



DEC 29 2016

Mr. John Haley
Aera Energy, LLC
10,000 Ming Avenue
Bakersfield, CA 93311

**Re: Notice of Significant Title V Permit Modification
District Facility # S-1547
Project # S-1163521**

Dear Mr. Haley:

Enclosed for your review is the District's analysis of an application for significant Title V permit modification for the facility identified above. Aera Energy LLC. is proposing to revise well vapor control system sulfur monitoring conditions.

Enclosed are the current Title V permit, recently issued, proposed modified Title V permit, engineering evaluation, and application. The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the modified Title V operating permit. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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

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

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Arnaud Marjollet". The signature is written in black ink and is positioned above the printed name.

Arnaud Marjollet
Director of Permit Services

Enclosures

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

TITLE V APPLICATION REVIEW

Significant Modification

Project #: S-1163521

Engineer: Steve Davidson

Date: December 14, 2016

Facility Number: S-1547
Facility Name: Aera Energy LLC
Mailing Address: 10000 Ming Avenue
Bakersfield, CA 93311

Contact Name: John Haley
Phone: (661) 665-5264

Responsible Official: E.E. Patterson
Title: Process Supervisor

I. PROPOSAL

Aera Energy LLC is proposing a Title V significant permit modification to their Title V operating permit. The applicant is proposing to modify a TEOR operation (S-1547-819) by revising and removing sulfur scrubber conditions. The conditions address when Aera does not have to operate the scrubber. In order for steam generators to combust the TEOR gas all the gas must be scrubbed for Rule 4320 compliance; therefore, permits will be modified as follows:

21. ~~"If unscrubbed sulfur rate exceeds 109.2 lb S/day, non-condensable gas shall be scrubbed by sulfur scrubbing systems prior to incineration in steam generators S-1547-766 to '-772, '-777 to'-781, or other District approved steam generators. [District Rule 2201] Y"~~
26. "Permittee shall maintain accurate daily records of gas flowrate leaving sulfur scrubbing systems, and sulfur content (by daily gas sampling) of non-condensable gas entering and leaving sulfur scrubbing systems. [District Rule 2201] Y"
27. ~~"If sulfur scrubbing systems are not utilized, permittee shall maintain accurate daily records of total unscrubbed sulfur mass flow rate and sulfur content (by daily gas sampling) of unscrubbed non-condensable gas. [District Rule 2201] Y"~~

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

II. FACILITY LOCATION

The equipment is located at the Moco Lease in the Midway Sunset Oilfield within Aera's Heavy Oil Western stationary source, within Section 35, Township 12N, Range 24W.

III. EQUIPMENT DESCRIPTION

Pre-Project

S-1547-819-6: TEOR OPERATION W/ UP TO 900 STEAM DRIVE WELLS SERVED BY WELL CASING VENT VAPOR CONTROL AND CONTROL SYSTEM

Post-Project

S-1547-819-11: TEOR OPERATION W/ UP TO 900 STEAM DRIVE WELLS SERVED BY WELL CASING VENT VAPOR CONTROL AND CONTROL SYSTEM

IV. SCOPE OF EPA AND PUBLIC REVIEW

This change to a Title V permit is considered to be a significant modification because the applicant is proposing to relax recordkeeping requirements. As such, this project requires public review.

V. APPLICABLE REQUIREMENTS

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

VI. DESCRIPTION OF PROPOSED MODIFICATIONS

Aera Energy LLC is proposing to modify conditions 21, 26, and remove condition 27 on permit unit S-1547-819-6.

Condition 21 requires non-condensable gasses to be scrubber if the unscrubbed sulfur rate exceed 109.2 lb per day. The unscrubbed gas allowance is being removed because all of the gas from the well casing vent system is scrubbed in

order for steam generators combusting the gasses to meet Rule 4320 requirements.

21. ~~"If unscrubbed sulfur rate exceeds 109.2 lb S/day, a~~Non-condensable gas shall be scrubbed by sulfur scrubbing systems prior to incineration in steam generators S-1547-766 to '-772, '-777 to '-781, or other District approved steam generators. [District Rule 2201] Y"

Condition 26 is being modified to remove the recordkeeping requirement of maintaining the sulfur content of the non-condensable gas entering the scrubber. This condition is not necessary, as the scrubber is not subject to any control efficiency requirements .

26. "Permittee shall maintain accurate daily records of gas flowrate leaving sulfur scrubbing systems, and sulfur content (by daily gas sampling) of non-condensable gas ~~entering and leaving sulfur scrubbing systems.~~ [District Rule 2201] Y"

Condition 27 requires daily records of the total unscrubbed sulfur mass flow rate and sulfur content of unscrubbed non- condensable gas. All non-condensable gasses are being scrubbed; therefore, this condition is not required and will be removed.

27. ~~"If sulfur scrubbing systems are not utilized, permittee shall maintain accurate daily records of total unscrubbed sulfur mass flow rate and sulfur content (by daily gas sampling) of unscrubbed non-condensable gas. [District Rule 2201] Y"~~

VII. COMPLIANCE

District Rule 2520, Section 6.0 describes the source's ability to make changes including significant permit modification. This modification does not meet the minor permit modification criteria pursuant to Section 3.20 described as follows.

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;

4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include;
 - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
 - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

In accordance with Rule 2520, the application meets the procedural requirements of Section 11.3 by including:

1. The identification of the source, the name and address of the permit holder, the activities and emissions change involved in the permit action;
2. The name and address of the District, the name and telephone number of District staff to contact for additional information;
3. The availability, upon request, of a statement that sets forth the legal and factual basis for the proposed permit conditions;
4. The location where the public may inspect the complete application, the District analysis, the proposed permit, and all relevant supporting materials;
5. A statement that the public may submit written comments regarding the proposed decision within at least 30 days from the date of publication and a brief description of commenting procedures, and
6. A statement that members of the public may request the APCO or his designee to preside over a public hearing for the purpose of receiving oral public comment, if a hearing has not already been scheduled. The APCO shall provide notice of any public hearing scheduled to address the proposed decision at least 30 days prior to such hearing;

VIII. ATTACHMENTS

- A. Proposed Modified Title V Operating Permit No. S-1547-819-11
- B. Previous Title V Operating Permit No. S-1547-819-6
- C. Emissions Increases
- D. Application

ATTACHMENT A

Proposed Modified Title V Operating Permit No.
S-1547-819-11

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-819-11

EXPIRATION DATE: 05/31/2016

SECTION: 35 TOWNSHIP: 12N RANGE: 24W

EQUIPMENT DESCRIPTION:

TEOR OPERATION W/ UP TO 900 STEAM DRIVE WELLS SERVED BY WELL CASING VENT VAPOR CONTROL AND CONTROL SYSTEM

PERMIT UNIT REQUIREMENTS

1. Fugitive VOC emissions from all components associated with this operation shall not exceed 410.6 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Permittee shall maintain for a period of five years, accurate records of fugitive inspection component counts, leak screening values in excess of 10,000 ppm, and shall, as approved by the District, calculate fugitive emissions using February 1999 CAPCOA California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities Table IV-2c. Permittee shall make records of component counts, screening values, and calculations readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Operation shall include liquid knockout vessels (separators), heat exchangers, and vapor compressors. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Operation shall include vapor collection piping network from well vent vapor control system and tank battery vapor control system S-1547-843 to sulfur scrubbing systems (primary & standby). [District Rule 2201] Federally Enforceable Through Title V Permit
5. Permittee shall maintain a current roster of wells connected to the casing collection system, and such roster shall be made readily available for District inspection upon request [District Rule 2201] Federally Enforceable Through Title V Permit
6. Primary sulfur scrubbing system shall include casing gas coolers and pumps, contactor vessels and separators, regenerator section with heat exchangers, recirculation pump & air blower, and chemical storage tanks. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Standby sulfur scrubbing system shall include contactor vessels and separators. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Sulfur scrubbing system(s) shall use District approved scrubbing agents including, Exxon Sulfa Check, DOW Sulferox, WESCHEM Sulfarid, SulfaScrub, and Betz DX-1026 Formulations. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior District approval shall be obtained for using alternative sulfur scrubbing agents other than those listed above. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Casing vapor collection system shall be equipped with vapor flow rate indicator/recorder downstream of condensation and sulfur removal equipment measuring total non-condensable vapor flow rate. [District Rule 2201] Federally Enforceable Through Title V Permit
11. All wells approved by this permit shall have the well head casing vents routed to the TEOR well vent vapor control system. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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12. Well casing vents may be closed provided produced fluids are handled only in production facilities with District-approved emission control systems achieving at least 99% control. [District Rule 2201 and District Rule 4401] Federally Enforceable Through Title V Permit
13. An inspection and maintenance program consistent with Rule 4403 for light oil production facilities shall be implemented for stuffing boxes and polish rods of 479 newly authorized steam drive wells (identified by well roster). [District Rule 2201] Federally Enforceable Through Title V Permit
14. Sulfur bin ventilation (if applicable) shall be vented to one or more of the District approved steam generators connected to desulfurized casing gas piping network. [District Rule 2201] Federally Enforceable Through Title V Permit
15. During temporary periods of maintenance covered in the permittee's bi-annual maintenance plan the permittee may conduct maintenance or repair activities contained in the District approved bi-annual maintenance plan without shutting-in production from wells served by the well vent vapor collection system, for no more than a total of 336 hours during any one calendar year for each system. Maintenance covered by the permittee's bi-annual maintenance plan may exceed 336 hours during any one calendar year when maintenance is performed while all casing well vents covered by this permit are closed. When multiple vapor recovery systems serve the same wells in series or in parallel, a total of 336 hours of maintenance shall be allowed for all systems combined. [District Rule 2201] Federally Enforceable Through Title V Permit
16. During temporary periods of maintenance covered in the permittee's bi-annual maintenance plan, well vent vapor recovery piping may be temporarily shut-in or isolated for routine maintenance or repair activities without closing the well vents normally served by a well vent vapor collection system provided that well vent vapors are routed to a vapor recovery system that complies with District rule 4401 and all otherwise applicable provisions of this permit. [District Rule 2201 and District Rule 4401] Federally Enforceable Through Title V Permit
17. Well vent vapor collection system piping and components shall be maintained as required by Rule 4401, and well vent vapors shall not be vented or bled-off to the atmosphere except for those actions necessary to safely isolate vessels and piping for routine maintenance. [District Rule 2201 and District Rule 4401] Federally Enforceable Through Title V Permit
18. The District shall be notified at least 48 hours prior to the start of each maintenance program. No later than 10 days after completing each maintenance episode, the permittee shall notify the District in writing of the date, time, duration, well number(s), and description of the maintenance or repair activity completed. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Permittee shall maintain records of the date, time, and duration of each maintenance or repair episode requiring the temporary isolation of well vent vapor recovery piping. Such records shall include well identification numbers and a description of the maintenance or repair activity completed, and shall be maintained for a period of up to 5 years, and be made readily available to the District upon request. [District Rule 2201 and District Rule 1070] Federally Enforceable Through Title V Permit
20. Permittee shall submit to the District bi-annual maintenance plans. The maintenance plan must identify each permit unit and illustrate them on a detailed map of the system, identify the period and duration of each maintenance episode for each system, an estimate of VOC emissions released during maintenance, and the procedures that will be used to maintain and isolate affected equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Non-condensable gas shall be scrubbed by sulfur scrubbing systems prior to incineration in steam generators S-1547-766 to '-772, '-777 to '-781, or other District approved steam generators. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Liquid condensate from vapor recovery piping, condensation, and sulfur scrubbing systems shall be pumped to production manifold. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Non-condensable gas from vapor control system shall not be vented to atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Maximum gas flow rate from well casing vent vapor control system shall not exceed 4.09 MMscf/day. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. Total mass flow rate of sulfur compounds from sulfur scrubbing systems shall not exceed 258.0 lb/day as S. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Permittee shall maintain accurate daily records of gas flowrate leaving sulfur scrubbing systems, and sulfur content (by daily gas sampling) of non-condensable gas leaving sulfur scrubbing systems. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Particulate matter (as PM10) emissions from TEOR gas incineration shall not exceed 55.9 lb/day (shared with all District approved steam generators). [District Rule 2201] Federally Enforceable Through Title V Permit
28. 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
29. 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. [District Rule 4401, 4.1] Federally Enforceable Through Title V Permit
30. The inspection requirements of Section 5.4.1 through Section 5.4.7 of Rule 4401 shall not apply to components exclusively handling gas/vapor or liquid with a VOC content of ten percent by weight (10%) or less, as determined by the test methods in Section 6.3.4 of Rule 4401. [District Rule 4401, 4.7] Federally Enforceable Through Title V Permit
31. 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
32. An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.4 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 2 of Rule 4401. [District Rule 4401, 5.2.2] Federally Enforceable Through Title V Permit
33. 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 5.2.2 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 5.5 of Rule 4401. [District Rule 4401, 5.3.1] Federally Enforceable Through Title V Permit
34. 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, 5.3.2] Federally Enforceable Through Title V Permit
35. 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, 5.3.3] Federally Enforceable Through Title V Permit
36. Except for pipes and unsafe-to-monitor components, an operator shall inspect all other components pursuant to the requirements of Section 6.3.3 of Rule 4401 at least once every year. [District Rule 4401, 5.4.1] Federally Enforceable Through Title V Permit
37. An operator shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.2] Federally Enforceable Through Title V Permit

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PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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38. In addition to the inspections required by Section 5.4.1 of Rule 4401, an operator shall inspect for leaks all accessible operating pumps, compressors, and PRDs in service as follows: An operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, and PRDs in service at least once each calendar week. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.3] Federally Enforceable Through Title V Permit
39. In addition to the inspections required by Sections 5.4.1, 5.4.2 and 5.4.3 of Rule 4401, operator shall perform the following: initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release, re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection, inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. Except for PRDs subject to the requirements of Section 5.4.4.1 of Rule 4401, an operator shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401, 5.4.4] Federally Enforceable Through Title V Permit
40. An operator shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401, 5.4.7] Federally Enforceable Through Title V Permit
41. District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator. [District Rule 4401, 5.4.8] Federally Enforceable Through Title V Permit
42. 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, 5.5.1] Federally Enforceable Through Title V Permit
43. 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 the component is found to be in compliance with the requirements of this rule. [District Rule 4401 5.5.2] Federally Enforceable Through Title V Permit
44. 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, 5.5.3] Federally Enforceable Through Title V Permit
45. Except for leaking critical components or leaking essential components subject to the requirements of Section 5.5.7 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 3 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, 5.5.4] Federally Enforceable Through Title V Permit
46. 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, 5.5.4] Federally Enforceable Through Title V Permit
47. 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 3 of Rule 4401. [District Rule 4401, 5.5.5] Federally Enforceable Through Title V Permit
48. The time of the initial leak detection shall be the start of the repair period specified in Table 3 of Rule 4401. [District Rule 4401, 5.5.6] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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49. 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, 5.5.7] Federally Enforceable Through Title V Permit
50. 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
51. 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
52. 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, 6.1.4] Federally Enforceable Through Title V Permit
53. 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, 6.1.5] Federally Enforceable Through Title V Permit
54. 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, 6.1.6] Federally Enforceable Through Title V Permit
55. Operator shall keep a copy of the APCO-approved Operator Management Plan at the facility. [District Rule 4401, 6.1.7] Federally Enforceable Through Title V Permit
56. Operator shall keep a list of all gauge tanks, as defined in Section 3.0 of Rule 4401. 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, 6.1.8] Federally Enforceable Through Title V Permit
57. The results of gauge tank TVP testing conducted pursuant to Section 6.2.3 shall be submitted to the APCO within 60 days after the completion of the testing. [District Rule 4401, 6.1.9] Federally Enforceable Through Title V Permit
58. 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, 6.1.10] Federally Enforceable Through Title V Permit
59. 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. A process system as defined in Section 3.30 of Rule 4401 is not subject to compliance source testing requirements. [District Rule 4401, 6.2.1] Federally Enforceable Through Title V Permit
60. 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 are controlled by an internal combustion engine subject to Rule 4702, a combustion device subject to Rule 4320, 4307 or 4308, a flare subject to Rule 4311. [District Rule 4401, 6.2.2] Federally Enforceable Through Title V Permit
61. An operator shall comply with the following requirements for each gauge tank, as defined in Section 3.0 of Rule 4401: 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 6.1.9 of Rule 4401. [District Rule 4401, 6.2.3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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62. 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
63. 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 performed by using ARB Method 432. [District Rule 4401, 6.3.2] Federally Enforceable Through Title V Permit
64. Leak inspection, other than audio-visual, and measurements of gaseous leak concentrations shall be conducted 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
65. 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, 6.3.4] Federally Enforceable Through Title V Permit
66. 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] Federally Enforceable Through Title V Permit
67. All records shall be maintained and made readily available for District inspection upon request for a period of five years. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
68. Note: Formerly S-1511-213

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

ATTACHMENT B

Previous Title V Operating Permit No.
S-1547-819-6

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-819-6

EXPIRATION DATE: 05/31/2016

SECTION: 35 **TOWNSHIP:** 12N **RANGE:** 24W

EQUIPMENT DESCRIPTION:

TEOR OPERATION W/ UP TO 900 STEAM DRIVE WELLS SERVED BY WELL CASING VENT VAPOR CONTROL AND CONTROL SYSTEM

PERMIT UNIT REQUIREMENTS

1. Fugitive VOC emissions from all components associated with this operation shall not exceed 410.6 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Permittee shall maintain for a period of five years, accurate records of fugitive inspection component counts, leak screening values in excess of 10,000 ppm, and shall, as approved by the District, calculate fugitive emissions using February 1999 CAPCOA California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities Table IV-2c. Permittee shall make records of component counts, screening values, and calculations readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Operation shall include liquid knockout vessels (separators), heat exchangers, and vapor compressors. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Operation shall include vapor collection piping network from well vent vapor control system and tank battery vapor control system S-1547-843 to sulfur scrubbing systems (primary & standby). [District Rule 2201] Federally Enforceable Through Title V Permit
5. Permittee shall maintain a current roster of wells connected to the casing collection system, and such roster shall be made readily available for District inspection upon request [District Rule 2201] Federally Enforceable Through Title V Permit
6. Primary sulfur scrubbing system shall include casing gas coolers and pumps, contactor vessels and separators, regenerator section with heat exchangers, recirculation pump & air blower, and chemical storage tanks. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Standby sulfur scrubbing system shall include contactor vessels and separators. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Sulfur scrubbing system(s) shall use District approved scrubbing agents including, Exxon Sulfa Check, DOW Sulferox, WESCHEM Sulfarid, SulfaScrub, and Betz DX-1026 Formulations. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior District approval shall be obtained for using alternative sulfur scrubbing agents other than those listed above. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Casing vapor collection system shall be equipped with vapor flow rate indicator/recorder downstream of condensation and sulfur removal equipment measuring total non-condensable vapor flow rate. [District Rule 2201] Federally Enforceable Through Title V Permit
11. All wells approved by this permit shall have the well head casing vents routed to the TEOR well vent vapor control system. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. Well casing vents may be closed provided produced fluids are handled only in production facilities with District-approved emission control systems achieving at least 99% control. [District Rule 2201 and District Rule 4401] Federally Enforceable Through Title V Permit
13. An inspection and maintenance program consistent with Rule 4403 for light oil production facilities shall be implemented for stuffing boxes and polish rods of 479 newly authorized steam drive wells (identified by well roster). [District Rule 2201] Federally Enforceable Through Title V Permit
14. Sulfur bin ventilation (if applicable) shall be vented to one or more of the District approved steam generators connected to desulfurized casing gas piping network. [District Rule 2201] Federally Enforceable Through Title V Permit
15. During temporary periods of maintenance covered in the permittee's bi-annual maintenance plan the permittee may conduct maintenance or repair activities contained in the District approved bi-annual maintenance plan without shutting-in production from wells served by the well vent vapor collection system, for no more than a total of 336 hours during any one calendar year for each system. Maintenance covered by the permittee's bi-annual maintenance plan may exceed 336 hours during any one calendar year when maintenance is performed while all casing well vents covered by this permit are closed. When multiple vapor recovery systems serve the same wells in series or in parallel, a total of 336 hours of maintenance shall be allowed for all systems combined. [District Rule 2201] Federally Enforceable Through Title V Permit
16. During temporary periods of maintenance covered in the permittee's bi-annual maintenance plan, well vent vapor recovery piping may be temporarily shut-in or isolated for routine maintenance or repair activities without closing the well vents normally served by a well vent vapor collection system provided that well vent vapors are routed to a vapor recovery system that complies with District rule 4401 and all otherwise applicable provisions of this permit. [District Rule 2201 and District Rule 4401] Federally Enforceable Through Title V Permit
17. Well vent vapor collection system piping and components shall be maintained as required by Rule 4401, and well vent vapors shall not be vented or bled-off to the atmosphere except for those actions necessary to safely isolate vessels and piping for routine maintenance. [District Rule 2201 and District Rule 4401] Federally Enforceable Through Title V Permit
18. The District shall be notified at least 48 hours prior to the start of each maintenance program. No later than 10 days after completing each maintenance episode, the permittee shall notify the District in writing of the date, time, duration, well number(s), and description of the maintenance or repair activity completed. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Permittee shall maintain records of the date, time, and duration of each maintenance or repair episode requiring the temporary isolation of well vent vapor recovery piping. Such records shall include well identification numbers and a description of the maintenance or repair activity completed, and shall be maintained for a period of up to 5 years, and be made readily available to the District upon request. [District Rule 2201 and District Rule 1070] Federally Enforceable Through Title V Permit
20. Permittee shall submit to the District bi-annual maintenance plans. The maintenance plan must identify each permit unit and illustrate them on a detailed map of the system, identify the period and duration of each maintenance episode for each system, an estimate of VOC emissions released during maintenance, and the procedures that will be used to maintain and isolate affected equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
21. If unscrubbed sulfur rate exceeds 109.2 lb S/day, non-condensable gas shall be scrubbed by sulfur scrubbing systems prior to incineration in steam generators S-1547-766 to '-772, '-777 to '-781, or other District approved steam generators. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Liquid condensate from vapor recovery piping, condensation, and sulfur scrubbing systems shall be pumped to production manifold. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Non-condensable gas from vapor control system shall not be vented to atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Maximum gas flow rate from well casing vent vapor control system shall not exceed 4.09 MMscf/day. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. Total mass flow rate of sulfur compounds from sulfur scrubbing systems shall not exceed 258.0 lb/day as S. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Permittee shall maintain accurate daily records of gas flowrate leaving sulfur scrubbing systems, and sulfur content (by daily gas sampling) of non-condensable gas entering and leaving sulfur scrubbing systems. [District Rule 2201] Federally Enforceable Through Title V Permit
27. If sulfur scrubbing systems are not utilized, permittee shall maintain accurate daily records of total unscrubbed sulfur mass flow rate and sulfur content (by daily gas sampling) of unscrubbed non-condensable gas. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Particulate matter (as PM10) emissions from TEOR gas incineration shall not exceed 55.9 lb/day (shared with all District approved steam generators). [District Rule 2201] Federally Enforceable Through Title V Permit
29. 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
30. 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. [District Rule 4401, 4.1] Federally Enforceable Through Title V Permit
31. The inspection requirements of Section 5.4.1 through Section 5.4.7 of Rule 4401 shall not apply to components exclusively handling gas/vapor or liquid with a VOC content of ten percent by weight (10%) or less, as determined by the test methods in Section 6.3.4 of Rule 4401. [District Rule 4401, 4.7] Federally Enforceable Through Title V Permit
32. 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
33. An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.4 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 2 of Rule 4401. [District Rule 4401, 5.2.2] Federally Enforceable Through Title V Permit
34. 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 5.2.2 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 5.5 of Rule 4401. [District Rule 4401, 5.3.1] Federally Enforceable Through Title V Permit
35. 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, 5.3.2] Federally Enforceable Through Title V Permit
36. 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, 5.3.3] Federally Enforceable Through Title V Permit
37. Except for pipes and unsafe-to-monitor components, an operator shall inspect all other components pursuant to the requirements of Section 6.3.3 of Rule 4401 at least once every year. [District Rule 4401, 5.4.1] Federally Enforceable Through Title V Permit
38. An operator shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

39. In addition to the inspections required by Section 5.4.1 of Rule 4401, an operator shall inspect for leaks all accessible operating pumps, compressors, and PRDs in service as follows: An operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, and PRDs in service at least once each calendar week. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.3] Federally Enforceable Through Title V Permit
40. In addition to the inspections required by Sections 5.4.1, 5.4.2 and 5.4.3 of Rule 4401, operator shall perform the following: initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release, re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection, inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. Except for PRDs subject to the requirements of Section 5.4.4.1 of Rule 4401, an operator shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401, 5.4.4] Federally Enforceable Through Title V Permit
41. An operator shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401, 5.4.7] Federally Enforceable Through Title V Permit
42. District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator. [District Rule 4401, 5.4.8] Federally Enforceable Through Title V Permit
43. 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, 5.5.1] Federally Enforceable Through Title V Permit
44. 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 the component is found to be in compliance with the requirements of this rule. [District Rule 4401 5.5.2] Federally Enforceable Through Title V Permit
45. 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, 5.5.3] Federally Enforceable Through Title V Permit
46. Except for leaking critical components or leaking essential components subject to the requirements of Section 5.5.7 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 3 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, 5.5.4] Federally Enforceable Through Title V Permit
47. 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, 5.5.4] Federally Enforceable Through Title V Permit
48. 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 3 of Rule 4401. [District Rule 4401, 5.5.5] Federally Enforceable Through Title V Permit
49. The time of the initial leak detection shall be the start of the repair period specified in Table 3 of Rule 4401. [District Rule 4401, 5.5.6] 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.

50. 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, 5.5.7] Federally Enforceable Through Title V Permit
51. 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
52. 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
53. 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, 6.1.4] Federally Enforceable Through Title V Permit
54. 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, 6.1.5] Federally Enforceable Through Title V Permit
55. 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, 6.1.6] Federally Enforceable Through Title V Permit
56. Operator shall keep a copy of the APCO-approved Operator Management Plan at the facility. [District Rule 4401, 6.1.7] Federally Enforceable Through Title V Permit
57. Operator shall keep a list of all gauge tanks, as defined in Section 3.0 of Rule 4401. 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, 6.1.8] Federally Enforceable Through Title V Permit
58. The results of gauge tank TVP testing conducted pursuant to Section 6.2.3 shall be submitted to the APCO within 60 days after the completion of the testing. [District Rule 4401, 6.1.9] Federally Enforceable Through Title V Permit
59. 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, 6.1.10] Federally Enforceable Through Title V Permit
60. 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. A process system as defined in Section 3.30 of Rule 4401 is not subject to compliance source testing requirements. [District Rule 4401, 6.2.1] Federally Enforceable Through Title V Permit
61. 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 are controlled by an internal combustion engine subject to Rule 4702, a combustion device subject to Rule 4320, 4307 or 4308, a flare subject to Rule 4311. [District Rule 4401, 6.2.2] Federally Enforceable Through Title V Permit
62. An operator shall comply with the following requirements for each gauge tank, as defined in Section 3.0 of Rule 4401: 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 6.1.9 of Rule 4401. [District Rule 4401, 6.2.3] 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.

63. 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
64. 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 performed by using ARB Method 432. [District Rule 4401, 6.3.2] Federally Enforceable Through Title V Permit
65. Leak inspection, other than audio-visual, and measurements of gaseous leak concentrations shall be conducted 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
66. 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, 6.3.4] Federally Enforceable Through Title V Permit
67. 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] Federally Enforceable Through Title V Permit
68. All records shall be maintained and made readily available for District inspection upon request for a period of five years. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
69. Note: Formerly S-1511-213

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

ATTACHMENT C

Emission Increases

There are no emissions increases associated with this significant modification.

ATTACHMENT D

Application



San Joaquin Valley Air Pollution Control District

www.valleyair.org



Permit Application For:

ADMINISTRATIVE AMENDMENT MINOR MODIFICATION SIGNIFICANT MODIFICATION

1. PERMIT TO BE ISSUED TO: Aera Energy LLC	
2. MAILING ADDRESS: STREET/P.O. BOX: 10000 Ming Ave	
CITY: Bakersfield	STATE: CA 9-DIGIT ZIP CODE: 93311
3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: STREET: Heavy Oil Western Stationary Source CITY: _____ ¼ SECTION _____ TOWNSHIP _____ RANGE _____	INSTALLATION DATE: _____
4. GENERAL NATURE OF BUSINESS: Oil and Gas Production	
5. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE (include Permit #'s if known, and use additional sheets if necessary) Make the following modifications to the permit for casing gas vapor control for thermally-enhanced oil wells (permit S-1547-819) to account for the need for scrubbing all process gas in order to meet the sulfur content requirements of Rule 4320, as well as align the permit with PM10 emission limits in permit S-1547-766.	
Condition	Proposed Modification
21	If unscrubbed sulfur rate exceeds 109.2 lb S/day, Non-condensable gas shall be scrubbed by sulfur scrubbing systems prior to incineration in steam generators S-1547-766 to -772, -777 to-781, or other District approved steam generators. <i>Remove language since all process gas must be scrubbed to meet Rule 4320 sulfur limit.</i>
26	Permittee shall maintain accurate daily records of gas flowrate leaving sulfur scrubbing systems, and sulfur content (by daily gas sampling) of non-condensable gas entering and leaving sulfur scrubbing systems. <i>Remove need for daily inlet gas sampling since Rule 4320 sets sulfur limit for outlet only.</i>
27	If sulfur scrubbing systems are not utilized, permittee shall maintain accurate daily records of total unscrubbed sulfur mass flow rate and sulfur content (by daily gas sampling) of unscrubbed non-condensable gas. <i>Remove condition since all process gas must be scrubbed to meet Rule 4320 sulfur limit.</i>
28	Particulate matter (as PM10) emissions from TEOP gas incineration shall not exceed 55.9 lb/day (shared with all District approved steam generators). <i>Remove condition as this conflicts with PM10 emission limit in steam generator permit (S-1547-766).</i>
6. TYPE OR PRINT NAME OF APPLICANT: Jonathan Dethloff	TITLE OF APPLICANT: Facilities Engineer
7. SIGNATURE OF APPLICANT: 	DATE: 10/26/16 PHONE: (661) 665-5264 FAX: (661) 665-5118 EMAIL: jdethloff@aeraenergy.com

For APCD Use Only:

DATE STAMP	FILING FEE RECEIVED: \$ _____ CHECK#: _____
	DATE PAID: _____
	PROJECT NO: S-1163521 FACILITY ID: S-1547

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

TITLE V COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE AMENDMENT
 MINOR PERMIT MODIFICATION

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

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

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

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

E.E. Patterson
Signature of Responsible Official

10-26-2016
Date

E.E. (Ed) Patterson
Name of Responsible Official (please print)

Process Supervisor
Title of Responsible Official (please print)



October 26, 2016

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

**RE: Significant Modification to Permit to Operate S-1547-819
MOCO Sulfur Scrubber**

Dear Mr. Scandura:

Aera Energy LLC (Aera) holds Permit to Operate S-1547-819 for casing gas vapor control for thermally-enhanced oil recovery wells on the MOCO property, which is then sent to steam generators for combustion.

With the implementation of Rule 4320, Aera modified the permit for the steam generators to incorporate the new sulfur content limit of 5 gr/100 scf (e.g. see steam generator permit S-1547-766). In order to meet the lower sulfur limit, all process gas must be scrubbed before going to the steam generators. Aera would therefore like to modify the following conditions in permit S-1547-819 to reflect this new operating condition.

Condition	Proposed Modification
21	If unscrubbed sulfur rate exceeds 109.2 lb S/day, Non-condensable gas shall be scrubbed by sulfur scrubbing systems prior to incineration in steam generators S-1547-766 to -772, -777 to-781, or other District approved steam generators. <i>Remove language since all process gas must be scrubbed to meet Rule 4320 sulfur limit.</i>
26	Permittee shall maintain accurate daily records of gas flowrate leaving sulfur scrubbing systems, and sulfur content (by daily gas sampling) of non-condensable gas entering and leaving sulfur scrubbing systems. <i>Remove need for daily inlet gas sampling since Rule 4320 sets sulfur limit for outlet only.</i>
27	If sulfur scrubbing systems are not utilized, permittee shall maintain accurate daily records of total unscrubbed sulfur mass flow rate and sulfur content (by daily gas sampling) of unscrubbed non-condensable gas. <i>Remove condition since all process gas must be scrubbed to meet Rule 4320 sulfur limit.</i>

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In addition, Aera would like to remove condition 28, which sets a PM₁₀ emission limit for TEOR gas incineration, as this conflicts with the PM₁₀ emission limit found in the steam generator permits (e.g. S-1547-766, condition 12).

Condition Proposed Modification

28 ~~Particulate matter (as PM₁₀) emissions from TEOR gas incineration shall not exceed 55.9 lb/day (shared with all District approved steam generators).~~
Remove condition as this conflicts with PM₁₀ emission limit in steam generator permit (S-1547-766).

In support of this request, attached are a completed permit application form and a signed Title V Compliance Certification Form. Should you have any questions concerning this application or require additional information, please do not hesitate to contact me at (661) 665-5264 or John Haley at (661) 665-5279.

Sincerely,



Jonathan Dethloff
Facilities Engineer