Source emissions.

Offsets Required =  $\sum[(PE2 - BE + ICCE) \times DOR]$ , for all units in the project,

where

PE2 = Post Project Potential to Emit

BE = Annual Baseline Emissions

ICCE = Increase in Cargo Carrier Emissions

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

As discussed in Section VII.C.6,  $BE = PE_1$ . Since there are no emissions changes for this project,  $PE_2 = PE_1$ . Therefore,

$$\begin{aligned} \text{Offsets Required} &= \sum[(PE2 - BE + ICCE) \times DOR] \\ &= [(0-0+0) \times 1] = 0 \text{ lbs-VOC/year} \end{aligned}$$

### **C. Public Notification**

#### **1. Applicability**

Public noticing is required for:

- a. Any new Major Source, which is a new facility that is also a Major Source,
- b. Major Modifications,

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

**a. New Major Source**

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

**b. Major Modification**

As demonstrated in VII.C.7, this project does not constitute a Major Modification; therefore, public noticing for Major Modification purposes is not required.

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

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

**d. Offset Threshold**

There is no increase in permitted emissions as a result of this project. Therefore, the SSPE is not increasing with this project and an offset threshold cannot be surpassed as a result of this project. A public notice will not be required for offset threshold purposes.

**e. SSIPE > 20,000 lb/year**

An SSIPE exceeding 20,000 pounds per year for any one pollutant triggers public notice, where  $SSIPE = SSPE2 - SSPE1$ .

There is no increase in permitted emissions as a result of this project. Therefore, the SSIPE is zero for all pollutants and public notice will not be required for SSIPE purposes.

**2. Public Notice Action**

As discussed above, this project will not result in emissions, for any pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

#### **D. Daily Emissions Limits (DEL)**

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

The permit contains DELs already; however, those conditions will be removed since the emission factor and daily emissions have been revised and are negligible as described above.

#### **E. Compliance Assurance**

The following measures shall be taken to ensure continued compliance with District Rules:

##### **Source Testing**

Source testing will not be required of this permit unit.

##### **Monitoring**

Monitoring will not be required of this permit unit.

##### **Record Keeping**

The permittee shall maintain a current roster of all wells connected to the system, and records of date and well identification where steam injection occurs. Such records shall be retained for a minimum of five years.

##### **Reporting**

No reporting is required.

#### **Rule 2520 – Federally Mandated Operating Permits**

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit pursuant to Section 3.20 of this rule:

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.

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment application.

#### **Rule 4101 – Visible Emissions**

Rule 4101 states that 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. Continued compliance with the requirements of this rule is expected.

#### **Rule 4102 - Public Nuisance**

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

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

District Policy APR 1905 – Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new

source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

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.

### **Rule 4401 Steam-Enhanced Crude Oil Production Wells**

The purpose of this rule is to limit the VOC emissions from steam-enhanced crude oil production well vents. This rule is applicable to all steam-enhanced crude oil production wells and any associated vapor collection and control systems.

#### **Section 3.0, Definitions**

Section 3.20.2 defines leak as: the dripping of VOC-containing liquid or the detection of a concentration of total organic compound, above background, determined according to the test method specified in Section 6.3.3 that exceeds the values specified in Table 1, Section 3.20.2.1 and Section 3.20.2.2 of this rule. Any liquid or gas coming from a component undergoing repair or replacement, or during sampling of process fluid from a component into a container is not considered a leak provided such activities are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere.

<b>Table 1 Rule 4401 Gas Leak in ppmv as Methane</b>		
Type of Components	Major Gas Leak	Minor Gas Leak
1. PRDs	Greater than 10,000	400 to 10,000
2. Components other than PRDs	Greater than 10,000	2,000 to 10,000

Section 3.20.2.1 defines Major Liquid Leak as: a visible mist or a continuous flow of liquid that is not seal lubricant.

Section 3.20.2.2 defines Minor Liquid Leak as: a liquid leak, except seal lubricant, that is not a major liquid leak and drips liquid at a rate of more than three drops per minute.

Therefore, the following conditions are listed on ATC C-1121-39-11 to ensure compliance:

- {4272} Gas and liquid leaks are as defined in Section 3.20 of Rule 4401. [District Rule 4401 3.20]

## **Section 4.0, Exemptions**

Section 4.1 states that any steam-enhanced crude oil production well undergoing service or repair during the time the well is not producing is exempt from the requirements of this Rule. Therefore, the following conditions will be listed on ATC C-1121-39-11 to ensure compliance:

- During the time any steam-enhanced crude oil production well is undergoing service or repair while the well is not producing, it shall be exempt from the emission control requirements of District Rule 4401, 5.0. [District Rule 4401]

Section 4.9 exempts components handling gas/vapor or liquid with a VOC content of ten percent by weight or less from the requirements of Sections 5.8.1 through 5.8.5. Aera's existing operation meets the requirements of this exemption. Therefore, the following conditions will be listed on ATC C-1121-39-11 to ensure compliance:

- VOC content of well vent vapor gas shall not exceed 10% by weight. If the VOC content of the well vent vapor gas is less than 10% by weight for 8 consecutive quarterly samplings per District approved plan, sampling frequency shall only be required annually. If an annual source test fails to show compliance, quarterly testing shall resume. [District Rules 2201 and 4401, 4.9]

## **Section 5.0, Requirements**

Per Section 5.0, the requirements of Sections 5.1 through 5.4 are effective only until December 31, 2008. Therefore, the requirements of these sections are no longer applicable to this project.

Per Section 5.0, the requirements of Sections 5.5 through 5.9 shall be effective on and after January 1, 2009. Therefore, the requirements of these sections are applicable to this project and are discussed below.

Section 5.5.1 requires that the steam-enhanced crude oil production well vent is closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) is connected to a VOC collection and control system as defined in Section 3.0. The well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere.

Section 5.5.2 requires that the steam-enhanced crude oil production well vent is open and the well vent is connected to a VOC collection and control system. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4273} An operator shall not operate a steam-enhanced crude oil production well unless the operator complies with either of the following requirements: The

steam-enhanced crude oil production well vent is closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401, the well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere, or the steam-enhanced crude oil production well vent is open and the well vent is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401. [District Rule 4401, 5.5.1 and 5.5.2]

Section 3.50 defines the VOC collection and control system as “An APCO-approved system that is not open to the atmosphere and that is composed of hard-piping, ductwork connections and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to an APCO-approved control device that has a VOC destruction or removal efficiency of at least 99%, or that transports gases or vapors back to a process system.”

Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- Permittee shall maintain an APCO-approved VOC collection and control system that is not open to the atmosphere and that is composed of hard-piping, ductwork connections and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to an APCO-approved control device that has a VOC destruction or removal efficiency of at least 99%, or that transports gases or vapors back to a process system. [District Rule 2201 and 4401]

Section 5.6.1 requires that an operator shall be in violation of this rule if any District inspection demonstrates that one or more of the conditions in Section 5.6.2 exist at the facility or if any operator inspection conducted pursuant to Section 5.8 demonstrates that one or more of the conditions in Section 5.6.2 exist at the facility.

Section 5.6.2 requires that the following conditions shall be used for determination of violation during an inspection pursuant to the provisions of Section 5.6.1:

- 5.6.2.1 Existence of an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended lines. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere.

- 5.6.2.2 Existence of a component with a major liquid leak as defined in Section 3.0.
- 5.6.2.3 Existence of a component with a gas leak greater than 50,000 ppmv.
- 5.6.2.4 Existence of a component leak described in Section 5.6.2.4.1 through Section 5.6.2.4.3 in excess of the allowable number of leaks specified in Table 3.
  - 5.6.2.4.1 A minor liquid leak, or
  - 5.6.2.4.2 A minor gas leak, or
  - 5.6.2.4.3 A gas leak greater than 10,000 ppmv up to 50,000 ppmv.

<b>Table 3 Rule 4401 Number of Allowable Leaks</b>	
Number of Steam-Enhanced Crude Oil Production Wells Connected to a VOC Collection and Control System	Number of Allowable Leaks
1 to 25	3
26 to 50	6
51 to 100	8
101 to 250	10
251 to 500	15
More than 500	One (1) for each 20 wells tested with a minimum of 50 wells tested.

Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4274} An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.8 of Rule 4401 demonstrates the existence of an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations as defined by Section 5.6.2.1 of Rule 4401 requiring process fluid flow through the open-ended lines, a component with a major liquid leak, or a component with a gas leak greater than 50,000 ppmv. [District Rule 4401 5.6.2]
- {4275} An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.8 of Rule 4401 demonstrates the existence of any combination of components with minor liquid leaks, minor gas leaks, or a gas leaks greater than 10,000 ppmv up

to 50,000 ppmv that totals more than number of leaks allowed by Table 3 of Rule 4401. [District Rule 4401 5.6.2]

Section 5.7.1 requires that an operator shall not use any component with a leak as defined in Section 3.0, or that is found to be in violation of the provisions of Section 5.6.2. However, components that were found leaking may be used provided such leaking components have been identified with a tag for repair, are repaired, or awaiting re-inspection after being repaired within the applicable time frame specified in Section 5.9 of this rule. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4276} An operator shall not use any component with a leak as defined in Section 3.0 of Rule 4401, or that is found to be in violation of the provisions of Section 5.6.2 of Rule 4401. However, components that were found leaking may be used provided such leaking components have been identified with a tag for repair, are repaired, or awaiting re-inspection after being repaired within the applicable time frame specified in Section 5.9 of Rule 4401. [District Rule 4401 5.7.1]

Section 5.7.2 requires that each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4277} Each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401 5.7.2]

Section 5.7.3 requires that an operator shall comply with the requirements of Section 6.7, if there is any change in the description of major components or critical components. Section 6.7 requires that by January 30 of each year after 2008, an operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to an existing Operator Management Plan. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4278} An operator shall comply with the requirements of Section 6.7 of Rule 4401 if there is any change in the description of major components or critical components. [District Rule 4401 5.7.3]

Pursuant to Section 4.9, this operation is exempt from the requirements of Section 5.8.1 through Section 5.8.5; therefore, no further discussion is required for these sections.

Section 5.9.1 requires that an operator shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak. An operator shall include the following information on the tag:

- 1) The date and time of leak detection.
- 2) The date and time of leak measurement.
- 3) For a gaseous leak, the leak concentration in ppmv.
- 4) For a liquid leak, whether it is a major liquid leak or a minor liquid leak.
- 5) Whether the component is an essential component, an unsafe-to-monitor component, or a critical component.

Section 5.9.2 requires that an operator shall keep the tag affixed to the component until an operator has met all of the following conditions:

- 1) Repaired or replaced the leaking component, and
- 2) Re-inspected the component using the test method in Section 6.3.3, and
- 3) The component is found to be in compliance with the requirements of this rule.
- 4) An operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak.

Section 5.9.3 requires that an operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak.

Therefore, the following conditions will be listed on ATC C-1121-39-11 to ensure compliance:

- {4285} An operator shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak and shall include the following information on the tag: date and time of leak detection, date and time of leak measurement, for a gaseous leak, the leak concentration in ppmv, for a liquid leak, whether it is a major liquid leak or a minor liquid leak, whether the component is an essential component, an unsafe-to monitor component, or a critical component. [District Rule 4401 5.9.1]
- {4286} An operator shall keep the tag affixed to the component until an operator has met all of the following conditions: repaired or replaced the leaking component, re-inspected the component using the test method in Section 6.3.3,

and 5.9.2.3 of Rule 4401, or the component is found to be in compliance with the requirements of this rule. [District Rule 4401 5.9.2]

- {4287} An operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401 5.9.3]

Section 5.9.4 requires that except for leaking critical components or leaking essential components subject to the requirements of Section 5.9.7, if an operator has minimized a leak but the leak still exceeds the applicable leak limits as defined in Section 3.0, an operator shall comply with at least one of the requirements of Section 5.9.4.1, Section 5.9.4.2, or Section 5.9.4.3 as soon as practicable but not later than the time period specified in Table 4.

5.9.4.1 Repair or replace the leaking component; or

5.9.4.2 Vent the leaking component to a VOC collection and control system as defined in Section 3.0, or

5.9.4.3 Remove the leaking component from operation.

Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4288} Except for leaking critical components or leaking essential components subject to the requirements of Section 5.9.7 of Rule 4401, if an operator has minimized a leak but the leak still exceeds the applicable leak limits as defined in Section 3.0 of Rule 4401, an operator shall comply with at least one of the following requirements as soon as practicable but not later than the time period specified in Table 4 of Rule 4401: Repair or replace the leaking component; or vent the leaking component to a VOC collection and control system as defined in Section 3.0 of Rule 4401, or remove the leaking component from operation. [District Rule 4401 5.9.4]
- {4289} The repair period in calendar days shall not exceed 14 days for minor gas leaks, 5 days for major gas leaks less than or equal to 50,000 ppmv, 2 days for gas leak greater than 50,000 ppmv, 3 days for minor liquid leaks, 2 days for major liquid leaks. [District Rule 4401 5.9.4]

Section 5.9.5 requires that the leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period specified in Table 4.

Section 5.9.6 requires that the time of the initial leak detection shall be the start of the repair period specified in Table 4.

Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4290} The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period specified in Table 4 of Rule 4401. [District Rule 4401 5.9.5]
- {4291} The time of the initial leak detection shall be the start of the repair period specified in Table 4 of Rule 4401. [District Rule 4401 5.9.6]

Section 5.9.7 requires that if the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4292} If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. [District Rule 4401 5.9.7]

## **Section 6.1, Recordkeeping and Submissions**

Section 6.1 requires that an operator shall maintain the records required by Sections 6.1 and 6.2 for a period of five (5) years. These records shall be made available to the APCO upon request. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {modified 3471} All records required by this permit shall be maintained and retained on-site for a minimum of five (5) years and made available for District, ARB, and EPA inspection upon request. [District Rules 2520, 9.5.2 and 4401]

Section 6.1.1 requires that the operator of any steam-enhanced crude oil production well shall maintain records of the date and well identification where steam injection or well stimulation occurs. Therefore, the following condition will be listed on ATC C-1121-39-1 to ensure compliance:

- {4293} The operator of any steam-enhanced crude oil production well shall maintain records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401 6.1.1]

Section 6.1.3 states that the operator of any steam enhanced crude oil production well shall keep source test records which demonstrate compliance with the control efficiency requirements of the VOC collection and control system as defined in Section 3.0. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4295} An operator of any steam-enhanced crude oil production well shall keep source test records which demonstrate compliance with the control efficiency requirements of the VOC collection and control system as defined in Section 3.0 of Rule 4401. [District Rule 4401 6.1.3]

Section 6.1.5 requires that effective on and after January 1, 2009, the inspection log maintained pursuant to Section 6.4. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4297} Operator of any steam-enhanced crude oil production well shall keep an inspection log maintained pursuant to Section 6.4 of Rule 4401. [District Rule 4401 6.1.5] Y

Section 6.1.6 states that effective on and after January 1, 2009, records of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components, including a copy of current calibration gas certification from the vendor of said calibration gas cylinder, the date of calibration, concentration of calibration gas, instrument reading of calibration gas before adjustment, instrument reading of calibration gas after adjustment, calibration gas expiration date, and calibration gas cylinder pressure at the time of calibration. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4298} Records of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components, including a copy of current calibration gas certification from the vendor of said calibration gas cylinder, the date of calibration, concentration of calibration gas, instrument reading of calibration gas before adjustment, instrument reading of calibration gas after adjustment, calibration gas expiration date, and calibration gas cylinder pressure at the time of calibration shall be maintained. [District Rule 4401 6.1.6]

Section 6.1.7 states that effective on and after January 1, 2009, an operator shall maintain copies at the facility of the training records of the training program operated pursuant to Section 6.5. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4299} An operator shall maintain copies at the facility of the training records of the training program operated pursuant to Section 6.5 of Rule 4401. [District Rule 4401 6.1.7]

Section 6.1.8 states that effective on and after January 1, 2009, an operator shall keep a copy of the APCO-approved Operator Management Plan at the facility. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4300} Operator shall keep a copy of the APCO-approved Operator Management Plan at the facility. [District Rule 4401 6.1.8]

Section 6.1.9 states that an operator shall submit to the APCO not later than (six months after rule amendments adoption date) a list of all gauge tanks, as defined in Section 3.17. The list shall contain the size, identification number, the location of each gauge tank and specify whether the gauge tank is upstream of all front line production equipment. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4301} Operator shall submit to the APCO not later than June 14, 2007 a list of all gauge tanks, as defined in Section 3.17. The list shall contain the size, identification number, the location of each gauge tank and specify whether the gauge tank is upstream of all front line production equipment. [District Rule 4401 6.1.9]

Section 6.1.10 states that the results of gauge tank TVP testing conducted pursuant to Section 6.2.5 shall be submitted to the APCO within 60 days after the completion of the testing. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4302} The results of gauge tank TVP testing conducted pursuant to Section 6.2.5 shall be submitted to the APCO within 60 days after the completion of the testing. [District Rule 4401 6.1.10]

Section 6.1.11 states that an operator that discovers that a PRD has released shall record the date that the release was discovered, and the identity and location of the PRD that released. An operator shall submit such information recorded during the calendar year to the APCO no later than 60 days after the end of the calendar year. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4303} An operator that discovers that a PRD has released shall record the date that the release was discovered, and the identity and location of the PRD that released. An operator shall submit such information recorded during the calendar year to the APCO no later than 60 days after the end of the calendar year. [District Rule 4401 6.1.11]

## **Section 6.2, Compliance Source Testing**

Section 6.2.1 requires that an operator shall source test annually all vapor collection and control systems used to control emissions from steam-enhanced crude oil

production well vents to determine control efficiency of the device(s) used for destruction or removal of VOC. Compliance testing shall be performed annually by source testers certified by ARB. Testing shall be performed during June, July, August, or September of each year if the system's control efficiency is dependent upon ambient air temperature.

Section 6.2.2 states that the APCO may waive the annual testing requirement of Section 6.2.1 if all uncondensed VOC emissions collected by a vapor collection and control system are incinerated in fuel burning equipment, an internal combustion engine or in a smokeless flare.

Section 6.2.3 states that the APCO may waive the annual testing requirement of Section 6.2.1 for a vapor control system which does not have a VOC destruction device.

Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4304} An operator shall source test annually all vapor collection and control systems used to control emissions from steam-enhanced crude oil production well vents to determine the control efficiency of the device(s) used for destruction or removal of VOC. Compliance testing shall be performed annually by source testers certified by ARB. Testing shall be performed during June, July, August, or September of each year if the system's control efficiency is dependent upon ambient air temperature. [District Rule 4401 6.2.1]
- {4305} If approved by EPA, ARB, and the APCO, an operator need not comply with the annual testing requirement of Section 6.2.1 if all uncondensed VOC emissions collected by a vapor collection and control system are incinerated in fuel burning equipment, an internal combustion engine or in a smokeless flare. [District Rule 4401 6.2.2]
- {4307} An operator seeking approval pursuant to Section 6.2.2 or Section 6.2.3 shall submit a written request and supporting information to the APCO. The District shall evaluate the request and if approved by the APCO, the District shall provide EPA and ARB with a copy of the evaluation and shall request EPA and ARB approval. The District evaluation and the APCO request shall be deemed approved unless EPA or ARB objects to such approval in writing within 45 days of the receipt of the APCO request. [District Rule 4401 6.2.4] Y

Section 6.2.5 states an operator shall comply with the following requirements for each gauge tank, as defined in Section 3.17:

Conduct an initial TVP testing of the produced fluid in each gauge tank not later than (six months after rule amendments adoption date). Thereafter, an operator shall conduct periodic TVP testing of each gauge tank at least once every 24 months

during summer (July – September), and whenever there is a change in the source or type of produced fluid in the gauge tank.

The TVP testing shall be conducted at the actual storage temperature of the produced fluid in the gauge tank using the applicable TVP test method specified in Section 6.4 of Rule 4623 (Storage of Organic Liquids). The operator shall submit the TVP testing results to the APCO as specified in Section 6.1.10.

Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4308} An operator shall comply with the following requirements for each gauge tank, as defined in Section 3.17 of Rule 4401: Conduct an initial TVP testing of the produced fluid in each gauge tank not later than June 14, 2007. Thereafter, an operator shall conduct periodic TVP testing of each gauge tank at least once every 24 months during summer (July - September), and whenever there is a change in the source or type of produced fluid in the gauge tank. The TVP testing shall be conducted at the actual storage temperature of the produced fluid in the gauge tank using the applicable TVP test method specified in Section 6.4 of Rule 4623 (Storage of Organic Liquids). The operator shall submit the TVP testing results to the APCO as specified in Section 6.1.10 of Rule 4401. [District Rule 4401 6.2.5]

### **Section 6.3, Test Methods**

Section 6.3.1 specifies that the control efficiency of any VOC control device, 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 EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported.

Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4309} The control efficiency of any VOC control device, 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 EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is

calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4401 6.3.1]

Section 6.3.2 requires that the VOC content shall be analyzed by using the latest revision of ASTM Method E168, E169, or E260 as applicable. Analysis of halogenated exempt compounds shall be analyzed by CARB Method 432. However, Section 4.9 requires the testing methods specified in Section 6.3.5; therefore, the requirements of Section 6.3.5 will be included in the permit.

Section 6.3.3 specifies that leak detection shall be performed with a portable hydrocarbon detection instrument in accordance with EPA Method 21. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one (1) centimeter or less from the surface of the component interface. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {Modified 4311} Leak inspection, other than audio-visual, and measurements of gaseous leak concentrations shall be conducted annually according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instruction, as appropriate, not more than 30 days prior to its use. The operator shall record the calibration date of the instrument. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one (1) centimeter or less from the surface of the component interface. [District Rule 4401 6.3.3] Y

Section 6.3.5 requires that the VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 or the latest revision of ASTM Method E168, E169 or E260 for liquids. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4312} The VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 or the latest revision of ASTM Method E168, E169 or E260 for liquids. [District Rule 4401 6.3.5]

#### **Section 6.4, Inspection Log**

Section 6.4 states that effective on and after January 1, 2009, an operator shall maintain an inspection log in which an operator records, at a minimum, all of the following information for each inspection performed:

- 6.4.1 The total number of components inspected, and the total number and percentage of leaking components found by component type.
- 6.4.2 The location, type, and name or description of each leaking component and description of any unit where the leaking component is found.
- 6.4.3 The date of leak detection and the method of leak detection.
- 6.4.4 For gaseous leaks, the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak.
- 6.4.5 The date of repair, replacement, or removal from operation of leaking components.
- 6.4.6 The identify and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier.
- 6.4.7 The methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier.
- 6.4.8 The date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced.
- 6.4.9 The inspector's name, business mailing address, and business telephone number.
- 6.4.10 The date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log.

Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- {4313} Operator shall maintain an inspection log in which an operator records, at a minimum, all of the following information for each inspection performed: The total number of components inspected, total number and percentage of leaking components found by component type, location, type, and name or description of each leaking component and description of any unit where the leaking component is found, date of leak detection and the method of leak detection. For gaseous leaks, the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak. the date of repair, replacement, or removal from operation of leaking components, identify and

location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, the date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced, the inspector's name, business mailing address, and business telephone number, date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401 6.4]

### **Section 6.5, Employee Training Program**

Effective on and after January 1, 2009, an operator shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures, as necessary. Therefore, the following condition will be listed on ATC C-1121-39-11 to ensure compliance:

- Permittee shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures, as necessary. [District Rule 4401]

### **Section 6.6, Operator Management Plan**

Section 6.6 states that by June 30, 2008, an operator whose existing wells are subject to this rule or whose existing wells are exempt pursuant to Section 4.0 of this rule on or before December 14, 2006 shall prepare and submit an Operator Management Plan for approval by the APCO. An operator may use diagrams, charts, spreadsheets, or other methods approved by the APCO to describe the information required by Section 6.6.4 through Section 6.6.7 below. The Operator Management Plan shall include, at a minimum, all of the following information:

- 6.6.1 A description of all wells and all associated VOC collection and control systems subject to this rule, and all wells and all associated VOC collection and control systems that are exempt pursuant to Section 4.0 of this rule.
- 6.6.2 Identification and description of any known hazard that might affect the safety of an inspector.
- 6.6.3 Except for pipes, the number of components that are subject to this rule by component type.
- 6.6.4 Except for pipes, the number and types of major components, inaccessible components, unsafe-to-monitor components, critical

components, and essential components that are subject to this rule and the reason(s) for such designation.

- 6.6.5 Except for pipes, the location of components subject to the rule (components may be grouped together functionally by process unit or facility description).
- 6.6.6 Except for pipes, components exempt pursuant to Section 4.8 (except for components buried below ground) may be described in the Operator Management Plan by grouping them functionally by process unit or facility description. The results of any laboratory testing or other pertinent information to demonstrate compliance with the applicable exemption criteria for components for which an exemption is being claimed pursuant to Sections 4.8 shall be submitted with the Operator Management Plan.
- 6.6.7 A detailed schedule of an operator's inspections of components to be conducted as required by this rule and whether the operator inspections of components required by this rule will be performed by a qualified contractor or by an in-house team.
- 6.6.8 A description of the training standards for personnel that inspect and repair components.
- 6.6.9 A description of the leak detection training for conducting the test method specified in Section 6.3.3 for new operators, and for experienced operators, as necessary.

Section 6.7 states that by January 30 of each year after 2008, an operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to an existing Operator Management Plan.

Section 6.8 states that the APCO shall provide written notice to the operator of the approval or incompleteness of a new or revised Operator Management Plan within 60 days of receiving such Operator Management Plan. If the APCO fails to respond in writing within 60 days after the date of receiving the Operator Management Plan, it shall be deemed approved. No provision of the Operator Management Plan, approved or not, shall conflict with or take precedence over any provision of this rule.

Therefore, the following conditions will be listed on ATC C-1121-39-11 to ensure compliance:

- {4300} Operator shall keep a copy of the APCO-approved Operator Management Plan at the facility. [District Rule 4401 6.1.8]

- {modified 3469} By January 30 of each year, permittee shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved Operator Management Plan. [District Rule 4401]
- {modified 3470} In accordance with the approved Operator Management Plan, permittee shall meet all applicable operating, leak standards, inspection and re-inspection, leak repair, record keeping, and notification requirements of Rule 4401. [District Rule 4401]

### **Section 7.0, Compliance Schedule**

Section 7.0 establishes the compliance schedule requirements for existing and new steam-enhanced crude oil production wells. These are new steam-enhanced crude oil production wells and will be operating in compliance with the requirements of this rule. Therefore, no further discussion is required.

### **Conclusion**

Conditions will be incorporated into the permit in order to ensure compliance with each section of this rule, see attached draft permit. Therefore, compliance with District Rule 4401 requirements is expected.

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

The District has verified that this site is located within 1,000 feet of a school. However, pursuant to California Health and Safety Code 42301.6, since this project will not result in an increase in emissions, a school notice is not required.

### **California Environmental Quality Act (CEQA)**

The California Environmental Quality Act (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 San Joaquin Valley Unified Air Pollution Control District (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.

- 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.

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project. The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions as there is no increase in any emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

### **District CEQA Findings**

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

### **IX. Recommendation**

Issue Authority to Construct C-1121-39-11 subject to the permit conditions on the attached Authority to Construct.

### **X. Billing**

<b>Billing Schedule</b>		
<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>
C-1121-39-11	3020-09-B	213 Wells

### **XI. Appendices**

- A: Current PTO
- B: Application
- C: Draft ATC
- D: Gas Analysis
- E: Emission Profile

Appendix A  
Current PTO

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-1121-39-9

EXPIRATION DATE: 12/31/2006

SECTION: 29 TOWNSHIP: 19S RANGE: 15E

## EQUIPMENT DESCRIPTION:

CVR-2: 213 STEAM-DRIVE WELLS SERVED BY 140 HP CASING VAPOR RECOVERY SYSTEM WITH HEAT EXCHANGER E-200, FIN-FAN COOLER E-210, SEPARATOR V-200, CONDENSATE PUMPS P-200 & P-201, AND GAS COMPRESSOR SKID WITH COMPRESSOR C-20, FIN-FAN COOLER E-20, SEPARATORS V-20 & V-21, AND CONDENSATE PUMP P-20. RECOVERED VAPOR LINE CONNECTED TO RECOVERED VAPOR LINES OF PERMIT UNITS C-1121-116 & C-1121-114

## PERMIT UNIT REQUIREMENTS

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1. Non-condensibles shall be exhausted into a working steam generator firebox or flare for combustion. [District NSR Rule] Federally Enforceable Through Title V Permit
2. The uncontrolled VOC emissions from any well vent shall be reduced by at least 99 percent by weight or, if several steam-enhanced crude oil production well vents are connected to a vapor collection and control system, total uncontrolled VOC emissions shall be reduced by at least 99 percent. [District Rule 4401, 5.1 and 5.2] Federally Enforceable Through Title V Permit
3. If the well casing vent is sealed or "shut-in", then the produced oil is to be routed only to tanks served by the vapor recovery system under permit #C-1121-45 with 99% control efficiency. [District NSR Rule and Rule 4401, 5.2] Federally Enforceable Through Title V Permit
4. VOC emissions shall not exceed 2.222 lb VOC/day per well. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Permittee shall maintain a well roster listing all wells connected to the well vent vapor recovery system and which well casing vents are shut-in. The well roster shall be kept on site and shall be made available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
6. During the time any steam-enhanced crude oil production well is undergoing service or repair while the well is not producing, it shall be exempt from the emission control requirements of District Rule 4401, 5.0 (as amended January 15, 1998). [District Rule 4401, 4.1] Federally Enforceable Through Title V Permit
7. The operator shall maintain monitoring records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401, 6.1.1] Federally Enforceable Through Title V Permit
8. Total number of leaks from the vapor collection and control system, including condensate handling, shall not exceed the number as allowed by Rule 4401 (as amended January 15, 1998) at any one time. [District Rule 4401, 5.3] Federally Enforceable Through Title V Permit
9. An operator, upon detection of a leak, shall affix a readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired. [District Rule 4401, 5.3.1] Federally Enforceable Through Title V Permit
10. Operator shall repair each leak within 15 days of detection. The APCO may grant a 10 day extension if the operator demonstrates that the necessary and sufficient actions have and are being taken to correct the leak. [District Rule 4401, 5.3.1] 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. Operator shall maintain all components of a well vent vapor collection and control system in good repair. Components of the well vent vapor collection and control system shall include all piping, valves, fittings, pumps, compressors, tanks, etc. used to collect, control, store, or dispose of VOC condensate or non-condensable VOCs and which is prior to any blending of VOC condensate with crude oil or blending of non-condensable VOCs with gases to be used as a fuel. [District Rule 4401, 5.3 and 5.3.2] Federally Enforceable Through Title V Permit
12. The source shall perform leak inspections at least annually, using a portable hydrocarbon detection instrument in accordance with USEPA Method 21. [District Rules 2520, 9.4.2 and 4401, 6.3.3] Federally Enforceable Through Title V Permit
13. Compliance with permit conditions in the Title V permit shall be deemed compliance with SJVUAPCD Rule 4401 (Amended January 15, 1998), excluding sections 5.1 and 5.2 for control systems which have been waived from complying with the requirement of section 6.2.1. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
14. Compliance with permit Condition 2 on the Title V permit shall be deemed compliance with efficiency specification which have been waived by exhausting non-condensibles into a working steam generator firebox or flare for combustion. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
15. The crude oil production wells associated with this unit do not have production enhanced by in-situ combustion. Therefore, the requirements of SJVUAPCD Rule 4407 (Adopted May 19, 1994) do not apply to this permit unit. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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

## Appendix B Application

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

**TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM**

**I. TYPE OF PERMIT ACTION (Check appropriate box)**

- SIGNIFICANT PERMIT MODIFICATION       ADMINISTRATIVE  
 MINOR PERMIT MODIFICATION               AMENDMENT

<b>COMPANY NAME:</b> <b>Aera Energy LLC</b>	<b>FACILITY ID:</b> C-1121
<b>1. Type of Organization:</b> <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
<b>2. Owner's Name:</b>	
<b>3. Agent to the Owner:</b>	

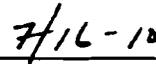
**II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):**

- Based on information and belief formed after reasonable inquiry, the source identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the source 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



\_\_\_\_\_  
Date

K. A. Peck

\_\_\_\_\_  
Name of Responsible Official (please print)

Operations Manager

\_\_\_\_\_  
Title of Responsible Official (please print)

Add vapor compressor to CVR-2.

Appendix C  
Draft ATC

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**

**PERMIT NO:** C-1121-39-11

**LEGAL OWNER OR OPERATOR:** AERA ENERGY LLC  
**MAILING ADDRESS:** 10000 MING AVE  
P O BOX 11164  
BAKERSFIELD, CA 93389-1164

**LOCATION:** HEAVY OIL PRODUCTION  
FRESNO COUNTY, CA

**SECTION:** 29 **TOWNSHIP:** 19S **RANGE:** 15E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF CVR-2: 213 STEAM-DRIVE WELLS SERVED BY 140 HP CASING VAPOR RECOVERY SYSTEM WITH HEAT EXCHANGER E-200, FIN-FAN COOLER E-210, SEPARATOR V-200, CONDENSATE PUMPS P-200 & P-201, AND GAS COMPRESSOR SKID WITH COMPRESSOR C-20, FIN-FAN COOLER E-20, SEPARATORS V-20 & V-21, AND CONDENSATE PUMP P-20. RECOVERED VAPOR LINE CONNECTED TO RECOVERED VAPOR LINES OF PERMIT UNITS C-1121-116 & C-1121-114: ADD 75 HP VAPOR COMPRESSOR SKID WITH OUTLET FIN-FAN COOLER, GAS LIQUID SEPARATORS, AND CONDENSATE PUMPS

**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 NSR Rule] 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. Non-condensibles shall be exhausted into a working steam generator firebox or flare for combustion. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The uncontrolled VOC emissions from any well vent shall be reduced by at least 99 percent by weight or, if several steam-enhanced crude oil production well vents are connected to a vapor collection and control system, total uncontrolled VOC emissions shall be reduced by at least 99 percent. [District Rule 4401] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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

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DAVID WARNER, Director of Permit Services  
C-1121-39-11 Aug 31 2010 4:20PM -- GARCIAU Joint Inspection NOT Required

5. If the well casing vent is sealed or "shut-in", then the produced oil is to be routed only to tanks served by the vapor recovery system under permit #C-1121-45 with 99% control efficiency. [District NSR Rule and Rule 4401, 5.5.1] Federally Enforceable Through Title V Permit
6. Permittee shall maintain a well roster listing all wells connected to the well vent vapor recovery system and which well casing vents are shut-in. The well roster shall be kept on site and shall be made available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
7. During the time any steam-enhanced crude oil production well is undergoing service or repair while the well is not producing, it shall be exempt from the emission control requirements of District Rule 4401, 5.0. [District Rule 4401, 4.1] Federally Enforceable Through Title V Permit
8. {4278} An operator shall comply with the requirements of Section 6.7 of Rule 4401 if there is any change in the description of major components or critical components. [District Rule 4401 5.7.3] Federally Enforceable Through Title V Permit
9. {4272} Gas and liquid leaks are as defined in Section 3.20 of Rule 4401. [District Rule 4401 3.20] Federally Enforceable Through Title V Permit
10. {4273} An operator shall not operate a steam-enhanced crude oil production well unless the operator complies with either of the following requirements: The steam-enhanced crude oil production well vent is closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401, the well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere, or the steam-enhanced crude oil production well vent is open and the well vent is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401. [District Rule 4401, 5.5.1 and 5.5.2] Federally Enforceable Through Title V Permit
11. Permittee shall maintain an APCO-approved VOC collection and control system that is not open to the atmosphere and that is composed of hard-piping, ductwork connections and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to an APCO-approved control device that has a VOC destruction or removal efficiency of at least 99%, or that transports gases or vapors back to a process system. [District Rules 2201 and 4401] Federally Enforceable Through Title V Permit
12. VOC content of well vent vapor gas shall not exceed 10% by weight. If the VOC content of the well vent vapor gas is less than 10% by weight for 8 consecutive quarterly samplings per District approved plan, sampling frequency shall only be required annually. If an annual source test fails to show compliance, quarterly testing shall resume. [District Rules 2201 and 4401, 4.9] Federally Enforceable Through Title V Permit
13. The annual inspection requirements of Section 5.8.1 through 5.8.5 of Rule 4401 shall not apply to components exclusively handling gas/vapor or liquid with a VOC content of ten percent by weight (10 wt. %) or less, as determined by the test methods in Section 6.3.5 of Rule 4401. [District Rule 4401, 4.9] Federally Enforceable Through Title V Permit
14. {4309} The control efficiency of any VOC control device, 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 EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4401 6.3.1] Federally Enforceable Through Title V Permit
15. {4312} The VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 or the latest revision of ASTM Method E168, E169 or E260 for liquids. [District Rule 4401 6.3.5] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

16. {4304} An operator shall source test annually all vapor collection and control systems used to control emissions from steam-enhanced crude oil production well vents to determine the control efficiency of the device(s) used for destruction or removal of VOC. Compliance testing shall be performed annually by source testers certified by ARB. Testing shall be performed during June, July, August, or September of each year if the system's control efficiency is dependent upon ambient air temperature. [District Rule 4401 6.2.1] Federally Enforceable Through Title V Permit
17. {4305} If approved by EPA, ARB, and the APCO, an operator need not comply with the annual testing requirement of Section 6.2.1 if all uncondensed VOC emissions collected by a vapor collection and control system are incinerated in fuel burning equipment, an internal combustion engine or in a smokeless flare. [District Rule 4401 6.2.2] Federally Enforceable Through Title V Permit
18. Leak inspection, other than audio-visual, and measurements of gaseous leak concentrations shall be conducted annually according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instruction, as appropriate, not more than 30 days prior to its use. The operator shall record the calibration date of the instrument. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one (1) centimeter or less from the surface of the component interface. [District Rule 4401 6.3.3] Federally Enforceable Through Title V Permit
19. {4276} An operator shall not use any component with a leak as defined in Section 3.0 of Rule 4401, or that is found to be in violation of the provisions of Section 5.6.2 of Rule 4401. However, components that were found leaking may be used provided such leaking components have been identified with a tag for repair, are repaired, or awaiting re-inspection after being repaired within the applicable time frame specified in Section 5.9 of Rule 4401. [District Rule 4401 5.7.1] Federally Enforceable Through Title V Permit
20. {4285} An operator shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak and shall include the following information on the tag: date and time of leak detection, date and time of leak measurement, for a gaseous leak, the leak concentration in ppmv, for a liquid leak, whether it is a major liquid leak or a minor liquid leak, whether the component is an essential component, an unsafe-to monitor component, or a critical component. [District Rule 4401 5.9.1] Federally Enforceable Through Title V Permit
21. {4286} An operator shall keep the tag affixed to the component until an operator has met all of the following conditions: repaired or replaced the leaking component, re-inspected the component using the test method in Section 6.3.3, and 5.9.2.3 of Rule 4401, or the component is found to be in compliance with the requirements of this rule. [District Rule 4401 5.9.2] Federally Enforceable Through Title V Permit
22. {4287} An operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401 5.9.3] Federally Enforceable Through Title V Permit
23. {4288} Except for leaking critical components or leaking essential components subject to the requirements of Section 5.9.7 of Rule 4401, if an operator has minimized a leak but the leak still exceeds the applicable leak limits as defined in Section 3.0 of Rule 4401, an operator shall comply with at least one of the following requirements as soon as practicable but not later than the time period specified in Table 4 of Rule 4401: Repair or replace the leaking component; or vent the leaking component to a VOC collection and control system as defined in Section 3.0 of Rule 4401, or remove the leaking component from operation. [District Rule 4401 5.9.4] Federally Enforceable Through Title V Permit
24. {4289} The repair period in calendar days shall not exceed 14 days for minor gas leaks, 5 days for major gas leaks less than or equal to 50,000 ppmv, 2 days for gas leak greater than 50,000 ppmv, 3 days for minor liquid leaks, 2 days for major liquid leaks. [District Rule 4401 5.9.4] Federally Enforceable Through Title V Permit
25. {4290} The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period specified in Table 4 of Rule 4401. [District Rule 4401 5.9.5] Federally Enforceable Through Title V Permit
26. {4291} The time of the initial leak detection shall be the start of the repair period specified in Table 4 of Rule 4401. [District Rule 4401 5.9.6] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

27. {4292} If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. [District Rule 4401 5.9.7] Federally Enforceable Through Title V Permit
28. {4274} An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.8 of Rule 4401 demonstrates the existence of an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations as defined by Section 5.6.2.1 of Rule 4401 requiring process fluid flow through the open-ended lines, a component with a major liquid leak, or a component with a gas leak greater than 50,000 ppmv. [District Rule 4401 5.6.2] Federally Enforceable Through Title V Permit
29. {4275} An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.8 of Rule 4401 demonstrates the existence of any combination of components with minor liquid leaks, minor gas leaks, or a gas leaks greater than 10,000 ppmv up to 50,000 ppmv that totals more than number of leaks allowed by Table 3 of Rule 4401. [District Rule 4401 5.6.2] Federally Enforceable Through Title V Permit
30. {4277} Each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401 5.7.2] Federally Enforceable Through Title V Permit
31. {4308} An operator shall comply with the following requirements for each gauge tank, as defined in Section 3.17 of Rule 4401: Conduct an initial TVP testing of the produced fluid in each gauge tank not later than June 14, 2007. Thereafter, an operator shall conduct periodic TVP testing of each gauge tank at least once every 24 months during summer (July - September), and whenever there is a change in the source or type of produced fluid in the gauge tank. The TVP testing shall be conducted at the actual storage temperature of the produced fluid in the gauge tank using the applicable TVP test method specified in Section 6.4 of Rule 4623 (Storage of Organic Liquids). The operator shall submit the TVP testing results to the APCO as specified in Section 6.1.10 of Rule 4401. [District Rule 4401 6.2.5] Federally Enforceable Through Title V Permit
32. {4302} The results of gauge tank TVP testing conducted pursuant to Section 6.2.5 shall be submitted to the APCO within 60 days after the completion of the testing. [District Rule 4401 6.1.10] Federally Enforceable Through Title V Permit
33. {4303} An operator that discovers that a PRD has released shall record the date that the release was discovered, and the identity and location of the PRD that released. An operator shall submit such information recorded during the calendar year to the APCO no later than 60 days after the end of the calendar year. [District Rule 4401 6.1.11] Federally Enforceable Through Title V Permit
34. Permittee shall maintain a written record of VOC content of the gas (sampled not less than annually) and shall make such records available for District inspection upon request for a period of five years. [District Rule 2201] Federally Enforceable Through Title V Permit
35. {4293} The operator of any steam-enhanced crude oil production well shall maintain records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401 6.1.1] Federally Enforceable Through Title V Permit
36. {4295} An operator of any steam-enhanced crude oil production well shall keep source test records which demonstrate compliance with the control efficiency requirements of the VOC collection and control system as defined in Section 3.0 of Rule 4401. [District Rule 4401 6.1.3] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

37. {4397} The permittee shall submit certifications of compliance with the terms and standards contained in Title V permits, including emission limits, standards and work practices, to the District and the EPA annually (or more frequently as specified in an applicable requirement or as specified by the District). The certification shall include the identification of each permit term or condition, the compliance status, whether compliance was continuous or intermittent, the methods used for determining the compliance status, and any other facts required by the District to determine the compliance status of the source. [District Rule 2520, 9.16] Federally Enforceable Through Title V Permit
38. {4298} Records of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components, including a copy of current calibration gas certification from the vendor of said calibration gas cylinder, the date of calibration, concentration of calibration gas, instrument reading of calibration gas before adjustment, instrument reading of calibration gas after adjustment, calibration gas expiration date, and calibration gas cylinder pressure at the time of calibration shall be maintained. [District Rule 4401 6.1.6] Federally Enforceable Through Title V Permit
39. {4299} An operator shall maintain copies at the facility of the training records of the training program operated pursuant to Section 6.5 of Rule 4401. [District Rule 4401 6.1.7] Federally Enforceable Through Title V Permit
40. {4300} Operator shall keep a copy of the APCO-approved Operator Management Plan at the facility. [District Rule 4401 6.1.8] Federally Enforceable Through Title V Permit
41. All records required by this permit shall be maintained and retained on-site for a minimum of five (5) years and made available for District, ARB, and EPA inspection upon request. [District Rules 2520, 9.5.2 and 4401] Federally Enforceable Through Title V Permit
42. Compliance with permit Condition 4 of this permit (or Condition 2 on the Title V permit after Conditions 1 and 2 are removed) shall be deemed compliance with efficiency specification which have been waived by exhausting non-condensibles into a working steam generator firebox or flare for combustion. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
43. {1769} The crude oil production wells associated with this unit do not have production enhanced by in-situ combustion. Therefore, the requirements of SJVUAPCD Rule 4407 (Adopted May 19, 1994) do not apply to this permit unit. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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## Appendix D Gas Analysis



E-mail: [pgtech@earthlink.net](mailto:pgtech@earthlink.net)

4100 Burr St.  
 P O Box 80647  
 Bakersfield, CA 93360-0647  
 (861) 324-1317  
 (861) 324-2748

Attention: Brian Williams  
 Aera Energy LLC  
 29010 Shell Rd.  
 Coalinga, Ca 93210

Sampled: 03/17/2010  
 Submitted: 03/18/2010  
 Analyzed: 03/19/2010  
 Reported: 03/23/2010

**Gas Analysis by Chromatography - ASTM D 1945/D 3588**

Meter #: Lab No.: 100281-6  
 Description: CVR #2 Discharge Pressure:  
 Field: Coalinga Temperature:

Component	Mole %	Weight %	G/MCF	
Oxygen	1.01	1.01		
Nitrogen	4.69	4.09		
Carbon Dioxide	52.66	72.12		
Hydrogen	ND	0.00		
Carbon Monoxide	ND	0.00		
Methane	39.78	19.86		
Ethane	0.82	0.77		
Propane	0.41	0.56	0.113	
iso-Butane	0.05	0.09	0.016	
n-Butane	0.03	0.05	0.009	
iso-Pentane	0.04	0.09	0.015	
n-Pentane	0.02	0.04	0.007	
Hexanes Plus	0.49	1.31	0.201	
Totals	100.00	100.00	0.362	

Specific Volume, ft <sup>3</sup> /lb	11.80	Values Corrected for Compressibility	CHONS	Weight %
Compressibility (Z) Factor	0.9962			
Specific Gravity, Calculated	1.1094	1.1132	Carbon	36.957
			Hydrogen	5.512
			Oxygen	53.442
<b>GROSS</b>			Nitrogen	4.089
BTU/m <sup>3</sup> Dry	455.0	456.7	Sulfur	0.000
BTU/m <sup>3</sup> Wet	447.0	448.7		
BTU/lb Dry	5368.4	5388.8	F FACTOR @	9761
BTU/lb Wet	5274.4	5294.5	60 deg F, dsc/MMBTU	
<b>NET</b>			F FACTOR @	9614
BTU/m <sup>3</sup> Dry	410.8	412.3	60 deg F, dsc/MMBTU	
BTU/m <sup>3</sup> Wet	403.6	405.1		
BTU/lb Dry	4846.9	4865.3		
BTU/lb Wet	4762.1	4780.2		

Hydrogen Sulfide, ppm	22.000	Method	GC-FPD/TCD
Total Sulfur as H <sub>2</sub> S, ppm	Not Tested	Method	EPA Method 19
Dew Point, deg F	Not Tested	Method	Bureau of Mines
Moisture, lbs H <sub>2</sub> O/MMCF	Not Tested	Method	Bureau of Mines
Molecular Weight	31.81		

ND None Detected

Tr : Trace

## Appendix E Emission Profile

Permit #: C-1121-39-11	Last Updated
Facility: AERA ENERGY LLC	08/23/2010 GARCIAJ

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	0.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					