



AUG 0 8 2018

Ms. Peggy Shue Aera Energy LLC PO Box 11164 Bakersfield, CA 93389-1164

Notice of Final Action - Title V Permit Renewal

Facility Number: C-1121 **Project Number: C-1161537**

Dear Ms. Shue:

The District has issued the Final Renewed Title V Permit for Aera Energy LLC (see enclosure). The preliminary decision for this project was made on February 1, 2018. A summary of the comments and the District's response to each comment is included as an attachment to the engineering evaluation.

The public notice for issuance of the Final Title V Permit will be published approximately three days from the date of this letter.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Errol Villegas, Permit Services Manager, at (559) 230-5900.

Arnaud Marjollet

Director of Permit Services

Enclosures

Tung Le, CARB (w/enclosure) via email CC:

Gerardo C. Rios, EPA (w/enclosure) via email CC:

> Samir Sheikh Executive Director/Air Pollution Control Officer





Facility # C-1121 **AERA ENERGY LLC** PO BOX 11164 BAKERSFIELD, CA 93389-1164

Notice of Permit Issuance

The enclosed permit unit requirements authorize the operation of the equipment as described. These permit unit requirements supersede any and all previous permits for the specified equipment.* Please insert these documents into the Facility Permit to Operate, and post copies on or near the equipment as required by District Rule 2010.

Please contact any of our Small Business Assistance (SBA) staff at the numbers below if you have any questions:

> Modesto: (209) 557-6446 (559) 230-5888 Fresno: Bakersfield: (661) 392-5665

*Failure to comply with the permit unit requirements may result in enforcement action.

Samir Sheikh Executive Director/Air Pollution Control Officer





Permit to Operate

FACILITY: C-1121 EXPIRATION DATE: 12/31/2022

LEGAL OWNER OR OPERATOR:

MAILING ADDRESS:

AERA ENERGY LLC

PO BOX 11164

BAKERSFIELD, CA 93389-1164

FACILITY LOCATION:

HEAVY OIL PRODUCTION

FRESNO COUNTY, CA

FACILITY DESCRIPTION:

PETROLEUM PRODUCTION

The Facility's Permit to Operate may include Facility-wide Requirements as well as requirements that apply to specific permit units.

This Permit to Operate remains valid through the permit expiration date listed above, subject to payment of annual permit fees and compliance with permit conditions and all applicable local, state, and federal regulations. This permit is valid only at the location specified above, and becomes void upon any transfer of ownership or location. Any modification of the equipment or operation, as defined in District Rule 2201, will require prior District approval. This permit shall be posted as prescribed in District Rule 2010.

Samir Sheikh
Executive Director / APCO

Arnaud Marjollet
Director of Permit Services

EXPIRATION DATE: 12/31/2022 **FACILITY:** C-1121-0-3

FACILITY-WIDE REQUIREMENTS

- The owner or operator shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100, 6.1; County Rules 110 (Fresno, Stanislaus, San Joaquin); 109 (Merced); 113 (Madera); and 111 (Kern, Tulare, Kings)] Federally Enforceable Through Title V Permit
- The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100, 7.0; County Rules 110 (Fresno, Stanislaus, San Joaquin); 109 (Merced); 113 (Madera); and 111 (Kern, Tulare, Kings)] Federally Enforceable Through Title V Permit
- The owner or operator of any stationary source operation that emits more than 25 tons per year of nitrogen oxides or reactive organic compounds, shall provide the District annually with a written statement in such form and at such time as the District prescribes, showing actual emissions of nitrogen oxides and reactive organic compounds from that source. [District Rule 1160, 5.0] Federally Enforceable Through Title V Permit
- Any person building, altering or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants, shall first obtain an Authority to Construct (ATC) from the District unless exempted by District Rule 2020 (12/20/07). [District Rule 2010, 3.0 and 4.0; and 2020] Federally Enforceable Through Title V Permit
- The permittee must comply with all conditions of the permit including permit revisions originated by the District. All terms and conditions of a permit that are required pursuant to the Clean Air Act (CAA), including provisions to limit potential to emit, are enforceable by the EPA and Citizens under the CAA. Any permit noncompliance constitutes a violation of the CAA and the District Rules and Regulations, and is grounds for enforcement action, for permit termination, revocation, reopening and reissuance, or modification; or for denial of a permit renewal application. [District Rules 2070, 7.0; 2080; and 2520, 9.8.1 and 9.13.1] Federally Enforceable Through Title V Permit
- A Permit to Operate or an Authority to Construct shall not be transferred unless a new application is filed with and approved by the District. [District Rule 2031] Federally Enforceable Through Title V Permit
- Every application for a permit required under Rule 2010 (12/17/92) shall be filed in a manner and form prescribed by the District. [District Rule 2040] Federally Enforceable Through Title V Permit
- The operator shall maintain records of required monitoring, where applicable, that include: 1) the date, place, and time of sampling or measurement; 2) the date(s) analyses were performed; 3) the company or entity that performed the analysis; 4) the analytical techniques or methods used; 5) the results of such analysis; and 6) the operating conditions at the time of sampling or measurement. [District Rule 2520, 9.4.1] Federally Enforceable Through Title V Permit
- The operator shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, or report. Support information includes copies of all reports required by the permit and, for continuous monitoring instrumentation, all calibration and maintenance records and all original strip-chart recordings, [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate. Any amendments to these Facility-wide Requirements that affect specific Permit Units may constitute modification of those Permit Units.

Facility Name: AERA ENERGY LLC

Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA C-1121-0-3 - Sep_12 2018 2:15PM - GARCIAC

- 10. The operator shall submit reports of any required monitoring at least every six months unless a different frequency is required by an applicable requirement. All instances of deviations from permit requirements must be clearly identified in such reports. [District Rule 2520, 9.5.1] Federally Enforceable Through Title V Permit
- 11. Deviations from permit conditions must be promptly reported, including deviations attributable to upset conditions, as defined in the permit. For the purpose of this condition, promptly means as soon as reasonably possible, but no later than 10 days after detection. The report shall include the probable cause of such deviations, and any corrective actions or preventive measures taken. All required reports must be certified by a responsible official consistent with section 10.0 of District Rule 2520 (6/21/01). [District Rules 2520, 9.5.2 and 1100, 7.0] Federally Enforceable Through Title V Permit
- 12. If for any reason a permit requirement or condition is being challenged for its constitutionality or validity by a court of competent jurisdiction, the outcome of such challenge shall not affect or invalidate the remainder of the conditions or requirements in that permit. [District Rule 2520, 9.7] Federally Enforceable Through Title V Permit
- 13. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. [District Rule 2520, 9.8.2] Federally Enforceable Through Title V Permit
- 14. The permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [District Rule 2520, 9.8.3] Federally Enforceable Through Title V Permit
- 15. The permit does not convey any property rights of any sort, or any exclusive privilege. [District Rule 2520, 9.8.4] Federally Enforceable Through Title V Permit
- 16. The Permittee shall furnish to the District, within a reasonable time, any information that the District may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the District copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee may furnish such records directly to EPA along with a claim of confidentiality. [District Rule 2520, 9.8.5] Federally Enforceable Through Title V Permit
- 17. The permittee shall pay annual permit fees and other applicable fees as prescribed in Regulation III of the District Rules and Regulations. [District Rule 2520, 9.9] Federally Enforceable Through Title V Permit
- 18. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 2520, 9.13.2.1] Federally Enforceable Through Title V Permit
- 19. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 2520, 9.13.2.2] Federally Enforceable Through Title V Permit
- 20. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under the permit. [District Rule 2520, 9.13.2.3] Federally Enforceable Through Title V Permit
- 21. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. [District Rule 2520, 9.13.2.4] Federally Enforceable Through Title V Permit
- 22. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit

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

- 23. No person shall manufacture, blend, repackage, supply, sell, solicit or apply any architectural coating not exempt as allowed by Sections 4.1 and 4.2 of Rule 4601 with a VOC content in excess of the corresponding limit specified in Table of Standards 1 effective until 12/30/10 or Table of Standards 2 effective on and after 1/1/11 of District Rule 4601 (12/17/09) for use or sale within the District. [District Rule 4601, 5.1] Federally Enforceable Through Title V Permit
- 24. All VOC-containing materials subject to Rule 4601 (12/17/09) shall be stored in closed containers when not in use. [District Rule 4601, 5.4] Federally Enforceable Through Title V Permit
- 25. The permittee shall comply with all the Labeling and Test Methods requirements outlined in Rule 4601 sections 6.1 and 6.3 (12/17/09). [District Rule 4601, 6.1 and 6.3] Federally Enforceable Through Title V Permit
- 26. With each report or document submitted under a permit requirement or a request for information by the District or EPA, the permittee shall include a certification of truth, accuracy, and completeness by a responsible official. [District Rule 2520, 9.13.1 and 10.0] Federally Enforceable Through Title V Permit
- 27. If the permittee performs maintenance on, or services, repairs, or disposes of appliances, the permittee shall comply with the standards for Recycling and Emissions Reduction pursuant to 40 CFR Part 82, Subpart F. [40 CFR 82 Subpart F] Federally Enforceable Through Title V Permit
- 28. If the permittee performs service on motor vehicles when this service involves the ozone-depleting refrigerant in the motor vehicle air conditioner (MVAC), the permittee shall comply with the standards for Servicing of Motor Vehicle Air Conditioners pursuant to all the applicable requirements as specified in 40 CFR Part 82, Subpart B. [40 CFR Part 82, Subpart B] Federally Enforceable Through Title V Permit
- 29. Disturbances of soil related to any construction, demolition, excavation, extraction, or other earthmoving activities shall comply with the requirements for fugitive dust control in District Rule 8021 unless specifically exempted under Section 4.0 of Rule 8021 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8021] Federally Enforceable Through Title V Permit
- 30. Outdoor handling, storage and transport of any bulk material which emits dust shall comply with the requirements of District Rule 8031, unless specifically exempted under Section 4.0 of Rule 8031 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit
- 31. An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8041] Federally Enforceable Through Title V Permit
- 32. Whenever open areas are disturbed, or vehicles are used in open areas, the facility shall comply with the requirements of Section 5.0 of District Rule 8051, unless specifically exempted under Section 4.0 of Rule 8051 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8051] Federally Enforceable Through Title V Permit
- 33. Any paved road or unpaved road shall comply with the requirements of District Rule 8061 unless specifically exempted under Section 4.0 of Rule 8061 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8061] Federally Enforceable Through Title V Permit
- 34. Any unpaved vehicle/equipment area that anticipates more than 50 Average annual daily Trips (AADT) shall comply with the requirements of Section 5.1.1 of District Rule 8071. Any unpaved vehicle/equipment area that anticipates more than 150 vehicle trips per day (VDT) shall comply with the requirements of Section 5.1.2 of District Rule 8071. On each day that 25 or more VDT with 3 or more axles will occur on an unpaved vehicle/equipment traffic area, the owner/operator shall comply with the requirements of Section 5.1.3 of District Rule 8071. On each day when a special event will result in 1,000 or more vehicles that will travel/park on an unpaved area, the owner/operator shall comply with the requirements of Section 5.1.4 of District Rule 8071. All sources shall comply with the requirements of Section 5.0 of District Rule 8071 unless specifically exempted under Section 4.0 of Rule 8071 (9/16/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8071] Federally Enforceable Through Title V Permit
- 35. Any owner or operator of a demolition or renovation activity, as defined in 40 CFR 61.141, shall comply with the applicable inspection, notification, removal, and disposal procedures for asbestos containing materials as specified in 40 CFR 61.145 (Standard for Demolition and Renovation). [40 CFR 61 Subpart M] Federally Enforceable Through Title V Permit

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

- 36. 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
- 37. The permittee shall submit an application for Title V permit renewal to the District at least six months, but not greater than 18 months, prior to the permit expiration date. [District Rule 2520, 5.2] Federally Enforceable Through Title V Permit
- 38. When a term is not defined in a Title V permit condition, the definition in the rule cited as the origin and authority for the condition in a Title V permits shall apply. [District Rule 2520, 9.1.1] Federally Enforceable Through Title V Permit
- 39. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: Rule 401 (Madera, Fresno, Kern, Kings, San Joaquin, Stanislaus, Tulare and Merced), Rule 110 (Fresno, Stanislaus, San Joaquin), Rule 109 (Merced), Rule 113 (Madera), Rule 111 (Kern, Tulare, Kings), and Rule 202 (Fresno, Kern, Tulare, Kings, Madera, Stanislaus, Merced, San Joaquin). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 40. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rules 1100, sections 6.1 and 7.0 (12/17/92); 2010, sections 3.0 and 4.0 (12/17/92); 2031 (12/17/92); 2040 (12/17/92); 2070, section 7.0 (12/17/92); 2080 (12/17/92); 4101 (2/17/05); 4601 (12/17/09); 8021 (8/19/2004); 8031 (8/19/2004); 8041 (8/19/2004); 8051 (8/19/2004); 8061 (8/19/2004); and 8071 (9/16/2004). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 41. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
- 42. STEAM GENERATOR FUEL MONITORING CONDITION: For units equipped with post-combustion SO2 control equipment (e.g. SO2 scrubber), annual source testing shall be performed to measure SO2 concentration in the exhaust or SO2 control efficiency using EPA Methods 6, 6C, 8 or ARB Method 100. SOx control efficiency determination shall follow procedure in Section 6.2.8 of Rule 4320. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
- 43. STEAM GENERATOR FUEL MONITORING CONDITION: For units not equipped with post-combustion SO2 control equipment (e.g. SO2 scrubber), each fuel source shall be tested for sulfur annually using ASTM D 1072, D 3031, D 4084, or D 3246, D 6228, D 5504, EPA Method 11 or 15, or grab sample analysis by double GC for H2S and mercaptans. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
- 44. STEAM GENERATOR GENERAL CONDITION: Duration of startup and shutdown (as defined in Rule 4320) shall not exceed 2 hours each per occurrence. Refractory curing period is defined as a maintenance-based reduced-load period of time during which a unit is brought from a shutdown status to staged rates of firing for the sole purpose of curing new refractory lining of the unit, and shall not exceed 30 hours per occurrence. The operator shall maintain records of the duration of start-up, shutdown, and refractory curing periods. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
- 45. STEAM GENERATOR GENERAL CONDITION: Emission rates during startup, shutdown, and refractory curing shall not exceed any of the following: particulate matter 10 pounds per hour or 0 1 grains/dscf calculated to 12% CO2; sulfur 200 pounds of SO2 per hour, or 2000 ppmv as SO2, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO2 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit

- 46. STEAM GENERATOR PERIODIC MONITORING CONDITION: The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
- 47. STEAM GENERATOR PERIODIC MONITORING CONDITION: If the NOx and/or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been reestablished, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
- 48. STEAM GENERATOR PERIODIC MONITORING CONDITION: All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
- 49. STEAM GENERATOR PERIODIC MONITORING CONDITION: The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
- 50. STEAM GENERATOR PERIODIC MONITORING CONDITION: All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
- 51. STEAM GENERATOR SOURCE TESTING CONDITION: The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
- 52. STEAM GENERATOR SOURCE TESTING CONDITION The following test methods shall be used NOx (ppmv) EPA Method 7E or ARB Method 100, NOx (Ib/MMBtu EPA Method 19, CO (ppmv) EPA Method 10 or 10B or ARB Method 100, stack gas oxygen EPA Method 3 or 3A or ARB Method 100, SOx (Ib/MMBtu) ARB Method 8 or 100 or EPA Method 6, 6B or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content ASTM D1072, D4468, D3246, D4084 or double GC for H2S and mercaptans performed in laboratory, fuel gas hhv ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

- 53. STEAM GENERATOR SOURCE TESTING CONDITION: For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
- 54. STEAM GENERATOR SOURCE TESTING CONDITION: The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
- 55. STEAM GENERATOR SOURCE TESTING CONDITION: Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
- 56. TEOR SYSTEM CONDITION: 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] Federally Enforceable Through Title V Permit
- 57. TEOR SYSTEM CONDITION: 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
- 58. TEOR SYSTEM CONDITION: An operator shall not operate a steam-enhanced crude oil production well unless the operator complies with either of the following requirements: 1) 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. 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 emission to atmosphere, or 2) 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 Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit
- 59. TEOR SYSTEM CONDITION: A gas leak is defined as the detection of a concentration of total organic compounds, above background (measured in accordance with EPA Method 21) that exceeds the following values: 1) A major gas leak is a detection of greater than 10,000 ppmv as methane, and 2) A minor gas leak is a detection of 400 to 10,000 ppmv as methane for pressure relief devices (PRDs) and 2,000 to 10,000 for components other than PRDs. [District Rule 4401] Federally Enforceable Through Title V Permit
- 60. TEOR SYSTEM CONDITION: A liquid leak is defined as the dripping of VOC-containing liquid. A major liquid leak is a visible mist or a continuous flow of liquid that is not seal lubricant. A minor liquid leak is a liquid leak that is not a major liquid leak and drips liquid at a rate of more than three drops per minute, except for seal lubricant. [District Rule 4401] Federally Enforceable Through Title V Permit
- 61. TEOR SYSTEM CONDITION: An operator shall be in violation of Rule 4401 if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.4 of Rule 4401 demonstrates any of the following: 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, 2) Existence of a component with a major liquid leak, 3) Existence of a component with a gas leak greater than 50,000 ppmv, or 4) Existence of a component leak consisting of a minor liquid or gas leak, or a gas leak greater than 10,000 ppmv up to 50,000 ppmv, in excess of the allowable number of leaks specified in Table 2 of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit

- 62. TEOR SYSTEM CONDITION: No leaking components (as defined in Section 5.2.2 of Rule 4401) may be used unless they 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. [District Rule 4401] Federally Enforceable Through Title V Permit
- 63. TEOR SYSTEM CONDITION: Each hatch shall be closed at all times except during attended repair, replacement, or maintenance operations, providing such activities are done as expeditiously as possible with minimal spillage or material and VOC emissions into the atmosphere. [District Rule 4401] Federally Enforceable Through Title V Permit
- 64. TEOR SYSTEM CONDITION: Except for pipes and unsafe-to-monitor components, an operator shall inspect all other components pursuant to the requirements of Section 6.3.3 at least once every year. [District Rule 4401] Federally Enforceable Through Title V Permit
- 65. TEOR SYSTEM CONDITION: 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 4401 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] Federally Enforceable Through Title V Permit
- 66. TEOR SYSTEM CONDITION: An operator shall inspect for leaks all accessible operating pumps, compressors, and PRDs in service as follows: 1) 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. 2) 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 Rule 4401 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] Federally Enforceable Through Title V Permit
- 67. TEOR SYSTEM CONDITION: The operator shall also perform the following inspections: 1) An operator shall 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. An operator shall re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection. 2) An operator shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service, and 3) 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] Federally Enforceable Through Title V Permit
- 68. TEOR SYSTEM CONDITION: Components located in unsafe areas shall be inspected and repaired at the next process unit turnaround and inaccessible components shall be inspected at least annually. [District Rule 4401] Federally Enforceable Through Title V Permit
- 69. TEOR SYSTEM CONDITION: Upon detection of a leak, an operator shall affix a readily visible weatherproof tag to that leaking component that includes the following information: 1) The date and time of leak detection, 2) The date and time of the leak measurement, 3) For a gaseous leak, the leak concentration in ppmv, 4) For a liquid leak, whether it is a major or minor liquid leak, and 5) Whether the component is an essential component, and unsafe-to-monitor component, or a critical component. [District Rule 4401] Federally Enforceable Through Title V Permit
- 70. TEOR SYSTEM CONDITION: The tag shall remain affixed to the leaky component until all the following requirements are met: 1) The component is repaired or replaced, 2) The component is re-inspected as set forth in Section 6.3 of Rule 4401, and 3) The component is found to be in compliance with Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit
- 71. TEOR SYSTEM CONDITION: 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] Federally Enforceable Through Title V Permit

C-1121-0-3 : Sep 12 2018 2:15PM - GARCIA

- 72. TEOR SYSTEM CONDITION: Except tor leaking critical components or leaking essential components, 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 three requirements as soon as practicable but not later than the time period specified in Table 3 of Rule 4401: 1) Repair or replace the leaking component, 2) Vent the leaking component to a VOC collection and control system as defined in Section 3.0 of Rule 4401, or 3) Remove the leaking component from operation. [District Rule 4401] Federally Enforceable Through Title V Permit
- 73. TEOR SYSTEM CONDITION: 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] Federally Enforceable Through Title V Permit
- 74. TEOR SYSTEM CONDITION: 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] Federally Enforceable Through Title V Permit
- 75. TEOR SYSTEM CONDITION: 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 Rule 4401, 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] Federally Enforceable Through Title V Permit
- 76. TEOR SYSTEM CONDITION: 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] Federally Enforceable Through Title V Permit
- 77. TEOR SYSTEM CONDITION: 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] Federally Enforceable Through Title V Permit
- 78. TEOR SYSTEM CONDITION: Records shall be maintained 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. [District Rule 4401] Federally Enforceable Through Title V Permit
- 79. TEOR SYSTEM CONDITION: 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] Federally Enforceable Through Title V Permit
- 80. TEOR SYSTEM CONDITION: If approved by the APCO, an operator need not comply with the annual testing requirement of Section 6.2.1 of Rule 4401 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] Federally Enforceable Through Title V Permit
- 81. TEOR SYSTEM CONDITION: 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 6.1.9 of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit

C-1121-0-3 : Sep 12 2018 2:15PM - GARCIAC

- 82. TEOR SYSTEM CONDITION: 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] Federally Enforceable Through Title V Permit
- 83. TEOR SYSTEM CONDITION: 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] Federally Enforceable Through Title V Permit
- 84. TEOR SYSTEM CONDITION: 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] Federally Enforceable Through Title V Permit
- 85. TEOR SYSTEM CONDITION: 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] Federally Enforceable Through Title V Permit
- 86. TEOR SYSTEM CONDITION: The operator shall maintain an inspection log in which the operator records at least all of the following for each inspection performed: 1) The total number of components inspected, and the total number and percentage of leaking components found by component type, 2) The location, type and name or description of each leaking component and description of any unit where the leaking component is found, 3) The date of leak detection and the method of leak detection, 4) For gaseous leaks, the leak concentration in ppmv and, for liquids leaks, whether the leak is major or minor, 5) The date of repair, replacement or removal from operation of leaking components, 6) The identity and location of essential components and critical components as defined in Rule 4401, found leaking, that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, 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 1 year after detection, whichever comes earlier, 8) The date or re-inspection and the leak concentration in ppmv after the component is repaired or replaced, 9) The inspector's name, business mailing address, and business telephone number, and 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. [District Rule 4401] Federally Enforceable Through Title V Permit
- 87. TEOR SYSTEM CONDITION: The operator shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures as necessary. Permittee shall maintain at the facility the copies of the training records of the training program. [District Rule 4401] Federally Enforceable Through Title V Permit
- 88. TEOR SYSTEM CONDITION: By January 30 of each year, an operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to an existing Operator Management Plan. [District Rule 4401] Federally Enforceable Through Title V Permit

PERMIT UNIT: C-1121-9-18

EXPIRATION DATE: 12/31/2022

SECTION: 29 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

SG C-1, 62.5 MMBTU/HR THERMOTICS NATURAL GAS-FIRED STEAM GENERATOR, WITH COEN QLN ULN BURNER WITH FLUE GAS RECIRCULATION

PERMIT UNIT REQUIREMENTS

- 1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
- 2. The unit shall only be fired on natural gas, containing no more than 1 grain of sulfur per 100 standard cubic feet. [District Rule 2201] Federally Enforceable Through Title V Permit
- 3. Fuel consumption from the steam generator shall not exceed 1,430,000 scf/day of natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. Emissions rates from the natural gas-fired unit shall not exceed any of the following limits: 15 ppmv NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.014 lb-PM10/MMBtu, 50 ppmv CO @ 3% O2, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4201, 4305, and 4306] Federally Enforceable Through Title V Permit
- 5. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] Federally Enforceable Through Title V Permit
- 6. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. [District Rules 1070 and 4320] Federally Enforceable Through Title V Permit
- 7. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 8. This unit is fired only on gaseous fuel and has no provisions for firing on oil or coal. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the requirements of 40 CFR 60, Subpart Dc. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
- 9. This unit is subject to Steam Generator General Conditions, Steam Generator Fuel Monitoring Conditions, Steam Generator Source Testing Conditions, and Steam Generator Periodic Monitoring Conditions on the facility wide permit C-1121-0. Deviations from a standard condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA C-1121-9-18 Sep 12 2018 2 18PM – GARCIAC

PERMIT UNIT: C-1121-10-19

EXPIRATION DATE: 12/31/2022

SECTION: 29 TOWNSHIP: T19S RANGE: R15E

EQUIPMENT DESCRIPTION:

SG C-2, 62,5 MMBTU/HR THERMOTICS STEAM GENERATOR, GAS FIRED, WITH COEN QLN-ULN BURNER WITH

FLUE GAS RECIRCULATION

PERMIT UNIT REQUIREMENTS

- Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
- Fuel consumption shall not exceed 1,430,000 scf/day of natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
- Unit shall be exclusively fired with natural gas containing no more than 0.35 grain of total sulfur per 100 standard 3. cubic feet of gas. [District NSR Rule] Federally Enforceable Through Title V Permit
- Emissions from the natural gas-fired steam generator shall not exceed any of the following limits: 0.001 lb-SOx/MMBtu, 0.014 lb-PM10/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
- Except during start-up and shutdown periods and refractory curing, emissions from the natural gas-fired steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.0182 lb-NOx/MMBtu or 43 ppmvd CO @ 3% O2 or 0.032 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, 4306, 5.1, and 4351, 5.1] Federally Enforceable Through Title V Permit
- During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
- Emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 51.5 lb-NOx/day or 45.8 lb-CO/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] Federally Enforceable Through Title V Permit
- Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. [District Rules 1070 and Rule 4320] Federally Enforceable Through Title V Permit
- 10. This unit is subject to Steam Generator General Conditions, Steam Generator Fuel Monitoring Conditions, Steam Generator Source Testing Conditions, and Steam Generator Periodic Monitoring Conditions on the facility wide permit C-1121-0. Deviations from a standard condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC HEAVY OIL PRODUCTION, FRESNO COUNTY, CA Location: HEAVY OIL PRO

PERMIT UNIT: C-1121-12-8

EXPIRATION DATE: 12/31/2022

SECTION: 29 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

DORMANT SG C-4, 62.5 MMBTU/HR THERMOTICS GAS FIRED STEAM GENERATOR WITH NORTH AMERICAN

MODEL 6131G LONOX BURNER

PERMIT UNIT REQUIREMENTS

- 1. This permit unit shall not be operated unless the owner or operator applies to modify the Title V permit to address the requirements of District Rule 2520, section 9.0 for this permit unit. [District Rule 2520, 9.0] Federally Enforceable Through Title V Permit
- 2. This equipment shall not be operated for any reason until necessary retrofits are made to comply with the applicable requirements of District Rule 4305 [District NSR Rule and Rule 4305] Federally Enforceable Through Title V Permit
- 3. No modification to this unit shall be performed without an Authority to Construct for that modification, except for changes specified in condition 4 below. [District NSR Rule] Federally Enforceable Through Title V Permit
- 4. All fuel supply lines shall be physically disconnected from the unit. [District NSR Rule and Rule 4305] Federally Enforceable Through Title V Permit
- 5. Emissions from this unit shall not exceed 30 ppm NOx, (0.036 lb-NOx/MMBtu @ 3% O2), nor 400 ppm CO @ 3% O2 when fired on natural gas fuel. [District NSR Rule and Rule 4305, 5.1, 5.3] Federally Enforceable Through Title V Permit
- 6. A source test to demonstrate compliance with the indicated emission limits shall be performed within 60 days of recommencing operation of this unit. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. Fuel consumption shall not exceed 1,430,000 scf/day of PUC Quality natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
- 8. Combined exhaust gases from the two CVR (C-1121-38 and -39) and the section 32 TVR systems shall not exceed 675,000 scf/day. [District NSR Rule] Federally Enforceable Through Title V Permit
- 9. Emissions shall not exceed 0.061 lb-NOx/MMBtu @ 3% O2 calculated as NO2; 0.08 lb-SOx/MMBtu calculated as SO2; 0.032 lb-CO/MMBtu @ 3% O2; 0.057 lb-PM10/MMBtu calculated at 12% CO2 nor 0.008 lb-VOC/MMbtu. [District NSR Rule, and Rules 4201, 5.1 and 4301, 5.1, 5.2] Federally Enforceable Through Title V Permit
- 10. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] Federally Enforceable Through Title V Permit
- 11. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. [District Rules 1070 and 4320] 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.

Facility Name: AERA ENERGY LLC Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA

C-1121-12-8 Sep 12 2018 2:16PM -- GARCIAC

12. This unit is subject to Steam Generator General Conditions, Steam Generator Fuel Monitoring Conditions, Steam Generator Source Testing Conditions, and Steam Generator Periodic Monitoring Conditions on the facility wide permit C-1121-0. Deviations from a standard condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

PERMIT UNIT: C-1121-13-17

EXPIRATION DATE: 12/31/2022

SECTION: 26 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS-FIRED THERMOTICS STEAM GENERATOR WITH COEN QLN LONOX BURNER AND FLUE GAS RECIRCULATION (SG N-5)

PERMIT UNIT REQUIREMENTS

- 1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
- 2. The unit shall only be fired on natural gas, containing no more than 1 grain of sulfur per 100 standard cubic feet. [District Rule 2201] Federally Enforceable Through Title V Permit
- 3. Fuel consumption from the steam generator shall not exceed 1,430,000 scf/day of natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. Emissions rates from the natural gas-fired unit shall not exceed any of the following limits: 15 ppmv NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.014 lb-PM10/MMBtu, 50 ppmv CO @ 3% O2, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4201, 4305, and 4306] Federally Enforceable Through Title V Permit
- 5. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] Federally Enforceable Through Title V Permit
- 6. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. [District Rules 1070 and 4320] Federally Enforceable Through Title V Permit
- 7. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 8. This unit is fired only on gaseous fuel and has no provisions for firing on oil or coal. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the requirements of 40 CFR 60, Subpart Dc. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
- 9. This unit is subject to Steam Generator General Conditions, Steam Generator Fuel Monitoring Conditions, Steam Generator Source Testing Conditions, and Steam Generator Periodic Monitoring Conditions on the facility wide permit C-1121-0. Deviations from a standard condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA

PERMIT UNIT: C-1121-14-18

EXPIRATION DATE: 12/31/2022

SECTION: 29 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR THERMOTICS STEAM GENERATOR (SG N-6) GAS FIRED, WITH COEN QLN-ULN BURNER WITH FLUE GAS RECIRCULATION

PERMIT UNIT REQUIREMENTS

- 1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
- 2. Fuel consumption shall not exceed 1,430,000 scf/day of natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
- 3. Emissions from the natural gas-fired steam generator shall not exceed any of the following limits: 0.001 lb-SOx/MMBtu, 0.014 lb-PM10/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. Except during start-up and shutdown periods and refractory curing, emissions from the natural gas-fired steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.0182 lb-NOx/MMBtu or 43 ppmvd CO @ 3% O2 or 0.032 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, 4306, 5.1, and 4351, 5.1] Federally Enforceable Through Title V Permit
- 5. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
- 6. Emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 51.5 lb-NOx/day or 45.8 lb-CO/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 7. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] Federally Enforceable Through Title V Permit
- 8. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. [District Rules 1070 and 4320] Federally Enforceable Through Title V Permit
- 9. This unit is subject to Steam Generator General Conditions, Steam Generator Fuel Monitoring Conditions, Steam Generator Source Testing Conditions, and Steam Generator Periodic Monitoring Conditions on the facility wide permit C-1121-0. Deviations from a standard condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC

Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA

C-1121-14-18 Sep 12 2018 2 16PM - GARCIAC

PERMIT UNIT: C-1121-15-18

EXPIRATION DATE: 12/31/2022

SECTION: 29 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR THERMOTICS STEAM GENERATOR (SG N-7), GAS FIRED, WITH COEN QLN-ULN BURNER WITH FLUE GAS RECIRCULATION

PERMIT UNIT REQUIREMENTS

- 1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
- 2. Fuel consumption shall not exceed 1,430,000 scf/day of natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
- 3. Emissions from the natural gas-fired steam generator shall not exceed any of the following limits: 0.001 lb-SOx/MMBtu, 0.014 lb-PM10/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. Except during start-up and shutdown periods and refractory curing, emissions from the natural gas-fired steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.0182 lb-NOx/MMBtu or 43 ppmvd CO @ 3% O2 or 0.032 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, 4306, 5.1, and 4351, 5.1] Federally Enforceable Through Title V Permit
- 5. During start-up and shutdown periods, emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
- 6. Emissions from the natural gas-fired steam generator shall not exceed either of the following limits: 51.5 lb-NOx/day or 45.8 lb-CO/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 7. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] Federally Enforceable Through Title V Permit
- 8. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. [District Rules 1070 and 4320] Federally Enforceable Through Title V Permit
- 9. This unit is subject to Steam Generator General Conditions, Steam Generator Fuel Monitoring Conditions, Steam Generator Source Testing Conditions, and Steam Generator Periodic Monitoring Conditions on the facility wide permit C-1121-0. Deviations from a standard condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC

Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA

PERMIT UNIT: C-1121-16-17

EXPIRATION DATE: 12/31/2022

SECTION: 29 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

SG N-8, 62.5 MMBTU/HR THERMOTICS STEAM GENERATOR, GAS FIRED, WITH COEN QLN-ULN BURNER WITH FLUE GAS RECIRCULATION

PERMIT UNIT REQUIREMENTS

- 1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
- 2. Fuel consumption shall not exceed 1,430,000 scf/day of natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
- 3. Emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed any of the following limits: 0.001 lb-SOx/MMBtu, 0.014 lb-PM10/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. Except during start-up and shutdown periods and refractory curing, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.0182 lb-NOx/MMBtu or 43 ppmvd CO @ 3% O2 or 0.032 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, 4306, 5.1, and 4351, 5.1] Federally Enforceable Through Title V Permit
- 5. During start-up and shutdown periods, emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
- 6. Emissions from the natural gas/vapor recovery gas-fired steam generator shall not exceed either of the following limits: 51.5 lb-NOx/day or 45.8 lb-CO/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 7. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] Federally Enforceable Through Title V Permit
- 8. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. [District Rules 1070 and 4320] Federally Enforceable Through Title V Permit
- 9. This unit is subject to Steam Generator General Conditions, Steam Generator Fuel Monitoring Conditions, Steam Generator Source Testing Conditions, and Steam Generator Periodic Monitoring Conditions on the facility wide permit C-1121-0. Deviations from a standard condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-19-17 Sep 12 2018 2:16PM - GARCIAC

PERMIT UNIT: C-1121-17-29

EXPIRATION DATE: 12/31/2022

SECTION: 26 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

S-9, 62.5 MMBTU/HR THERMOTICS, NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR WITH COEN QLN ULN BURNER AND FLUE GAS RECIRCULATION SERVED BY LO-COST H2S SCAVENGER SYSTEM AND SULFATREAT VESSELS SHARED WITH PERMIT UNITS C-1121-18, '-19 AND '-41

PERMIT UNIT REQUIREMENTS

- 1. Fuel consumption for the steam generator shall not exceed 1,500 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 2. Combined quantity of well vent and tank vapor recovery gases combusted within steam generators '-17, '-18, '-19, and '-41, from the four CVR systems (C-1121-38, -39, -114, & -116) and the section 32 TVR system shall not exceed 1,300,000 scf/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 3. Only natural gas, vapor recovery gas, or a combination of natural gas and vapor recovery gas shall be used as fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
- 5. Lo-Cost H2S scavenging system shall be used whenever vapor recovery gas is fired in this unit. [District Rule 2201] Federally Enforceable Through Title V Permit
- 6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
- 7. Emission rates shall not exceed any of the following limits: NOx (as NO2): 14 ppmv @ 3% O2 or 0.017 lb/MMBtu (25.5 lb/day), CO: 43 ppmv @ 3%O2 or 0.032 lb/MMBtu (48.0 lb/day), PM10: 0.0076 lb/MMBtu (11.4 lb-PM10/day), or VOC: 0.008 lb/MMBtu (12.0 lb/day). [District Rules 2201, 4201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
- 8. When fired on PUC quality natural gas, the SOx emissions rate shall not exceed 0.00285 lb/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 9. When fired on gases other than PUC quality natural gas, the SOx emissions rate shall not exceed 9 ppmv @ 3% O2 or 0.015 lb/MMBtu (22.8 lb/day). [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 10. Combined emissions of SOx, calculated as SO2, from the steam generators and the flare (C-1121-17, -18, -19, -41, & -168) shall not exceed 28,580 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
- 11. The sulfur content of treated waste gas exiting the H2S Scavenger System shall be determined on a daily basis by gas detector tube sampling. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 12. Daily SOx emissions from combustion of waste gas shall be calculated based on the waste gas sulfur content as determined by gas detector tube sampling or the most recent laboratory analysis, whichever is greater. [District Rules 2201 and 4320] 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.

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-17-29 Sep 12 2018 2 19PM - GARCIAC

- 13. When source or type of gas changes, sampling for sulfur content shall be conducted within one week. A change in fuel type is defined as changing between any of the following: PUC-Quality gas, unprocessed field gas, or any field gas with any specific level of pretreatment. [District Rule 2520] Federally Enforceable Through Title V Permit
- 14. At least once every 12 months, unit shall be stack tested to demonstrate compliance with the SOx emission limit required by this permit (ppmv @3 % O2) using EPA Method 6C, Method 8 or ARB Method 100. Stack testing for SOx emissions in not required if unit was fired only on PUC quality natural during the 12 months prior to the compliance testing anniversary date. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 15. Permittee shall maintain daily record of all natural gas consumption including waste gas consumption, fuel sulfur content, calculated SOx emissions, supplier certifications and test results to show compliance with the conditions of this permit. The operator shall record daily amount and type (s) of fuel(s) combusted and all dates on which unit is fired on any non certified fuel and record specific type(s) of non certified fuel used. [District Rules 1070 and 2520] Federally Enforceable Through Title V Permit
- 16. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520] Federally Enforceable Through Title V Permit
- 17. This unit is fired only on gaseous fuel and has no provisions for firing on oil or coal. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the requirements of 40 CFR 60, Subpart Dc. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
- 18. This unit is subject to Steam Generator General Conditions, Steam Generator Fuel Monitoring Conditions, Steam Generator Source Testing Conditions, and Steam Generator Periodic Monitoring Conditions on the facility wide permit C-1121-0. Deviations from a standard condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

PERMIT UNIT: C-1121-18-29

EXPIRATION DATE: 12/31/2022

SECTION: 29 TOWNSHIP: 198 RANGE: 15E

EQUIPMENT DESCRIPTION:

S-10, 62.5 MMBTU/HR THERMOTICS, NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR WITH A COEN QLN-ULN LOW NOX BURNER, AND A FLUE GAS RECIRCULATION (FGR) SYSTEM SERVED BY LO-COST H2S SCAVENGER SYSTEM AND SULFATREAT VESSELS SHARED WITH PERMIT UNITS C-1121-17, '-19 AND '-41

PERMIT UNIT REQUIREMENTS

- Fuel consumption for the steam generator shall not exceed 1,500 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- Combined quantity of well vent and tank vapor recovery gases combusted within steam generators -17, -18, -19, and -41, from the four CVR systems (C-1121-38, -39, -114, & -116) and the section 32 TVR system shall not exceed 1,300,000 scf/day, [District Rule 2201] Federally Enforceable Through Title V Permit
- Only natural gas, vapor recovery gas, or a combination of natural gas and vapor recovery gas shall be used as fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
- The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
- Lo-Cost H2S scavenging system shall be used whenever vapor recovery gas is fired in this unit. [District Rule 2201] Federally Enforceable Through Title V Permit
- Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
- Emission rates shall not exceed any of the following limits: NOx (as NO2): 14 ppmv @ 3% O2 or 0.017 lb/MMBtu (25.5 lb/day), CO: 43 ppmv @ 3%O2 or 0.032 lb/MMBtu (48.0 lb/day), PM10: 0.0076 lb/MMBtu (11.4 lb-PM10/day), or VOC: 0.008 lb/MMBtu (12.0 lb/day). [District Rules 2201, 4201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
- When fired on PUC quality natural gas, the SOx emissions rate shall not exceed 0.00285 lb/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- When fired on gases other than PUC quality natural gas, the SOx emissions rate shall not exceed 9 ppmv @ 3% O2 or 0.015 lb/MMBtu (22.8 lb/day). [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 10. Combined emissions of SOx, calculated as SO2, from the steam generators and the flare (C-1121-17, -18, -19, -41, & -168) shall not exceed 28,580 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
- 11. The sulfur content of treated waste gas exiting the H2S Scavenger System shall be determined on a daily basis by gas detector tube sampling. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 12. Daily SOx emissions from combustion of waste gas shall be calculated based on the waste gas sulfur content as determined by gas detector tube sampling or the most recent laboratory analysis, whichever is greater. [District Rules 2201 and 4320] 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.

Facility Name: AERA ENERGY LLC HEAVY OIL PRODUCTION, FRESNO COUNTY, CA Location: C-1121-18-29 Sep 12 2018 2 16PM - GARCIAC

- 13. When source or type of gas changes, sampling for sulfur content shall be conducted within one week. A change in fuel type is defined as changing between any of the following: PUC-Quality gas, unprocessed field gas, or any field gas with any specific level of pretreatment. [District Rule 2520] Federally Enforceable Through Title V Permit
- 14. At least once every 12 months, unit shall be stack tested to demonstrate compliance with the SOx emission limit required by this permit (ppmv @3 % Q2) using EPA Method 6C, Method 8 or ARB Method 100. Stack testing for SOx emissions in not required if unit was fired only on PUC quality natural during the 12 months prior to the compliance testing anniversary date. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 15. Permittee shall maintain daily record of all natural gas consumption including waste gas consumption, fuel sulfur content, calculated SOx emissions, supplier certifications and test results to show compliance with the conditions of this permit. The operator shall record daily amount and type (s) of fuel(s) combusted and all dates on which unit is fired on any non certified fuel and record specific type(s) of non certified fuel used. [District Rules 1070 and 2520] Federally Enforceable Through Title V Permit
- 16. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520] Federally Enforceable Through Title V Permit
- 17. This unit is fired only on gaseous fuel and has no provisions for firing on oil or coal. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the requirements of 40 CFR 60, Subpart Dc. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
- 18. This unit is subject to Steam Generator General Conditions, Steam Generator Fuel Monitoring Conditions, Steam Generator Source Testing Conditions, and Steam Generator Periodic Monitoring Conditions on the facility wide permit C-1121-0. Deviations from a standard condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

HEAVY OIL PRODUCTION, FRESNO COUNTY, CA Location:

PERMIT UNIT: C-1121-19-29

EXPIRATION DATE: 12/31/2022

SECTION: 29 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

S-11, 62.5 MMBTU/HR THERMOTICS, NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR WITH A COEN QLN-ULN LOW NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM SERVED BY LO-COST H2S SCAVENGER SYSTEM AND SULFATREAT VESSELS SHARED WITH PERMIT UNITS C-1121-17, '-18 AND '-41

PERMIT UNIT REQUIREMENTS

- 1. Fuel consumption for the steam generator shall not exceed 1,500 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 2. Combined quantity of well vent and tank vapor recovery gases combusted within steam generators '-17, '-18, '-19, and '-41, from the four CVR systems (C-1121-38, -39, -114, & -116) and the section 32 TVR system shall not exceed 1,300,000 scf/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 3. Only natural gas, vapor recovery gas, or a combination of natural gas and vapor recovery gas shall be used as fuel.

 [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
- 5. Lo-Cost H2S scavenging system shall be used whenever vapor recovery gas is fired in this unit. [District Rule 2201] Federally Enforceable Through Title V Permit
- 6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
- 7. Emission rates shall not exceed any of the following limits: NOx (as NO2): 14 ppmv @ 3% O2 or 0.017 lb/MMBtu (25.5 lb/day), CO: 43 ppmv @ 3% O2 or 0.032 lb/MMBtu (48.0 lb/day), PM10: 0.0076 lb/MMBtu (11.4 lb-PM10/day), or VOC: 0.008 lb/MMBtu (12.0 lb/day). [District Rules 2201, 4201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
- 8. When fired on PUC quality natural gas, the SOx emissions rate shall not exceed 0.00285 lb/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 9. When fired on gases other than PUC quality natural gas, the SOx emissions rate shall not exceed 9 ppmv @ 3% O2 or 0.015 lb/MMBtu (22.8 lb/day). [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 10. Combined emissions of SOx, calculated as SO2, from the steam generators and the flare (C-1121-17, -18, -19, -41, & -168) shall not exceed 28,580 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
- 11. The sulfur content of treated waste gas exiting the H2S Scavenger System shall be determined on a daily basis by gas detector tube sampling. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 12. Daily SOx emissions from combustion of waste gas shall be calculated based on the waste gas sulfur content as determined by gas detector tube sampling or the most recent laboratory analysis, whichever is greater. [District Rules 2201 and 4320] 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.

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-19-29 Sep 12 2018 2 10PM - GARCIAC

- 13. When source or type of gas changes, sampling for sulfur content shall be conducted within one week. A change in fuel type is defined as changing between any of the following: PUC-Quality gas, unprocessed field gas, or any field gas with any specific level of pretreatment. [District Rule 2520] Federally Enforceable Through Title V Permit
- 14. At least once every 12 months, unit shall be stack tested to demonstrate compliance with the SOx emission limit required by this permit (ppmv @3 % O2) using EPA Method 6C, Method 8 or ARB Method 100. Stack testing for SOx emissions in not required if unit was fired only on PUC quality natural during the 12 months prior to the compliance testing anniversary date. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 15. Permittee shall maintain daily record of all natural gas consumption including waste gas consumption, fuel sulfur content, calculated SOx emissions, supplier certifications and test results to show compliance with the conditions of this permit. The operator shall record daily amount and type (s) of fuel(s) combusted and all dates on which unit is fired on any non certified fuel and record specific type(s) of non certified fuel used. [District Rules 1070 and 2520] Federally Enforceable Through Title V Permit
- 16. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520] Federally Enforceable Through Title V Permit
- 17. This unit is fired only on gaseous fuel and has no provisions for firing on oil or coal. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the requirements of 40 CFR 60, Subpart Dc. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
- 18. This unit is subject to Steam Generator General Conditions, Steam Generator Fuel Monitoring Conditions, Steam Generator Source Testing Conditions, and Steam Generator Periodic Monitoring Conditions on the facility wide permit C-1121-0. Deviations from a standard condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

PERMIT UNIT: C-1121-22-15

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

4.0 MMBTU/HR ENGELMAN GENERAL HEATER WITH NORTH AMERICAN MODEL 5131 GAS BURNER (PEER-1-0) AND PRESSURE RELIEF VENT TO VAPOR RECOVERY SYSTEM LISTED ON C-1121-45 (V-303)

PERMIT UNIT REQUIREMENTS

- 1. Pressure vessel shall maintain sufficient working pressure all the times that no organic liquid loss or VOC loss to the atmosphere shall occur. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 2. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 3. Maximum VOC content of vapor in the vessel vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 4. Vessel shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 5. All components in vapor service shall be closed and leak-free (as defined in Rule 4623) except during sampling or attended maintenance. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 6. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line vessel or at any secondary vessel which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. VOC content of vapor in vessel vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 8. The permittee shall keep accurate records of VOC content of the recovered gas from the vessel for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 9. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-22-15 Sep 12 2018 2 16PM -- GARCIAC

PERMIT UNIT: C-1121-23-16

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 198 RANGE: 15E

EQUIPMENT DESCRIPTION:

2,235 BBL HEATER TREATER VESSEL WITH PRESSURE RELIEF VENT CONNECTED TO VAPOR RECOVERY SYSTEM LISTED ON C-1121-45 (V-304) AND PERMIT EXEMPT BURNER (NATURAL GAS-FIRED, 5.0 MMBTU/HR OR LESS)

PERMIT UNIT REQUIREMENTS

1. This pressure vessel shall maintain working pressures sufficient to prevent organic liquid loss or VOC loss to the atmosphere at all times. [District Rule 4623] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-23-16 Sep 12 2018 2 16PM—GARCIAC

PERMIT UNIT: C-1121-24-10

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

6.0 MMBTU/HR ENGLEMAN GENERAL HEATER WITH TWO 3.0 MMBTU/HR NORTH AMERICAN MODEL #5131 GAS BURNERS AND PRESSURE RELIEF VENT TO VAPOR RECOVERY SYSTEM LISTED ON C-1121-45 (V-307)

PERMIT UNIT REQUIREMENTS

- 1. Pressure vessel shall maintain sufficient working pressure all the times that no organic liquid loss or VOC loss to the atmosphere shall occur. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 2. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
- 3. The unit shall only be fired on natural gas, containing no more than 1 grain of sulfur per 100 standard cubic feet. [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
- 5. Maximum annual heat input of the unit shall not exceed 9 billion Btu per calendar year. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
- 6. Fuel consumption shall not exceed 114,290 scf/day of natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. Emissions rates from the natural gas-fired unit shall not exceed any of the following limits: 0.14 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0044 lb-PM10/MMBtu, 0.035 lb-CO/MMBtu, or 0.0028 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
- 8. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 9. Maximum VOC content of vapor in the vessel vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 10. Vessel shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 11. All components in vapor service shall be closed and leak-free (as defined in Rule 4623) except during sampling or attended maintenance. [District NSR Rule] Federally Enforceable Through Title V Permit
- 12. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] 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.

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-24-10 Sep 12 2018 2-16PM= GARCIAC

- 13. VOC content of vapor in vessel vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 14. The permittee shall keep accurate records of VOC content of the recovered gas from the vessel for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 15. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
- 16. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
- 17. The concentration of sulfur compounds in the exhaust from this unit shall demonstrate compliance using one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
- 18. Owner/operator shall have unit tuned at least twice each calendar year, from four to eight months apart, in which it operates, by a technician that is qualified, to the satisfaction of the APCO, in accordance with the procedure described in Rule 4304 (Equipment Tuning Procedure for Boilers, Steam Generators, and Process Heaters). [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
- 19. If the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for that calendar year. No tune-up is required for any unit that is not operated during that calendar year; this unit may be test fired to verify availability of the unit for its intended use, but once the test firing is completed the unit shall be shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
- 20. Records of monthly and annual heat input of the unit shall be maintained. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
- 21. Records of tune-up and monitoring of the operational characteristics of the unit shall be maintained. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
- 22. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

PERMIT UNIT: C-1121-25-10

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

6.0 MMBTU/HR ENGLEMAN GENERAL HEATER WITH TWO 3.0 MMBTU/HR NORTH AMERICAN MODEL #5131 GAS BURNERS AND PRESSURE RELIEF VENT TO VAPOR RECOVERY SYSTEM LISTED ON C-1121-45 (V-308)

PERMIT UNIT REQUIREMENTS

- 1. Pressure vessel shall maintain sufficient working pressure all the times that no organic liquid loss or VOC loss to the atmosphere shall occur. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 2. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
- 3. The unit shall only be fired on natural gas, containing no more than 1 grain of sulfur per 100 standard cubic feet.

 [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
- 5. Maximum annual heat input of the unit shall not exceed 9 billion Btu per calendar year. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
- 6. Fuel consumption shall not exceed 114,290 scf/day of natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. Emissions rates from the natural gas-fired unit shall not exceed any of the following limits: 0.14 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0044 lb-PM10/MMBtu, 0.035 lb-CO/MMBtu, or 0.0028 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
- 8. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 9. Maximum VOC content of vapor in the vessel vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 10. Vessel shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 11. All components in vapor service shall be closed and leak-free (as defined in Rule 4623) except during sampling or attended maintenance. [District NSR Rule] Federally Enforceable Through Title V Permit
- 12. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] 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.

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-25-10 Sep 12 2018 2 16PM -- GARCIAC

- 13. VOC content of vapor in vessel vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 14. The permittee shall keep accurate records of VOC content of the recovered gas from the vessel for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 15. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
- 16. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
- 17. The concentration of sulfur compounds in the exhaust from this unit shall demonstrate compliance using one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
- 18. Owner/operator shall have unit tuned at least twice each calendar year, from four to eight months apart, in which it operates, by a technician that is qualified, to the satisfaction of the APCO, in accordance with the procedure described in Rule 4304 (Equipment Tuning Procedure for Boilers, Steam Generators, and Process Heaters). [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
- 19. If the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for that calendar year. No tune-up is required for any unit that is not operated during that calendar year; this unit may be test fired to verify availability of the unit for its intended use, but once the test firing is completed the unit shall be shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
- 20. Records of monthly and annual heat input of the unit shall be maintained. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
- 21. Records of tune-up and monitoring of the operational characteristics of the unit shall be maintained. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
- 22. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

C-1121-25-10 Sep 12 2018 2 16PM -- GARCIAC

PERMIT UNIT: C-1121-26-10

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

6.0 MMBTU/HR ENGLEMAN GENERAL HEATER WITH TWO 3.0 MMBTU/HR NORTH AMERICAN MODEL #6121-25H GAS BURNERS AND PRESSURE RELIEF VENT TO VAPOR RECOVERY SYSTEM LISTED ON C-1121-45 (V-309)

PERMIT UNIT REQUIREMENTS

- Pressure vessel shall maintain sufficient working pressure all the times that no organic liquid loss or VOC loss to the atmosphere shall occur. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
- The unit shall only be fired on natural gas, containing no more than 1 grain of sulfur per 100 standard cubic feet. [District Rule 2201] Federally Enforceable Through Title V Permit
- A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
- Maximum annual heat input of the unit shall not exceed 9 billion Btu per calendar year. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
- Fuel consumption shall not exceed 114,290 scf/day of natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
- Emissions rates from the natural gas-fired unit shall not exceed any of the following limits: 0.14 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0044 lb-PM10/MMBtu, 0.035 lb-CO/MMBtu, or 0.0028 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
- The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- Maximum VOC content of vapor in the vessel vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 10. Vessel shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 11. All components in vapor service shall be closed and leak-free (as defined in Rule 4623) except during sampling or attended maintenance. [District NSR Rule] Federally Enforceable Through Title V Permit
- 12. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] 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.

Facility Name: AERA ENERGY LLC HEAVY OIL PRODUCTION, FRESNO COUNTY, CA Location:

- 13. VOC content of vapor in vessel vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 14. The permittee shall keep accurate records of VOC content of the recovered gas from the vessel for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 15. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
- 16. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
- 17. The concentration of sulfur compounds in the exhaust from this unit shall demonstrate compliance using one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
- 18. Owner/operator shall have unit tuned at least twice each calendar year, from four to eight months apart, in which it operates, by a technician that is qualified, to the satisfaction of the APCO, in accordance with the procedure described in Rule 4304 (Equipment Tuning Procedure for Boilers, Steam Generators, and Process Heaters). [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
- 19. If the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for that calendar year. No tune-up is required for any unit that is not operated during that calendar year; this unit may be test fired to verify availability of the unit for its intended use, but once the test firing is completed the unit shall be shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
- 20. Records of monthly and annual heat input of the unit shall be maintained. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
- 21. Records of tune-up and monitoring of the operational characteristics of the unit shall be maintained. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
- 22. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

C-1121-26-10 Sep 12 2018 2 16PM -- GARCIAC

PERMIT UNIT: C-1121-33-10

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

TG-1, 52.7 MMBTU/HR ALLISON GM 501-KB5 NATURAL GAS FIRED TURBINE WITH WATER INJECTION AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM DRIVING A 4 MW ELECTRICAL GENERATOR

PERMIT UNIT REQUIREMENTS

- 1. Unit shall be exclusively fired with natural gas containing no more than 1 grain of total sulfur per 100 standard cubic feet of gas. [District NSR Rule] Federally Enforceable Through Title V Permit
- 2. Except during periods of startup, shutdown, and shakedown, emissions rates (three hour rolling average) shall not exceed any of the following: NOx (as NO2): 5 ppmv dry @ 15% O2, CO: 38 ppmv dry @ 15% O2. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
- 3. Emissions shall not exceed any of the following limits: NOx (as NO2); 46.3 lb/day, CO: 107.5 lb/day, PM10: 8.3 lb/day; SOx (as SO2): 3.6 lb/day or VOC: 2.7 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. The owner or operator shall be required to conform to the compliance testing and sampling procedures described in District Rule 1081 (as amended 12/16/93). [District Rules 1081 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
- 5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
- 6. If this unit is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 1070 and 40 CFR 60.334(h)(3)] Federally Enforceable Through Title V Permit
- 7. If this unit is not fired on PUC-regulated natural gas, the operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(j)(2)(i)] Federally Enforceable Through Title V Permit
- 8. If this unit is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM D3246 or double GC for H2S and mercaptans, and fuel H2S content gas detection tubes calibrated for H2S or other District-approved fuel sulfur detection method(s) or device(s). [District Rule 107040 and CFR 60.335(b)(10)(2)] Federally Enforceable Through Title V Permit
- 9. If this unit is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520] Federally Enforceable Through Title V Permit

- 10. Except during startup, shutdown, and reduced load periods, any one-hour period during which the average ammonia injection flowrate, as measured by the continuous monitoring system, falls outside the flowrate range as determined to demonstrate compliance shall be reported to the APCO. Each report shall include the average water-to-fuel ratio, average ammonia injection flowrate, average fuel consumption, ambient conditions, turbine gas load and nitrogen content of the fuel during the period of excess emissions. [40 CFR 60.334(j)(1)(i) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 11. Permittee shall operate and maintain in calibration, to within 5% accuracy, a monitoring system which continuously measures and records the water-to-fuel ratio and fuel consumption and which correlates the water-to-fuel ratio during initial source testing with the NOx concentration in the exhaust. [District NSR Rule and Rule 4703, and 40 CFR 60.334(a) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 12. Permittee shall operate a system which continuously measures and records elapsed time of turbine operation. [District Rule 4703, and 40 CFR 60.334(a) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 13. Permittee shall operate and maintain in calibration a system which continuously measures and records ammonia injection flow rate, monitors ammonia pressure, and sounds an alarm if outside the acceptable operating pressure range. Ammonia injection flow rate and pressure shall be operated within the range recommended by SCR manufacturer and determined by performance tests such that the turbine maintains 95% or greater control efficiency or complies with the applicable NOx emission concentration limit. [District Rule 4703, and 40 CFR 60.334(a) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 14. Gas turbine engine shall be equipped with water injection system for NOx control. [District Rule 2201] Federally Enforceable Through Title V Permit
- 15. Gas turbine engine water injection rate shall be maintained at a water-to-fuel ratio documented to result in compliance with emission limits. Operator shall perform and submit an engineering performance test to demonstrate continuous compliance with emissions limits beyond the specified ratios. [District Rules 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 16. If ammonia injection system is inoperative for more than 1 hour, gas turbine shall be shut down. [District Rule 2201] Federally Enforceable Through Title V Permit
- 17. Evaporative cooler shall use only fresh and filtered water. [District Rule 2201] Federally Enforceable Through Title V Permit
- 18. Waste heat recovery steam generator exhaust shall be equipped with permanent provisions to allow collection of gas samples consistent with EPA methods. [District Rule 1081] Federally Enforceable Through Title V Permit
- 19. The ammonia (NH3) emissions from the exhaust of the SCR system serving this gas turbine shall not exceed 20 ppmvd @ 15% O2. [District Rule 2201] Federally Enforceable Through Title V Permit
- 20. Permittee shall maintain accurate records of ammonia consumption. [District Rules 1070 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 21. Gas temperature at SCR catalyst section inlet shall be continuously monitored by operational temperature indicator. Inlet gas temperature to catalyst bed shall be maintained within range recommended by catalyst manufacturer and determined by performance tests. [District Rule 4703, and 40 CFR 60.334(f)(3) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 22. The permittee shall maintain a record of the date of initial operation of this unit, fuel combusted (scf/day) on daily basis, water-to-fuel ratio, and results of ammonia injection rate monitoring from CMS. These records shall be made readily available for District inspection upon request. [District Rule 2201 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 23. Startup and shutdown of the gas turbine, as defined in this permit and in 40 CFR Subpart A 60.2, shall not exceed a time period of two hours for startup and two hours for shutdown, per occurrence. Emission concentrations subsequent to this startup period shall not exceed the limits specified in this permit except during shutdown. [District Rule 4703 and 40 CFR Subpart A 60.2] 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.

- 24. The duration of reduced load shall not exceed a time period of one hour per occurrence. [District Rule 4703] Federally Enforceable Through Title V Permit
- 25. Daily records of NOx and CO emission calculations during days of startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
- 26. Maximum NOx (as NO2) and SOx (as SO2) emission rates (1 hr average) shall not exceed NSPS standard of 150 ppmv-dry @ 15% O2, and 150 ppmv-dry @ 15% O2, respectively. [40 CFR 60.332(a)(2) and 60.333(a)] Federally Enforceable Through Title V Permit
- 27. The permittee shall monitor and record the stack concentration of NOx, CO, NH3, and O2 at least once every month in which a source test is not performed. NOx, CO and O2 monitoring shall be conducted utilizing a portable analyzer that meets District specifications. NH3 monitoring shall be conducted utilizing gas detection tubes or a District approved equivalent method. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the previous calendar month. [District Rule 4703] Federally Enforceable Through Title V Permit
- 28. If the NOx or CO concentrations corrected to 15% O2 as measured by the portable analyzer or the NH3 concentration, as measured by gas detection tubes or a District approved equivalent method, exceed the permitted levels the permittee shall return the emissions to compliant levels as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer or the ammonia monitoring equipment continues to show emission limit violations after 1 hour of operation following detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation that is subject to enforcement action has occurred. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4703] Federally Enforceable Through Title V Permit
- 29. All NOx, CO, O2 and ammonia emission readings shall be taken with the unit operating at conditions representative of normal operation or under the conditions specified in the Permit to Operate. The NOx, CO and O2 analyzer as well as the NH3 emission monitoring equipment shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Analyzer readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4703] Federally Enforceable Through Title V Permit
- 30. The permittee shall maintain records of: (1) the date and time of NOx, CO, NH3 and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx, CO and NH3 concentrations corrected to 15% O2, (3) make and model of the portable analyzer, (4) portable analyzer calibration records, (5) the method of determining the NH3 emission concentration, and (6) a description of any corrective action taken to maintain the emissions at or below the acceptable levels. [District Rule 4703] Federally Enforceable Through Title V Permit
- 31. A source test to demonstrate compliance with NOx, CO, and NH3 emission limits, and fuel sulfur content shall be performed within 60 days after the shakedown period has been completed for this modified unit. The appropriate ammonia injection rate, fuel consumption, ammonia to fuel ratio, water to fuel ratio, and any other associated operating parameter shall be continuously monitored and recorded during this test to establish acceptable operating ranges. Selective Catalytic Reduction (SCR) 95% control efficiency may be demonstrated as an alternative to compliance with the Rule 4703 NOx emissions concentration limit. [District Rules 2201 and 4703, and 40 CFR 60.334(g), 40 CFR 60.335(b) and 40 CFR Part 64] 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.

Facility Name: AERA ENERGY LLC Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA C-1121-33-10 Sep 12 2018 2-16PM - GARCIAC

- 32. Source testing to measure exhaust gas NOx, CO, and NH3 concentrations and, if applicable, Selective Catalytic Reduction (SCR) control efficiency shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). Performance testing shall be conducted under conditions representative of normal operation. [District Rules 2520 and 4703, and 40 CFR 60.335(b)] Federally Enforceable Through Title V Permit
- 33. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). [District Rule 4703] Federally Enforceable Through Title V Permit
- 34. The following test methods shall be used: NOx (ppmv) EPA Method 7E or 20, CO (ppmv) EPA Method 10 or 10B, stack gas oxygen EPA Method 3 or 3A or 20, fuel gas sulfur content ASTM D1072, D4468, or D3246 or double GC for H2S and mercaptans, fuel gas HHV and LHV ASTM D3598, D1826 or D1945, Ammonia slip BAAQMD method ST-1B. [District Rules 1081 and 4703, and 40 CFR 60.335(b)] Federally Enforceable Through Title V Permit
- 35. The District must be notified 30 days prior to any performance testing and a test plan shall be submitted for District approval 15 days prior to such testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit
- 36. Performance testing shall be witnessed or authorized District personnel. Test results must be submitted to the District within 60 day of performance testing. [District Rule 1081, 7.2, 7.3] Federally Enforceable Through Title V Permit
- 37. Permittee shall report the following emission exceedance to the District: emission rates of NOx and CO on a three-hour rolling average and NSPS emission rate on one hour average. [District Rules 1070, 2201, and 4703] Federally Enforceable Through Title V Permit
- 38. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. During days of gas turbine startup/shutdown, permittee shall maintain accurate daily records of natural gas consumption for normal operation and for the startup/shutdown periods. This information may be recorded electronically. Daily entries in the operating log are not required for periods of non-operation. [District Rules 2520 and 4703] Federally Enforceable Through Title V Permit
- 39. Permittee shall maintain accurate records of all maintenance activities, periodic inspections, and repairs of SCR unit, water and NH3 injection systems, and their associated controller and instrumentation units. [District Rules 1070 and 4703] Federally Enforceable Through Title V Permit
- 40. Permittee shall comply in full with Rule 4001 (New Source Performance Standards, 40 CFR 60 Subpart GG) requirements, including notification, recordkeeping and monitoring requirements. [District Rule 4001] Federally Enforceable Through Title V Permit
- 41. The owner or operator shall maintain all records for a period of five years from the date of entry and shall make such records available to the APCO upon request. [District Rules 1080, 2201, and 4703, 6.2.4] Federally Enforceable Through Title V Permit
- 42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Fresno County Rule 406 as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 43. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332(a)(2), (c), and (f), 60.333 (a) and (b); 60.334(a), (c)(1), (c)(2), and (c)(3), and 60.335(b), (c)(2), (c)(3), and (d); District Rule 4703 (as amended 12/19/02), Sections 5.1.2, 5.2, 6.1, 6.3.1, 6.3.3, 6.4, 6.4.5, and 6.4.6 as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 44. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rule 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

PERMIT UNIT: C-1121-34-10

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

TG-2, 52.7 MMBTU/HR ALLISON GM 501-KB5 NATURAL GAS FIRED TURBINE WITH WATER INJECTION AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM DRIVING A 4 MW ELECTRICAL GENERATOR

PERMIT UNIT REQUIREMENTS

- 1. Unit shall be exclusively fired with natural gas containing no more than 1 grain of total sulfur per 100 standard cubic feet of gas. [District NSR Rule] Federally Enforceable Through Title V Permit
- 2. Except during periods of startup, shutdown, and shakedown, emissions rates (three hour rolling average) shall not exceed any of the following: NOx (as NO2): 5 ppmv dry @ 15% O2, CO: 38 ppmv dry @ 15% O2. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
- 3. Emissions shall not exceed any of the following limits: NOx (as NO2); 46.3 lb/day, CO: 107.5 lb/day, PM10: 8.3 lb/day; SOx (as SO2): 3.6 lb/day or VOC: 2.7 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. The owner or operator shall be required to conform to the compliance testing and sampling procedures described in District Rule 1081 (as amended 12/16/93). [District Rules 1081 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
- 5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
- 6. If this unit is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 1070 and 40 CFR 60.334(h)(3)] Federally Enforceable Through Title V Permit
- 7. If this unit is not fired on PUC-regulated natural gas, the operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(j)(2)(i)] Federally Enforceable Through Title V Permit
- 8. If this unit is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM D3246 or double GC for H2S and mercaptans, and fuel H2S content gas detection tubes calibrated for H2S or other District-approved fuel sulfur detection method(s) or device(s). [District Rule 1070 and 40 CFR 60.335(b)(10)(2)] Federally Enforceable Through Title V Permit
- 9. If this unit is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520] Federally Enforceable Through Title V Permit

- 10. Except during startup, shutdown, and reduced load periods, any one-hour period during which the average ammonia injection flowrate, as measured by the continuous monitoring system, falls outside the flowrate range as determined to demonstrate compliance shall be reported to the APCO. Each report shall include the average water-to-fuel ratio, average ammonia injection flowrate, average fuel consumption, ambient conditions, turbine gas load and nitrogen content of the fuel during the period of excess emissions. [40 CFR 60.334(j)(1)(i) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 11. Permittee shall operate and maintain in calibration, to within 5% accuracy, a monitoring system which continuously measures and records the water-to-fuel ratio and fuel consumption and which correlates the water-to-fuel ratio during initial source testing with the NOx concentration in the exhaust. [District NSR Rule and Rule 4703, and 40 CFR 60.334(a) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 12. Permittee shall operate a system which continuously measures and records elapsed time of turbine operation. [District Rule 4703, and 40 CFR 60.334(a) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 13. Permittee shall operate and maintain in calibration a system which continuously measures and records ammonia injection flow rate, monitors ammonia pressure, and sounds an alarm if outside the acceptable operating pressure range. Ammonia injection flow rate and pressure shall be operated within the range recommended by SCR manufacturer and determined by performance tests such that the turbine maintains 95% or greater control efficiency or complies with the applicable NOx emission concentration limit. [District Rule 4703, and 40 CFR 60.334(a) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 14. Gas turbine engine shall be equipped with water injection system for NOx control. [District Rule 2201] Federally Enforceable Through Title V Permit
- 15. Gas turbine engine water injection rate shall be maintained at a water-to-fuel ratio documented to result in compliance with emission limits. Operator shall perform and submit an engineering performance test to demonstrate continuous compliance with emissions limits beyond the specified ratios. [District Rules 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 16. If ammonia injection system is inoperative for more than 1 hour, gas turbine shall be shut down. [District Rule 2201] Federally Enforceable Through Title V Permit
- 17. Evaporative cooler shall use only fresh and filtered water. [District Rule 2201] Federally Enforceable Through Title V Permit
- 18. Waste heat recovery steam generator exhaust shall be equipped with permanent provisions to allow collection of gas samples consistent with EPA methods. [District Rule 1081] Federally Enforceable Through Title V Permit
- 19. The ammonia (NH3) emissions from the exhaust of the SCR system serving this gas turbine shall not exceed 20 ppmvd @ 15% O2. [District Rule 2201] Federally Enforceable Through Title V Permit
- 20. Permittee shall maintain accurate records of ammonia consumption. [District Rules 1070 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 21. Gas temperature at SCR catalyst section inlet shall be continuously monitored by operational temperature indicator. Inlet gas temperature to catalyst bed shall be maintained within range recommended by catalyst manufacturer and determined by performance tests. [District Rule 4703, and 40 CFR 60.334(f)(3) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 22. The permittee shall maintain a record of the date of initial operation of this unit, fuel combusted (scf/day) on daily basis, water-to-fuel ratio, and results of ammonia injection rate monitoring from CMS. These records shall be made readily available for District inspection upon request. [District Rule 2201 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
- 23. Startup and shutdown of the gas turbine, as defined in this permit and in 40 CFR Subpart A 60.2, shall not exceed a time period of two hours for startup and two hours for shutdown, per occurrence. Emission concentrations subsequent to this startup period shall not exceed the limits specified in this permit except during shutdown. [District Rule 4703 and 40 CFR Subpart A 60.2] Federally Enforceable Through Title V Permit

- 24. The duration of reduced load shall not exceed a time period of one hour per occurrence. [District Rule 4703] Federally Enforceable Through Title V Permit
- 25. Daily records of NOx and CO emission calculations during days of startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
- 26. Maximum NOx (as NO2) and SOx (as SO2) emission rates (1 hr average) shall not exceed NSPS standard of 150 ppmv-dry @ 15% O2, and 150 ppmv-dry @ 15% O2, respectively. [40 CFR 60.332(a)(2) and 60.333(a)] Federally Enforceable Through Title V Permit
- 27. The permittee shall monitor and record the stack concentration of NOx, CO, NH3, and O2 at least once every month in which a source test is not performed. NOx, CO and O2 monitoring shall be conducted utilizing a portable analyzer that meets District specifications. NH3 monitoring shall be conducted utilizing gas detection tubes or a District approved equivalent method. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the previous calendar month. [District Rule 4703] Federally Enforceable Through Title V Permit
- 28. If the NOx or CO concentrations corrected to 15% O2 as measured by the portable analyzer or the NH3 concentration, as measured by gas detection tubes or a District approved equivalent method, exceed the permitted levels the permittee shall return the emissions to compliant levels as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer or the ammonia monitoring equipment continues to show emission limit violations after 1 hour of operation following detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation that is subject to enforcement action has occurred. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4703] Federally Enforceable Through Title V Permit
- 29. All NOx, CO, O2 and ammonia emission readings shall be taken with the unit operating at conditions representative of normal operation or under the conditions specified in the Permit to Operate. The NOx, CO and O2 analyzer as well as the NH3 emission monitoring equipment shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Analyzer readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4703] Federally Enforceable Through Title V Permit
- 30. The permittee shall maintain records of: (1) the date and time of NOx, CO, NH3 and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx, CO and NH3 concentrations corrected to 15% O2, (3) make and model of the portable analyzer, (4) portable analyzer calibration records, (5) the method of determining the NH3 emission concentration, and (6) a description of any corrective action taken to maintain the emissions at or below the acceptable levels. [District Rule 4703] Federally Enforceable Through Title V Permit
- 31. A source test to demonstrate compliance with NOx, CO, and NH3 emission limits, and fuel sulfur content shall be performed within 60 days after the shakedown period has been completed for this modified unit. The appropriate ammonia injection rate, fuel consumption, ammonia to fuel ratio, water to fuel ratio, and any other associated operating parameter shall be continuously monitored and recorded during this test to establish acceptable operating ranges. Selective Catalytic Reduction (SCR) 95% control efficiency may be demonstrated as an alternative to compliance with the Rule 4703 NOx emissions concentration limit. [District Rules 2201 and 4703, 40 CFR 60.334(g), 40 CFR 60.335(b) and 40 CFR Part 64] Federally Enforceable Through Title V Permit

- 32. Source testing to measure exhaust gas NOx, CO, and NH3 concentrations and, if applicable, Selective Catalytic Reduction (SCR) control efficiency shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). Performance testing shall be conducted under conditions representative of normal operation. [District Rules 2520 and 4703, and 40 CFR 60.335(b)] Federally Enforceable Through Title V Permit
- 33. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). [District Rule 4703] Federally Enforceable Through Title V Permit
- 34. The following test methods shall be used: NOx (ppmv) EPA Method 7E or 20, CO (ppmv) EPA Method 10 or 10B, stack gas oxygen - EPA Method 3 or 3A or 20, fuel gas sulfur content - ASTM D1072, D4468, or D3246 or double GC for H2S and mercaptans, fuel gas HHV and LHV - ASTM D3598, D1826 or D1945, Ammonia slip - BAAQMD method ST-1B. [District Rules 1081 and 4703, and 40 CFR 60.335(b)] Federally Enforceable Through Title V Permit
- 35. The District must be notified 30 days prior to any performance testing and a test plan shall be submitted for District approval 15 days prior to such testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit
- 36. Performance testing shall be witnessed or authorized District personnel. Test results must be submitted to the District within 60 day of performance testing. [District Rule 1081, 7.2, 7.3] Federally Enforceable Through Title V Permit
- 37. Permittee shall report the following emission exceedance to the District: emission rates of NOx and CO on a threehour rolling average and NSPS emission rate on one hour average. [District Rules 1070, 2201, and 4703] Federally Enforceable Through Title V Permit
- 38. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. During days of gas turbine startup/shutdown, permittee shall maintain accurate daily records of natural gas consumption for normal operation and for the startup/shutdown periods. This information may be recorded electronically. Daily entries in the operating log are not required for periods of non-operation. [District Rules 2520 and 4703] Federally Enforceable Through Title V Permit
- 39. Permittee shall maintain accurate records of all maintenance activities, periodic inspections, and repairs of SCR unit, water and NH3 injection systems, and their associated controller and instrumentation units. [District Rules 1070 and 4703] Federally Enforceable Through Title V Permit
- 40. Permittee shall comply in full with Rule 4001 (New Source Performance Standards, 40 CFR 60 Subpart GG) requirements, including notification, recordkeeping and monitoring requirements. [District Rule 4001] Federally Enforceable Through Title V Permit
- 41. The owner or operator shall maintain all records for a period of five years from the date of entry and shall make such records available to the APCO upon request. [District Rules 1080, 2201, and 4703, 6.2.4] Federally Enforceable Through Title V Permit
- 42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Fresno County Rule 406 as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 43. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332(a)(2), (c), and (f), 60.333 (a) and (b); 60.334(a), (c)(1), (c)(2), and (c)(3), and 60.335(b), (c)(2), (c)(3), and (d); District Rule 4703 (as amended 12/19/02), Sections 5.1.2, 5.2, 6.1, 6.3.1, 6.3.3, 6.4, 6.4.5, and 6.4.6 as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 44. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rule 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

Location: C-1121-34-10 Sep 12 2018 2 16PM - GARCIAC

PERMIT UNIT: C-1121-38-9

EXPIRATION DATE: 12/31/2022

SECTION: 29 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

200 STEAM-DRIVE WELLS SERVED BY 170 HP CASING VAPOR RECOVERY SYSTEM WITH HEAT EXCHANGER E-100, FIN FAN COOLER E-110, SEPARATOR V-100, CONDENSATE PUMPS P-100 AND P-101, AND GAS COMPRESSOR SKID WITH COMPRESSOR C-10, FIN FAN COOLER E-10, SEPARATORS V-10 AND V-11 AND CONDENSATE PUMP P-10.

PERMIT UNIT REQUIREMENTS

- 1. VOC emissions from TEOR system shall not exceed 346.7 lb VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 2. VOC content of the collected TEOR vapors shall not exceed 10% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
- 3. 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] Federally Enforceable Through Title V Permit
- 4. If the VOC content of the TEOR vapor 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 2520] Federally Enforceable Through Title V Permit
- 5. Permittee shall maintain a written record of VOC content of the well vent gas and location of sampling point. [District Rule 2520] Federally Enforceable Through Title V Permit
- 6. Compliance with permit conditions in the Title V permit shall be deemed compliance with SJVUAPCD Rule 4401 (Amended June 16, 2011), 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
- 7. Compliance with the control efficiency testing specification listed in the TEOR System Conditions have been waived by exhausting non-condensibles into a working steam generator firebox or flare for combustion. A permit shield is granted from the requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 8. 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
- 9. This unit is subject to TEOR System Conditions on the facility wide permit C-1121-0. Deviations from a system condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

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

PERMIT UNIT: C-1121-39-12

EXPIRATION DATE: 12/31/2022

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 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

PERMIT UNIT REQUIREMENTS

- VOC content of the collected well vent vapors shall not exceed 10% by weight. [District Rule 2201] Federally 1. Enforceable Through Title V Permit
- If the VOC content of the well vent vapor 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 2520] Federally Enforceable Through Title V Permit
- 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] Federally Enforceable Through Title V Permit
- Permittee shall maintain a written record of VOC content of the well vent gas and location of sampling point. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
- Compliance with permit conditions in the Title V permit shall be deemed compliance with SJVUAPCD Rule 4401 (Amended June 16, 2011), 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
- Compliance with the control efficiency testing specification listed in the TEOR System Conditions have been waived by exhausting non-condensibles into a working steam generator firebox or flare for combustion. A permit shield is granted from the requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 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
- This unit is subject to TEOR System Conditions on the facility wide permit C-1121-0. Deviations from a system condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

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

HEAVY OIL PRODUCTION FRESNO COUNTY. CA Location: HEAVY OIL PRO

PERMIT UNIT: C-1121-41-29

EXPIRATION DATE: 12/31/2022

SECTION: 29 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

S-12, 62.5 MMBTU/HR THERMOTICS, NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (S-12) WITH COEN QLN-ULN BURNER, FLUE GAS RECIRCULATION SERVED BY LO-COST H2S SCAVENGER SYSTEM AND SULFATREAT VESSELS SHARED WITH PERMIT UNITS C- 1121-17, '-18 AND '-19

PERMIT UNIT REQUIREMENTS

- 1. Fuel consumption for the steam generator shall not exceed 1,500 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 2. Combined quantity of well vent and tank vapor recovery gases combusted within steam generators '-17, '-18, '-19, and '-41, from the four CVR systems (C-1121-38, -39, -114, & -116) and the section 32 TVR system shall not exceed 1,300,000 scf/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 3. Only natural gas, vapor recovery gas, or a combination of natural gas and vapor recovery gas shall be used as fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
- 5. Lo-Cost H2S scavenging system shall be used whenever vapor recovery gas is fired in this unit. [District Rule 2201] Federally Enforceable Through Title V Permit
- 6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
- 7. Emission rates shall not exceed any of the following limits: NOx (as NO2): 14 ppmv @ 3% O2 or 0.017 lb/MMBtu (25.5 lb/day), CO: 43 ppmv @ 3%O2 or 0.032 lb/MMBtu (48.0 lb/day), PM10: 0.0076 lb/MMBtu (11.4 lb-PM10/day), or VOC: 0.008 lb/MMBtu (12.0 lb/day). [District Rules 2201, 4201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
- 8. When fired on PUC quality natural gas, the SOx emissions rate shall not exceed 0.00285 lb/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 9. When fired on gases other than PUC quality natural gas, the SOx emissions rate shall not exceed 9 ppmv @ 3% O2 or 0.015 lb/MMBtu (22.8 lb/day). [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 10. Combined emissions of SOx, calculated as SO2, from the steam generators and the flare (C-1121-17, -18, -19, -41, & -168) shall not exceed 28,580 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
- 11. The sulfur content of treated waste gas exiting the H2S Scavenger System shall be determined on a daily basis by gas detector tube sampling. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 12. Daily SOx emissions from combustion of waste gas shall be calculated based on the waste gas sulfur content as determined by gas detector tube sampling or the most recent laboratory analysis, whichever is greater. [District Rules 2201 and 4320] 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.

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-41-29: Sep 12 2018 2 118PM - GARCIAC

- 13. When source or type of gas changes, sampling for sulfur content shall be conducted within one week. A change in fuel type is defined as changing between any of the following: PUC-Quality gas, unprocessed field gas, or any field gas with any specific level of pretreatment. [District Rule 2520] Federally Enforceable Through Title V Permit
- 14. At least once every 12 months, unit shall be stack tested to demonstrate compliance with the SOx emission limit required by this permit (ppmv @3 % O2) using EPA Method 6C, Method 8 or ARB Method 100. Stack testing for SOx emissions in not required if unit was fired only on PUC quality natural during the 12 months prior to the compliance testing anniversary date. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 15. Permittee shall maintain daily record of all natural gas consumption including waste gas consumption, fuel sulfur content, calculated SOx emissions, supplier certifications and test results to show compliance with the conditions of this permit. The operator shall record daily amount and type (s) of fuel(s) combusted and all dates on which unit is fired on any non certified fuel and record specific type(s) of non certified fuel used. [District Rules 1070 and 2520] Federally Enforceable Through Title V Permit
- 16. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520] Federally Enforceable Through Title V Permit
- 17. This unit is fired only on gaseous fuel and has no provisions for firing on oil or coal. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the requirements of 40 CFR 60, Subpart Dc. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
- 18. This unit is subject to Steam Generator General Conditions, Steam Generator Fuel Monitoring Conditions, Steam Generator Source Testing Conditions, and Steam Generator Periodic Monitoring Conditions on the facility wide permit C-1121-0. Deviations from a standard condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA C-1121-41-29 Sep 12 2018 2 16PM - GARCIAC

PERMIT UNIT: C-1121-45-14

EXPIRATION DATE: 12/31/2022

RANGE: 15E SECTION: 32 TOWNSHIP: 19S

EQUIPMENT DESCRIPTION:

5,000 BBL FIXED-ROOF CRUDE OIL STORAGE TANK WITH 60 HP SHARED TANK VAPOR CONTROL SYSTEM SERVING TANKS C-1121-46, -79, -82 THROUGH 85, -87 THROUGH -90; HEATER TREATERS C-1121-22 THROUGH -26; 2 PRESSURE VESSELS (V200 & V350); AND 6 FWKO VESSELS (V301, V302, V311, V312, V313, AND V336) BLANKETED WITH TEOR AND CVR WASTE GAS (T-317)

PERMIT UNIT REQUIREMENTS

- 32 DEHY VAPOR RECOVERY CONDITION: The tank shall be equipped with a fixed roof with no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
- The efficiency of any VOC destruction device shall be measured by EPA Method 18. [District Rule 2201] Federally Enforceable Through Title V Permit
- The tank shall be equipped with a vapor loss prevention system consisting of vapor and condensate collection systems capable of reducing VOC emissions by at least 99%. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
- Non-condensibles shall be exhausted into a working steam generator firebox or flare for combustion. [District Rule 2201] Federally Enforceable Through Title V Permit
- Maximum VOC content of vapor in the tank vapor space and vapor control system piping shall not exceed 10% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
- Tank shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District Rule 2201] Federally Enforceable Through Title V Permit
- Tank venting as due to maintenance activities, breakdowns, or power outages shall not exceed eight (8) hours per calendar quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
- 32 DEHY VAPOR RECOVERY CONDITION: All tank gauging, hatches, sampling ports, pressure relief valves, vapor control system components, etc. shall be closed and leak-free (as defined in Rule 4623) except during sampling or attended maintenance. [District Rule 2201] Federally Enforceable Through Title V Permit
- 32 DEHY VAPOR RECOVERY CONDITION: Tank seams, welds, joints, piping, valves, and fittings shall be inspected and maintained in a leak-free (as defined in Rule 4623) condition. [District Rule 2201] Federally Enforceable Through Title V Permit
- 10. Compressor suction and knockout drum liquids shall be piped only to vapor-controlled tanks. [District Rule 2201] Federally Enforceable Through Title V Permit
- 11. 32 DEHY VAPOR RECOVERY CONDITION: Tank pressure/vacuum valve (Varec) or pressure relief valve (PRV) shall be inspected on an annual basis. During the inspections, the Varec or PRV can be removed from the tank and replaced if necessary. The permittee shall minimize emissions from the opening by plugging the opening during the removal of the Varec valve or PRV. [District Rules 2080 and 2520] 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.

Facility Name: AERA ENERGY LLC HEAVY OIL PRODUCTION, FRESNO COUNTY, CA

Location: HEAVY OIL PRO

- 12. The pressure transmitters shall be inspected and maintained in good operating condition. The inspections may be conducted, as needed, on a quarterly basis. Replacing and repairing the pressure transmitters shall not exceed one hour per day. [District Rule 2080] Federally Enforceable Through Title V Permit
- 13. 32 DEHY INSPECTION CONDITION: All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 2520] Federally Enforceable Through Title V Permit
- 14. 32 DEHY INSPECTION CONDITION: A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 2520] Federally Enforceable Through Title V Permit
- 15. 32 DEHY INSPECTION CONDITION: An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 2520] Federally Enforceable Through Title V Permit
- 16. 32 DEHY INSPECTION CONDITION: Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 2520] Federally Enforceable Through Title V Permit
- 17. 32 DEHY INSPECTION CONDITION: Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 95 percent efficient as measured by EPA Method 25 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 95% control efficiency as measured by EPA Method 25 at least annually. [District Rule 2520] Federally Enforceable Through Title V Permit
- 18. 32 DEHY INSPECTION CONDITION: If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired 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. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 2520] Federally Enforceable Through Title V Permit
- 19. 32 DEHY INSPECTION CONDITION: Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 2520] Federally Enforceable Through Title V Permit
- 20. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- 21. The operator shall ensure that the vapor control system is functional and is operating at all times except during periods of vapor control system maintenance or power outages. [District Rule 2520] Federally Enforceable Through Title V Permit

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-45-14 Sep 12 2018 2 19PM - GARCIAC

- 22. 32 DEHY CLEANING CONDITION: This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rule 2080] Federally Enforceable Through Title V Permit
- 23. 32 DEHY CLEANING CONDITION: Permittee shall conduct tank cleaning and maintenance operations in accordance with District approved procedures as described in this permit. [District Rule 2080] Federally Enforceable Through Title V Permit
- 24. 32 DEHY CLEANING CONDITION: Tank may be disconnected from vapor control system during District approved cleaning and maintenance procedures as described in this permit. [District Rule 2080] Federally Enforceable Through Title V Permit
- 25. 32 DEHY CLEANING CONDITION: Permittee shall notify the District Compliance division at least 24 hours before tank cleaning and vapor control system disconnection and within 72 hours after restoring crude oil flow to the tank. [District Rule 2080] Federally Enforceable Through Title V Permit
- 26. 32 DEHY CLEANING CONDITION: Prior to opening the tank to allow tank cleaning, one of the following procedures must be followed: 1) Prior to venting the tank to the atmosphere, operate the tank vapor recovery system/vapor control device for at least 24 hours such that it collects the tank vapors; or 2) use liquid displacement, conducted using a liquid with a TVP less than 0.5 psia, or conducted by floating the oil pad off a crude oil tank by restricting the outflow of water, such that 90% of the tank volume is displaced; or 3) Vent the tank to a vapor control device/vapor recovery system until the vapor concentration is less than 10% of the lower explosive limit (LEL) or 5,000 ppmv whichever is less; or 4) vent the tank to the vapor control system for a length of time determined by the following relationship: t = 2.3 V/Q, where t = time, V = tank volume (cubic feet), and Q= flow rate to the vapor control system as determined using appropriate engineering calculations. [District Rule 2080] Federally Enforceable Through Title V Permit
- 27. 32 DEHY CLEANING CONDITION: The tank shall be cleaned using one of the following methods: water, hot water, solvents with an initial boiling point of greater than 302 F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams VOC per liter or less. The tank sediment may be used for road mix as allowed by Section 6.17 of District Rule 2020. [District Rule 2080] Federally Enforceable Through Title V Permit
- 28. 32 DEHY CLEANING CONDITION: Steam cleaning shall be allowed only during December through March, or at locations where wastewater treatment facilities are limited. [District Rule 2080] Federally Enforceable Through Title V Permit
- 29. 32 DEHY CLEANING CONDITION: Prior to reintroducing crude oil/water to the tank, the tank shall be filled to the maximum possible level with water, the tank vapor control system shall be reactivated and pressure/relief valves closed, and the liquid level shall be adjusted as necessary. [District Rule 2080] Federally Enforceable Through Title V Permit
- 30. 32 DEHY CLEANING CONDITION: Within 48 hours after refilling the tank with crude oil/water, the pressure relief valve seats and hatch seals shall be inspected for leaks using EPA method 21 and the regular tank maintenance and inspection program shall resume. [District Rule 2080] Federally Enforceable Through Title V Permit
- 31. 32 DEHY CLEANING CONDITION: Permittee shall maintain records of each period of cleaning and maintenance when the tank is disconnected or isolated from the vapor control system. Records shall include the date that tank cleaning was initiated, the date tank cleaning was completed, the procedure used to vent tank vapors prior to opening, the method of tank cleaning used, and a description of internal and external tank repairs and maintenance performed. Such records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 2080] Federally Enforceable Through Title V Permit
- 32. Permittee shall maintain records of the date and duration of the vapor control system maintenance operation. Such records shall be made available for District inspection upon request for a period of at least five years. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

- 33. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District Rule 2201] Federally Enforceable Through Title V Permit
- 34. VOC content of vapor in tank vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit
- 35. The latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by CARB and US EPA, shall be used to determine the TVP of crude oil with an API gravity of 26 degrees or less, or for any API gravity that is specified in this test method. [District Rule 4623] Federally Enforceable Through Title V Permit
- 36. The permittee shall keep accurate records of VOC content of the recovered gas from the tank for a period of five years and shall make such records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
- 37. This unit commenced construction, modification, or reconstruction before May 19, 1978. Therefore, the requirements of 40 CFR 60 Subpart Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
- 38. This unit does not store organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents. Tank emissions are fugitive emissions not considered to come from a point source. Therefore, the requirements of District Rules 4661 (as amended December 17, 1992) and 4801 (as amended December 17, 1992) do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
- 39. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40 CFR 60 Subpart K, Ka, and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
- 40. Compliance with the conditions in this 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 there requirements. [District Rule 2520] Federally Enforceable Through Title V Permit

C-1121-45-14 | Sep 12 2018 2:16PM -- GARCIAG

PERMIT UNIT: C-1121-46-7 **EXPIRATION DATE:** 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

5,000 BBL FIXED-ROOF CRUDE OIL STORAGE TANK SERVED BY A SHARED VAPOR RECOVERY SYSTEM LISTED ON C-1121-45 (T-318)

PERMIT UNIT REQUIREMENTS

- 1. Tank shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 2. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- 4. Maximum VOC content of vapor in the tank vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 5. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- 6. VOC content of vapor in tank vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. The permittee shall keep accurate records of VOC content of the recovered gas from the tank for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 8. This unit commenced construction, modification, or reconstruction before May 19, 1978. Therefore, the requirements of 40 CFR 60 Subpart Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 9. This unit does not store organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents. Tank emissions are fugitive emissions not considered to come from a point source. Therefore, the requirements of District Rules 4661 (as amended December 17, 1992) and 4801 (as amended December 17, 1992) do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 10. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA

PERMIT UNIT: C-1121-72-10

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 198 RANGE: 15E

EQUIPMENT DESCRIPTION:

33,293 GAL FWKO PRESSURE VESSEL USED TO SEPARATE PRODUCED OIL FROM WATER SERVED BY A PRESSURE RELIEF VALVE TO A VAPOR RECOVERY SYSTEM LISTED ON UNIT C-1121-45 (V-301)

PERMIT UNIT REQUIREMENTS

- 1. Pressure vessel shall maintain sufficient working pressure all the times that no organic liquid loss or VOC loss to the atmosphere shall occur. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 2. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
- 3. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 4. Maximum VOC content of vapor in the vessel vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 5. Vessel shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 6. All components in vapor service shall be closed and leak-free (as defined in Rule 4623) except during sampling or attended maintenance. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- 8. VOC content of vapor in vessel vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 9. The permittee shall keep accurate records of VOC content of the recovered gas from the vessel for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 10. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
c-1121-72-10 Sep 12 2018 2 16PM -- GARCIAC

PERMIT UNIT: C-1121-73-10

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

33,293 GAL FWKO PRESSURE VESSEL USED TO SEPARATE PRODUCED OIL FROM WATER SERVED BY A PRESSURE RELIEF VALVE TO A VAPOR RECOVERY SYSTEM LISTED ON UNIT C-1121-45 (V-302)

PERMIT UNIT REQUIREMENTS

- 1. Pressure vessel shall maintain sufficient working pressure all the times that no organic liquid loss or VOC loss to the atmosphere shall occur. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 2. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
- 3. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 4. Maximum VOC content of vapor in the vessel vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 5. Vessel shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 6. All components in vapor service shall be closed and leak-free (as defined in Rule 4623) except during sampling or attended maintenance. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- 8. VOC content of vapor in vessel vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 9. The permittee shall keep accurate records of VOC content of the recovered gas from the vessel for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 10. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-73-10 Sep 12 2018 2:18PM - GARCIAC

PERMIT UNIT: C-1121-74-5

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

#T-1, 500 BBL BAKER TANK USED TO STORE BRINE OR OIL AND WATER FROM OIL PRODUCTION

PERMIT UNIT REQUIREMENTS

- Tank is authorized to operate at Section 32, T19S, R15E and Section 14, T20S, R14E. [District Rule 2201] Federally Enforceable Through Title V Permit
- Unit shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6] Federally Enforceable Through Title 2. V Permit
- Permittee shall notify District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
- True vapor pressure of the petroleum liquid stored shall be less than 0.5 psia. [District Rule 4623] Federally Enforceable Through Title V Permit
- Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
- 6. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Federally Enforceable Through Title V Permit
- For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] Federally Enforceable Through Title V Permit
- The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
- The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] 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.

HEAVY OIL PRODUCTION, FRESNO COUNTY, CA Location:

- 10. Operator shall maintain records of TVP and API gravity testing. These records shall include the tank identification number, PTO number, type of stored organic liquid, TVP and API gravity of the stored organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
- 11. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
- 12. The operator shall keep accurate records of types, storage temperature and TVP of liquids stored to verify continued exemption from District Rule 4623 (amended 12/17/92). [District Rule 4623, Section 6.1] Federally Enforceable Through Title V Permit

PERMIT UNIT: C-1121-77-4

SECTION: 26 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

#T-103, 3,000 BBL (126,000 GAL) STOCK TANK (LUBE SIDE). DIAMETER - 29.7 FEET. COLOR - TAN/BEIGE

PERMIT UNIT REQUIREMENTS

EXPIRATION DATE: 12/31/2022

- True vapor pressure of the petroleum liquid stored shall be less than 0.5 psia. [District Rule 4623] Federally Enforceable Through Title V Permit
- Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
- For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Federally Enforceable Through Title V Permit
- For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] Federally Enforceable Through Title V Permit
- The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
- The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
- Operator shall maintain records of TVP and API gravity testing. These records shall include the tank identification number, PTO number, type of stored organic liquid, TVP and API gravity of the stored organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
- All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
- The operator shall keep accurate records of types, storage temperature and TVP of liquids stored to verify continued exemption from District Rule 4623 (amended 12/17/92). [District Rule 4623, Section 6.1] Federally Enforceable Through Title V Permit

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

HEAVY OIL PRODUCTION, FRESNO COUNTY, CA

Facility Name: AERA ENERGY LLC Location: HEAVY OIL PR C-1121-77-4 Sep 12 2018 2:16PM - GARCIAC

PERMIT UNIT: C-1121-78-4

EXPIRATION DATE: 12/31/2022

SECTION: 26 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

#T-104, 3000 BBL (126,000 GAL) STOCK TANK (REFINED SIDE). DIAMETER - 29.7 FEET. COLOR - TAN/BEIGE

PERMIT UNIT REQUIREMENTS

- True vapor pressure of the petroleum liquid stored shall be less than 0.5 psia. [District Rule 4623] Federally Enforceable Through Title V Permit
- Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
- For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Federally Enforceable Through Title V Permit
- For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] Federally Enforceable Through Title V Permit
- The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
- The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
- Operator shall maintain records of TVP and API gravity testing. These records shall include the tank identification number, PTO number, type of stored organic liquid, TVP and API gravity of the stored organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
- All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA C-1121-78-4 Sep 12 2018 2:16PM – GARCIAC

PERMIT UNIT: C-1121-79-7 **EXPIRATION DATE:** 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

10,000 BBL (420,000 GALLON) STOCK TANK WITH PRESSURE RELIEF VENT TO VAPOR RECOVERY SYSTEM LISTED ON C-1121-45 (ZONE 1, T-316)

PERMIT UNIT REQUIREMENTS

- 1. Tank shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 2. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- 4. Maximum VOC content of vapor in the tank vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 5. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- 6. VOC content of vapor in tank vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. The permittee shall keep accurate records of VOC content of the recovered gas from the tank for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 8. This unit commenced construction, modification, or reconstruction before May 19, 1978. Therefore, the requirements of 40 CFR 60 Subpart Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 9. This unit does not store organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents. Tank emissions are fugitive emissions not considered to come from a point source. Therefore, the requirements of District Rules 4661 (as amended December 17, 1992) and 4801 (as amended December 17, 1992) do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 10. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA

PERMIT UNIT: C-1121-82-9

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

2,800 BBL SKIM TANK SERVED BY TANK VAPOR RECOVERY SYSTEM COMMON TO C-1121-45 (T-320)

PERMIT UNIT REQUIREMENTS

- 1. Tank shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 2. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- 4. Maximum VOC content of vapor in the tank vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 5. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- 6. VOC content of vapor in tank vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. The permittee shall keep accurate records of VOC content of the recovered gas from the tank for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 8. This unit commenced construction, modification, or reconstruction before May 19, 1978. Therefore, the requirements of 40 CFR 60 Subpart Ka and Kb do not apply to this source. A permit shield is granted from these requirements.

 [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 9. This unit does not store organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents. Tank emissions are fugitive emissions not considered to come from a point source. Therefore, the requirements of District Rules 4661 (as amended December 17, 1992) and 4801 (as amended December 17, 1992) do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 10. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-82-9 Sep 12 2018 2:16PM – GARCIAC

PERMIT UNIT: C-1121-83-9

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 198 RANGE: 15E

EQUIPMENT DESCRIPTION:

2,800 BBL SKIM TANK SERVED BY TANK VAPOR RECOVERY SYSTEM COMMON TO C-1121-45 (T-321)

PERMIT UNIT REQUIREMENTS

- 1. Tank shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 2. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and District Rule 4623] Federally Enforceable Through Title V Permit
- 3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- 4. Maximum VOC content of vapor in the tank vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 5. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- 6. VOC content of vapor in tank vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. The permittee shall keep accurate records of VOC content of the recovered gas from the tank for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 8. This unit commenced construction, modification, or reconstruction before May 19, 1978. Therefore, the requirements of 40 CFR 60 Subpart Ka and Kb do not apply to this source. A permit shield is granted from these requirements.

 [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 9. This unit does not store organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents. Tank emissions are fugitive emissions not considered to come from a point source. Therefore, the requirements of District Rules 4661 (as amended December 17, 1992) and 4801 (as amended December 17, 1992) do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 10. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-83-9 Sep 12 2018 2 19PM - GARCIAC

PERMIT UNIT: C-1121-84-9 **EXPIRATION DATE:** 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

250 BBL DRAIN TANK SERVED BY TANK VAPOR RECOVERY SYSTEM COMMON TO C-1121-45 (T-323)

PERMIT UNIT REQUIREMENTS

- 1. Tank shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 2. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- 4. Maximum VOC content of vapor in the tank vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 5. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- 6. VOC content of vapor in tank vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. The permittee shall keep accurate records of VOC content of the recovered gas from the tank for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 8. This unit commenced construction, modification, or reconstruction before May 19, 1978. Therefore, the requirements of 40 CFR 60 Subpart Ka and Kb do not apply to this source. A permit shield is granted from these requirements.

 [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 9. This unit does not store organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents. Tank emissions are fugitive emissions not considered to come from a point source. Therefore, the requirements of District Rules 4661 (as amended December 17, 1992) and 4801 (as amended December 17, 1992) do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 10. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-84-9 Sep 12 2018 2:16PM – GARCIAC

EXPIRATION DATE: 12/31/2022 PERMIT UNIT: C-1121-85-9

SECTION: 32 TOWNSHIP: 198 RANGE: 15E

EQUIPMENT DESCRIPTION:

250 BBL DRAIN TANK SERVED BY TANK VAPOR RECOVERY SYSTEM COMMON TO C-1121-45 (T-324)

PERMIT UNIT REQUIREMENTS

- Tank shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and District Rule 2. 4623] Federally Enforceable Through Title V Permit
- This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all 3. storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- Maximum VOC content of vapor in the tank vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- VOC content of vapor in tank vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- The permittee shall keep accurate records of VOC content of the recovered gas from the tank for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- This unit commenced construction, modification, or reconstruction before May 19, 1978. Therefore, the requirements of 40 CFR 60 Subpart Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- This unit does not store organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents. Tank emissions are fugitive emissions not considered to come from a point source. Therefore, the requirements of District Rules 4661 (as amended December 17, 1992) and 4801 (as amended December 17, 1992) do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 10. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC HEAVY OIL PRODUCTION, FRESNO COUNTY, CA

PERMIT UNIT: C-1121-87-9

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 198 RANGE: 15E

EQUIPMENT DESCRIPTION:

400 BBL DISPOSAL TANK SERVED BY TANK VAPOR RECOVERY SYSTEM COMMON TO C-1121-45 (T-322)

PERMIT UNIT REQUIREMENTS

- 1. Tank shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 2. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- 4. Maximum VOC content of vapor in the tank vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 5. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- 6. VOC content of vapor in tank vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. The permittee shall keep accurate records of VOC content of the recovered gas from the tank for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 8. This unit commenced construction, modification, or reconstruction before May 19, 1978. Therefore, the requirements of 40 CFR 60 Subpart Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 9. This unit does not store organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents. Tank emissions are fugitive emissions not considered to come from a point source. Therefore, the requirements of District Rules 4661 (as amended December 17, 1992) and 4801 (as amended December 17, 1992) do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 10. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-87-9 Sep 12 2018 2 16PM – GARCIAC

PERMIT UNIT: C-1121-88-7

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

3,000 BBL WATER CLARIFIER TANK SERVED BY TANK VAPOR RECOVERY SYSTEM LISTED ON C-1121-45 (T-400)

PERMIT UNIT REQUIREMENTS

- Tank shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- Maximum VOC content of vapor in the tank vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- VOC content of vapor in tank vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- The permittee shall keep accurate records of VOC content of the recovered gas from the tank for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- This unit commenced construction, modification, or reconstruction before May 19, 1978. Therefore, the requirements of 40 CFR 60 Subpart Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- This unit does not store organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents. Tank emissions are fugitive emissions not considered to come from a point source. Therefore, the requirements of District Rules 4661 (as amended December 17, 1992) and 4801 (as amended December 17, 1992) do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 10. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC

HEAVY OIL PRODUCTION, FRESNO COUNTY. CA Location: HEAVY OIL PR

PERMIT UNIT: C-1121-89-7

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

5,000 BBL FILTERED WATER TANK SERVED BY TANK VAPOR RECOVERY SYSTEM LISTED ON C-1121-45 (T-600)

PERMIT UNIT REQUIREMENTS

- 1. Tank shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 2. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- 4. Maximum VOC content of vapor in the tank vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 5. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- 6. VOC content of vapor in tank vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. The permittee shall keep accurate records of VOC content of the recovered gas from the tank for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 8. This unit commenced construction, modification, or reconstruction before May 19, 1978. Therefore, the requirements of 40 CFR 60 Subpart Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 9. This unit does not store organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents. Tank emissions are fugitive emissions not considered to come from a point source. Therefore, the requirements of District Rules 4661 (as amended December 17, 1992) and 4801 (as amended December 17, 1992) do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 10. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-897 Sep 12 2018 2:18PM - GARCIAC

PERMIT UNIT: C-1121-90-7

EXPIRATION DATE: 12/31/2022

SECTION: 32 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

5,000 BBL SOFT WATER TANK SERVED BY TANK VAPOR RECOVERY SYSTEM LISTED ON C-1121-45 (T-810)

PERMIT UNIT REQUIREMENTS

- 1. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 2. Tank shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- 4. Maximum VOC content of vapor in the tank vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 5. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- 6. VOC content of vapor in tank vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. The permittee shall keep accurate records of VOC content of the recovered gas from the tank for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 8. This unit commenced construction, modification, or reconstruction before May 19, 1978. Therefore, the requirements of 40 CFR 60 Subpart Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 9. This unit does not store organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents. Tank emissions are fugitive emissions not considered to come from a point source. Therefore, the requirements of District Rules 4661 (as amended December 17, 1992) and 4801 (as amended December 17, 1992) do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 10. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-90-7 Sep 12 2018 2:16PM – GARCIAC

PERMIT UNIT: C-1121-91-8 **EXPIRATION DATE:** 12/31/2022

SECTION: 32 TOWNSHIP: 198 RANGE: 15E

EQUIPMENT DESCRIPTION:

25,912 GAL WATER CLARIFIER PRESSURE VESSEL SERVED BY A PRESSURE REGULATOR VENTED TO A VAPOR RECOVERY SYSTEM LISTED ON UNIT C-1121-45 (V-200)

PERMIT UNIT REQUIREMENTS

- 1. Pressure vessel shall maintain sufficient working pressure all the times that no organic liquid loss or VOC loss to the atmosphere shall occur. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 2. The tank shall only vent to the vapor collection system listed on C-1121-45. [District NSR Rule and Rule 4623] Federally Enforceable Through Title V Permit
- 3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- 4. Vessel shall vent only to vapor control system except during periods of tank cleaning/repair, vapor control system maintenance, and power outages. [District NSR Rule] Federally Enforceable Through Title V Permit
- 5. Maximum VOC content of vapor in the tank vapor space shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
- 6. All components in vapor service shall be closed and leak-free (as defined in Rule 4623) except during sampling or attended maintenance. [District NSR Rule] Federally Enforceable Through Title V Permit
- 7. To qualify for quantification of no fugitive emissions, operator shall conduct quarterly gas sampling after the TVR compressor (prior to connection to any other vapor control system); and at either the first line tank or at any secondary tank which is heated above ambient temperature. If gas samples are less than 10% VOC by weight for 8 consecutive quarterly samplings, sample frequency shall only be required annually and whenever there is a change in source or type of petroleum processed. Samples shall be collected during periods of normal operation, and not within 48 hours of routine maintenance or repair. [District NSR Rule] Federally Enforceable Through Title V Permit
- 8. VOC content of vapor in tank vapor space shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District NSR Rule] Federally Enforceable Through Title V Permit
- 9. The permittee shall keep accurate records of VOC content of the recovered gas from the tank for a period of five years and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
- 10. This unit commenced construction, modification, or reconstruction before May 19, 1978. Therefore, the requirements of 40 CFR 60 Subpart Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] 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.

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-91-8 Sep 12 2018 2:16PM – GARCIAC

- 11. This unit does not store organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents. Tank emissions are fugitive emissions not considered to come from a point source. Therefore, the requirements of District Rules 4661 (as amended December 17, 1992) and 4801 (as amended December 17, 1992) do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 12. This unit is subject to 32 Dehy Vapor Recovery, Inspection, and Tank Cleaning Conditions specified in permit C-1121-45. Deviations from a standard condition shall be reported under the applicable condition in C-1121-45. [District Rule 2520] Federally Enforceable Through Title V Permit

PERMIT UNIT: C-1121-93-3

EXPIRATION DATE: 12/31/2022

EQUIPMENT DESCRIPTION:

20 UNCONTROLLED CYCLIC/STEAM DRIVE WELLS

PERMIT UNIT REQUIREMENTS

- Label each uncontrolled steam drive well for identification. [District Rule 1070] Federally Enforceable Through Title V Permit
- The wells shall be located more than 1000 feet from an existing well vent vapor control system. [District Rule 4401] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-93-3 Sep 12 2018 2 16PM – GARCIAC

PERMIT UNIT: C-1121-100-10

EXPIRATION DATE: 12/31/2022

SECTION: 1 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

TRICO-SUPERIOR HEATER TREATER, HT-658, WITH AN UNCONTROLLED 5,000 BBL VESSEL AND PERMIT-EXEMPT BURNER (LESS THAN 5 MMBTU/HR, PEER-4-0)

PERMIT UNIT REQUIREMENTS

- 1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- 2. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
- 3. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
- 4. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
- 5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
- 6. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
- 7. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
- 8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT: C-1121-101-10

EXPIRATION DATE: 12/31/2022

SECTION: 1 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

HYDROTEK HEATER TREATER, HT-804, AND WITH AN UNCONTROLLED 5,000 BBL VESSEL AND PERMIT-EXEMPT BURNER (LESS THAN 5 MMBTU/HR, PEER-2-0)

PERMIT UNIT REQUIREMENTS

- This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all 1.. storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
- The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
- For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
- The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
- Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
- The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, 7. TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
- All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC

HEAVY OIL PRODUCTION, FRESNO COUNTY, CA Location: HEAVY OIL PRO C-1121-101-10 Sep 12 2018 2:16PM -- GARCIAC

PERMIT UNIT: C-1121-105-10

EXPIRATION DATE: 12/31/2022

SECTION: 31 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

TRICO-SUPERIOR HEATER TREATER, HT-659, WITH AN UNCONTROLLED 5,000 BBL VESSEL AND PERMIT-EXEMPT BURNER (LESS THAN 5 MMBTU/HR, PEER-3-0)

PERMIT UNIT REQUIREMENTS

- 1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- 2. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
- 3. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
- 4. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
- 5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
- 6. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
- 7. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
- 8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-105-10 Sep 12 2018 2:17PM - GARCIAC

PERMIT UNIT: C-1121-106-10 **EXPIRATION DATE:** 12/31/2022

SECTION: 31 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

HYDROTEK HEATER TREATER, HT-808, WITH AN UNCONTROLLED 5,000 BBL VESSEL AND PERMIT-EXEMPT

BURNER (LESS THAN 5 MMBTU/HR, PEER-5-0)

PERMIT UNIT REQUIREMENTS

- 1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
- 2. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
- 3. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
- 4. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
- 5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
- 6. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
- 7. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
- 8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT: C-1121-114-10

EXPIRATION DATE: 12/31/2022

SECTION: 7 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

MS-714, TEOR OPERATION SERVING 184 WELLS UTILIZING; A NORTH PENN ZEIR CVR SYSTEM WITH TWO CONDENSATE KO VESSELS, A CONDENSATE KO DRUM, TWO COMPRESSOR, TWO FIN FAN EXCHANGER AND CONNECTED TO CASING VAPOR RECOVERY SYSTEMS C-1121-39 & C-1121-116

PERMIT UNIT REQUIREMENTS

- 1. VOC emissions shall not exceed 2.222 lb VOC/day per well. [District NSR Rule] Federally Enforceable Through Title V Permit
- 2. Annual performance tests for hydrocarbon must be conducted and reported in accordance with the test methods set for the in 40 CFR 60, Part 60.8 and Appendix A. Performance tests for hydrocarbon shall be conducted using procedures approved in advance by the EPA in writing. The EPA and APCO must be notified in writing at least 30 day prior to conduction such tests. [PSD 4-4-8, SJ77-45 condition IX.H.1 and IXH.2] Federally Enforceable Through Title V Permit
- 3. Compliance with permit conditions in the Title V permit shall be deemed compliance with SJVUAPCD Rule 4401 (Amended June 16, 2011), 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
- 4. Compliance with the control efficiency testing specification listed in the TEOR System Conditions have been waived by exhausting non-condensibles into a working steam generator firebox or flare for combustion. A permit shield is granted from the requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 5. 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
- 6. This unit is subject to TEOR System Conditions on the facility wide permit C-1121-0. Deviations from a system condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-114-10 Sep 12 2018 2:17PM - GARCIAC

PERMIT UNIT: C-1121-116-10

EXPIRATION DATE: 12/31/2022

SECTION: 31 TOWNSHIP: 198 RANGE: 15E

EQUIPMENT DESCRIPTION:

MS-717, TEOR OPERATION SERVING 240 WELLS WITH VAPOR CONTROL SYSTEM INCLUDING CONDENSATE KO DRUM AND CONDENSATE PUMP AND RECOVERED VAPOR LINE CONNECTED TO RECOVERED VAPOR LINES OF PERMIT UNITS C-1121-39 AND C-1121-114

PERMIT UNIT REQUIREMENTS

- 1. VOC emissions shall not exceed 2.222 lb VOC/day per well. [District NSR Rule] Federally Enforceable Through Title V Permit
- 2. Annual performance tests for hydrocarbon must be conducted and reported in accordance with the test methods set for the in 40 CFR 60, Part 60.8 and Appendix A. Performance tests for hydrocarbon shall be conducted using procedures approved in advance by the EPA in writing. The EPA and APCO must be notified in writing at least 30 day prior to conduction such tests. [PSD 4-4-8, SJ77-45 condition IX.H.1 and IX.H.2] Federally Enforceable Through Title V Permit
- 3. Compliance with permit conditions in the Title V permit shall be deemed compliance with SJVUAPCD Rule 4401 (Amended June 16, 2011), 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
- 4. Compliance with the control efficiency testing specification listed in the TEOR System Conditions have been waived by exhausting non-condensibles into a working steam generator firebox or flare for combustion. A permit shield is granted from the requirements, [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
- 5. 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
- 6. This unit is subject to TEOR System Conditions on the facility wide permit C-1121-0. Deviations from a system condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

PERMIT UNIT: C-1121-123-4

EXPIRATION DATE: 12/31/2022

SECTION: 1 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

210,000 GALLON (5000 BBL) FIXED ROOF CRUDE OIL STORAGE TANK (#T-14464) WITH DIAMETER 39', HEIGHT 24'

PERMIT UNIT REQUIREMENTS

- 1. True vapor pressure of the petroleum liquid stored shall be less than 0.5 psia. [District Rule 4623] Federally Enforceable Through Title V Permit
- 2. Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
- 3. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Federally Enforceable Through Title V Permit
- 4. For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] Federally Enforceable Through Title V Permit
- 5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
- 6. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
- 7. Operator shall maintain records of TVP and API gravity testing. These records shall include the tank identification number, PTO number, type of stored organic liquid, TVP and API gravity of the stored organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
- 8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
- 9. The operator shall keep accurate records of types, storage temperature and TVP of liquids stored to verify continued exemption from District Rule 4623 (amended 12/17/92). [District Rule 4623, Section 6.1] Federally Enforceable Through Title V Permit

PERMIT UNIT: C-1121-124-4 **EXPIRATION DATE:** 12/31/2022

SECTION: 1 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

210,000 GALLON (5000 BBL) FIXED ROOF CRUDE OIL STORAGE TANK (#T-14465) WITH DIAMETER 39', HEIGHT 24'

PERMIT UNIT REQUIREMENTS

- 1. True vapor pressure of the petroleum liquid stored shall be less than 0.5 psia. [District Rule 4623] Federally Enforceable Through Title V Permit
- 2. Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
- 3. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Federally Enforceable Through Title V Permit
- 4. For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] Federally Enforceable Through Title V Permit
- 5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
- 6. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
- 7. Operator shall maintain records of TVP and API gravity testing. These records shall include the tank identification number, PTO number, type of stored organic liquid, TVP and API gravity of the stored organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
- 8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-124-4 Sep 12 2018 2:17PM - GARCIAC

EXPIRATION DATE: 12/31/2022 PERMIT UNIT: C-1121-137-4

SECTION: 14 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

42,000 GALLON (1000 BBL) FIXED ROOF CRUDE OIL STORAGE TANK (#T-14385) WITH DIAMETER 21', HEIGHT 16'

PERMIT UNIT REQUIREMENTS

- True vapor pressure of the petroleum liquid stored shall be less than 0.5 psia. [District Rule 4623] Federally Enforceable Through Title V Permit
- Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
- For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Federally Enforceable Through Title V Permit
- For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] Federally Enforceable Through Title V Permit
- The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
- The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
- Operator shall maintain records of TVP and API gravity testing. These records shall include the tank identification number, PTO number, type of stored organic liquid, TVP and API gravity of the stored organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
- All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC

Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA C-1121-137-4 Sep 12 2018 2:17PM -- GARCIAC

PERMIT UNIT: C-1121-138-4

EXPIRATION DATE: 12/31/2022

SECTION: 14 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

42,000 GALLON (1000 BBL) FIXED ROOF CRUDE OIL STORAGE TANK (#T-14386) WITH DIAMETER 21', HEIGHT 16'

PERMIT UNIT REQUIREMENTS

- True vapor pressure of the petroleum liquid stored shall be less than 0.5 psia. [District Rule 4623] Federally Enforceable Through Title V Permit
- Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
- For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Federally Enforceable Through Title V Permit
- For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] Federally Enforceable Through Title V Permit
- The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
- The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
- Operator shall maintain records of TVP and API gravity testing. These records shall include the tank identification number, PTO number, type of stored organic liquid, TVP and API gravity of the stored organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
- All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC

HEAVY OIL PRODUCTION, FRESNO COUNTY, CA C-1121-138-4 Sep 12 2018 2 17PM -- GARCIAC

PERMIT UNIT: C-1121-149-4 **EXPIRATION DATE:** 12/31/2022

SECTION: 31 TOWNSHIP: 19S RANGE: 15E

EQUIPMENT DESCRIPTION:

210,000 GALLON (5000 BBL) FIXED ROOF CRUDE OIL STORAGE TANK (#T-14466) WITH DIAMETER 39', HEIGHT 24'

PERMIT UNIT REQUIREMENTS

- 1. True vapor pressure of the petroleum liquid stored shall be less than 0.5 psia. [District Rule 4623] Federally Enforceable Through Title V Permit
- 2. Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
- 3. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Federally Enforceable Through Title V Permit
- 4. For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] Federally Enforceable Through Title V Permit
- 5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
- 6. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
- 7. Operator shall maintain records of TVP and API gravity testing. These records shall include the tank identification number, PTO number, type of stored organic liquid, TVP and API gravity of the stored organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
- 8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-149-4 Sep 12 2018 2 17PM -- GARCIAC

PERMIT UNIT: C-1121-150-4

EXPIRATION DATE: 12/31/2022

SECTION: 31 TOWNSHIP: 198 RANGE: 15E

EQUIPMENT DESCRIPTION:

210,000 GALLON (5000 BBL) FIXED ROOF CRUDE OIL STORAGE TANK (#T-14467) WITH DIAMETER 39', HEIGHT 24'

PERMIT UNIT REQUIREMENTS

- True vapor pressure of the petroleum liquid stored shall be less than 0.5 psia. [District Rule 4623] Federally Enforceable Through Title V Permit
- Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
- For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Federally Enforceable Through Title V Permit
- For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] Federally Enforceable Through Title V Permit
- The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
- The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
- Operator shall maintain records of TVP and API gravity testing. These records shall include the tank identification number, PTO number, type of stored organic liquid, TVP and API gravity of the stored organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
- All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
- The operator shall keep accurate records of types, storage temperature and TVP of liquids stored to verify continued exemption from District Rule 4623 (amended 12/17/92). [District Rule 4623, Section 6.1] Federally Enforceable Through Title V Permit

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

Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA C-1121-150-4 Sep 12 2018 2-17PM - GARCIAC

PERMIT UNIT: C-1121-168-12

EXPIRATION DATE: 12/31/2022

EQUIPMENT DESCRIPTION:

7.16 MMBTU/HR FLARE TO BE USED TO INCINERATE NATURAL, WELL CASING, AND VAPOR RECOVERY GAS DURING MAINTENANCE OF FOUR 62.5 MMBTU/HR STEAM GENERATORS (C-1121-17, -18, -19, AND -41)

PERMIT UNIT REQUIREMENTS

- 1. No modification to this unit shall be performed without an Authority to Construct for such modification(s), except for changes specified in conditions below. [District Rule 2010] Federally Enforceable Through Title V Permit
- 2. This equipment shall not be operated for any reason until an Authority to Construct permit is issued approving all necessary retrofits required to comply with the applicable requirements of District Rule 4311. [District Rule 4311] Federally Enforceable Through Title V Permit
- 3. The operator shall permanently disconnect the fuel supply line serving this unit. [District Rule 4311] Federally Enforceable Through Title V Permit
- 4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
- 5. Only PUC-quality natural gas or a combination of natural gas and vapor recovery gas shall be used as fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
- 6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
- 7. Fuel consumption for the flare shall not exceed 1.35 MMscf/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 8. Combined exhaust gases combusted within steam generators '-17, '-18, '-19, and '-41, from the four CVR systems (C-1121-38, -39, -114, & -116) and the section 32 TVR system shall not exceed 1,300,000 scf/day. [District Rule 2201] Federally Enforceable Through Title V Permit
- 9. When fired only on natural gas, emissions from the flare shall not exceed any of the following limits: 0.008 lb-PM10/MMBtu; 0.00285 lb-SOx/MMBtu calculated as SO2; 0.068 lb-NOx/MMBtu calculated as NO2, or 30 ppmv @ 3% O2; 0.063 lb-VOC/MMBtu, or 0.37 lb-CO/MMBtu. [District NSR Rules, Rule 4201 and Rule 4301] Federally Enforceable Through Title V Permit
- 10. When fired only on waste gas, emissions from the flare shall not exceed any of the following limits: 0.0.008 lb-PM10/MMBtu; 3.31lb-SOx/MMBtu calculated as SO2; 0.068 lb-NOx/MMBtu calculated as NO2, or 30 ppmv @ 3% O2; 0.063 lb-VOC/MMBtu, or 0.37 lb-CO/MMBtu. [District NSR Rules, Rule 4201and Rule 4301] Federally Enforceable Through Title V Permit
- 11. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
- 12. Combined emissions of SOx, calculated as SO2, from the steam generators and the flare (C-1121-17, -18, -19, -41, & -168) shall not exceed 28,580 lb/yr. [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.

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-168-12 Sep 12 2018 2:17PM - GARCIAC

- 13. The sulfur content of treated waste gas exiting the H2S Scavenger System shall not exceed 5000 ppmv. Sulfur content shall be determined on a daily basis by gas detector tube sampling. [District Rule 2201] Federally Enforceable Through Title V Permit
- 14. Lo-Cost H2S scavenging system shall be used whenever vapor recovery gas is fired in this unit. [District Rule 2201] Federally Enforceable Through Title V Permit
- 15. Operation of this flare shall only occur when steam generators C-1121-17, -18,-19, and -41 are all shut down due to maintenance. [District Rule 2201] Federally Enforceable Through Title V Permit
- 16. The flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311] Federally Enforceable Through Title V Permit
- 17. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311] Federally Enforceable Through Title V Permit
- 18. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311] Federally Enforceable Through Title V Permit
- 19. Flare gas pressure shall be greater than or equal to 5 psig. [District Rule 2201] Federally Enforceable Through Title V Permit
- 20. Gas line to flare shall be equipped with operational, volumetric flow rate indicator. [District Rule 2201] Federally Enforceable Through Title V Permit
- 21. Operation of the flare shall not exceed 48 hours per calendar quarter or 192 hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
- 22. Records of operating hours, sulfur content, and gas volume flared shall be maintained, retained on the premises for at least five years, and be made available for District inspection on request. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT: C-1121-170-1

EXPIRATION DATE: 12/31/2022

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED PCL CONSTRUCTION STEAM GENERATOR WITH A FIVES NORTH AMERICAN 4231-85-GLE LOW NOX BURNER AND A FLUE GAS RECIRCULATION SYSTEM (PENN ZIER #14)

PERMIT UNIT REQUIREMENTS

- The steam generator is approved to operate at the following locations: Section 1, T20S, R14E and Section 7, T20S, R15E. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
- Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
- A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
- The unit shall only be fired on natural gas with a maximum sulfur content of 1.0 gr S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
- Except during startup, shutdown, or refractory curing, emissions rates from the unit shall not exceed any of the following limits: 7 ppmv NOx @ 3% O2 or 0.0084 lb-NOx/MMBtu, 0.005 lb-PM10/MMBtu, 25 ppmv CO @ 3% O2 or 0.0182 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
- Operator shall provide that fuel hhv be certified by third party fuel supplier or determined annually by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
- Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
- This unit is subject to Steam Generator General Conditions, Steam Generator Fuel Monitoring Conditions, Steam Generator Source Testing Conditions, and Steam Generator Periodic Monitoring Conditions on the facility wide permit C-1121-0. Deviations from a standard condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

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

HEAVY OIL PRODUCTION, FRESNO COUNTY, CA Location: HEAVY OIL PRO

PERMIT UNIT: C-1121-171-1

EXPIRATION DATE: 12/31/2022

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED PCL CONSTRUCTION STEAM GENERATOR WITH A FIVES NORTH AMERICAN 4231-85-GLE LOW NOX BURNER AND A FLUE GAS RECIRCULATION SYSTEM (PENN ZIER #13)

PERMIT UNIT REQUIREMENTS

- 1. The steam generator is approved to operate at the following locations: Section 1, T20S, R14E and Section 7, T20S, R15E. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
- 2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
- 3. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
- 4. The unit shall only be fired on natural gas with a maximum sulfur content of 1.0 gr S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 5. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
- 6. Except during startup, shutdown, or refractory curing, emissions rates from the unit shall not exceed any of the following limits: 7 ppmv NOx @ 3% O2 or 0.0084 lb-NOx/MMBtu, 0.005 lb-PM10/MMBtu, 25 ppmv CO @ 3% O2 or 0.0182 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
- 7. Operator shall provide that fuel hhv be certified by third party fuel supplier or determined annually by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
- 8. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
- 9. This unit is subject to Steam Generator General Conditions, Steam Generator Fuel Monitoring Conditions, Steam Generator Source Testing Conditions, and Steam Generator Periodic Monitoring Conditions on the facility wide permit C-1121-0. Deviations from a standard condition shall be reported under the applicable condition in C-1121-0. [District Rule 2520] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC
Location: HEAVY OIL PRODUCTION, FRESNO COUNTY, CA
C-1121-171-1 Sep 12 2018 2:17PM - GARCIAC