



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUG 03 2015

Jerry Frost
California Resources Production Corp
9600 Ming Ave, Suite 300
Bakersfield, CA 93311

RE: Final – Authority to Construct/Certificate of Conformity (Minor Mod)
Facility Number: S-1326
Project Number: S-1150085

Dear Mr. Frost:

The Air Pollution Control Officer has issued the Authority to Construct permit to California Resources Production Corp for an increase in well number of Thermally Enhanced Oil Recovery (TEOR) Operation S-1326-35 from 250 to 400, at the heavy oil central stationary source.

Enclosed is the Authority to Construct permit. The District's analysis of the proposal was sent to US EPA Region IX on July 1, 2015. No comments were received following the District's preliminary decision on this project.

Prior to operating with the modifications authorized by the Authority to Construct, you must submit an application to modify the Title V permit as an administrative amendment in accordance with District Rule 2520, Section 11.5. Application forms have been enclosed for your use. These forms may also be found on the District's website at www.valleyair.org.

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

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:rue

Enclosures

cc: Gerardo C. Rios, EPA (w/enclosure) via email
Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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

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



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1326-35-18

ISSUANCE DATE: 08/03/2015

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 9600 MING AVENUE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
KERN COUNTY, CA

SECTION: 14 **TOWNSHIP:** 28S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY OPERATION WITH WELL VENT VAPOR CONTROL SYSTEM SERVING 250 STEAM-ENHANCED WELLS, INCLUDING 50 HP COMPRESSOR, ONE AIR-COOLED VAPOR CONDENSER, AND PIPING TO FIELD FUEL GAS SYSTEM, DOGGR DISPOSAL WELL, AND/OR 3.6 MMBTU/HR KALDAIR FLARE INCLUDING TWO 8000 LB SULFATREAT CANISTERS (ONE AS BACKUP) (SECTION 14 YOUNG); INCREASE THE WELL COUNT BY 150 WELLS TO 400 WELLS

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Fluids produced from wells with closed vents shall be introduced only to production equipment served by vapor control system listed on tank S-1326-201 which is 99% efficient. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Well vent vapors shall vent to the field fuel gas system, DOGGR approved injection wells, flare listed on this permit, or steam generators S-1326-9, '-294, '-314, '-337, '-338, '-385, '-390, '-391, '-392, '-400, '-401, '-405, '-406, '-407, '-417 and '-418 and '-419 through '-425. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCD

Arnaud Marjollet, Director of Permit Services

S-1326-35-18 Aug 3 2015 4:21PM -- EDGEHILL Joint Inspection NOT Required

5. Well head casing vent collection piping network shall be limited to 400 steam enhanced wells. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Sulfur scrubber shall be monitored monthly for H₂S content of gas after treatment to determine when recharging is required. [District NSR Rule and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. Sulfur content of gas combusted in flare shall not exceed 1 gr/100 scf. [District NSR Rule, District Rule 4801, and Kern County Rule 407] Federally Enforceable Through Title V Permit
8. Permittee shall test annually the sulfur content of gas combusted in flare using ASTM method D1072, D3031, D4084, or D3246 and make test results readily available for District inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. Flare shall operate with no visible emission in excess of 5% opacity. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Maximum amount of gas (pilot and waste gas) combusted by flare shall not exceed 150.0 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Emissions from the flare shall not exceed any of the following limits (based on total gas combusted): NO_x (as NO₂): 0.068 lb/MMBtu; PM₁₀: 0.008 lb/MMBtu; CO: 0.37 lb/MMBtu; or VOC: 0.063 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The higher heating value of the flared gas shall be monitored at least quarterly. Measured higher heating value and quantity of gas flared shall be used to determine compliance with heat input limit. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
13. The flare shall be operated according to the manufacturer's specifications, a copy of which shall be maintained on site. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If this flare requires a pilot flame, then the flare shall be operated with a flame present at all times, and kept in operation when emissions may be vented to it. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. This flare shall be inspected every two weeks while in operation for visible emissions. If visible emissions are observed, corrective action shall be taken. If visible emissions continue, an EPA Method 9 test shall be conducted within 72 hours. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. This flare shall not be used as a leak control device as described in Rule 4403, 5.3.1, nor as a control device for any permit unit subject to NSPS, without modification of permit requirements to address 40 CFR 60.18. [District Rule 2520, 9.3.3] Federally Enforceable Through Title V Permit
17. 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
18. 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
19. During the time any steam-enhanced crude oil production well is undergoing service or repair while the well is not producing, it shall be exempt from the emission control requirements of District Rule 4401, 5.0 (as amended December 14, 2006). [District Rule 4401] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. The following conditions shall be used to determination of a violation: 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 3 of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit
21. Total number of leaks from the vapor collection and control system, including condensate handling, shall not exceed the number as allowed by Rule 4401 (as amended December 14, 2006) at any one time. [District Rule 4401] Federally Enforceable Through Title V Permit
22. Operator shall affix a readily visible tag bearing the date and time of leak detection, the date and time of leak measurement, the leak concentration of gaseous leaks (in ppmv), for liquid leaks whether it is a major liquid leak or a minor liquid leak, and whether the component is an essential component, an unsafe-to monitor component, or a critical component leak. [District Rule 4401] Federally Enforceable Through Title V Permit
23. The tag shall remain in place until the leaking component is repaired, re-inspected, using the test method in Section 6.3.3, and the component is found to be in compliance with the requirements of this rule. [District Rule 4401] Federally Enforceable Through Title V Permit
24. 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
25. Except for leaking critical components or leaking essential components, the operator shall repair each leak within time specified in Table 3, of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit
26. If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. [District Rule 4401] Federally Enforceable Through Title V Permit
27. The operator shall not use any components that leak in excess of the applicable leak standards as specified in this permit. Components that have been found leaking in excess of the applicable leak standards of this rule may be used provided such leaking components have been identified with a tag for repair, are repaired, or are awaiting re-inspection after being repaired, within the applicable time period specified in this permit. [District Rule 4401] Federally Enforceable Through Title V Permit
28. Each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401] Federally Enforceable Through Title V Permit
29. 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
30. An operator shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of this rule. [District Rule 4401] Federally Enforceable Through Title V Permit
31. 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. [District Rule 4401] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

32. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of this rule. [District Rule 4401] Federally Enforceable Through Title V Permit
33. 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. [District Rule 4401] Federally Enforceable Through Title V Permit
34. An operator shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. [District Rule 4401] Federally Enforceable Through Title V Permit
35. An operator shall inspect a component, except for a PRD that releases to the atmosphere, 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
36. An operator shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401] Federally Enforceable Through Title V Permit
37. The operator shall perform leak inspections at least annually, using a portable hydrocarbon detection instrument in accordance with USEPA Method 21. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one centimeter or less from the surface of the component interface. [District Rule 4401] Federally Enforceable Through Title V Permit
38. VOC content of well vent vapor gas shall not exceed 10% by weight. If the VOC content of the well vent vapor gas is less than 10% by weight for 8 consecutive quarterly samplings per District approved plan, sampling frequency shall only be required annually. Representative samples shall be collected during periods of normal operation and not be within 48 hours after routine maintenance or repair. Records of test shall be maintained for a period of five years and be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
39. 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
40. Annual control efficiency compliance tests shall be performed on all vapor collection and control systems used to control emissions from steam-enhanced crude oil production wells. Testing shall be performed by source tester certified by the California Air Resource Board (CARB) certified contractors during June, July, August or September of each year if the system's control efficiency is dependent upon ambient air temperature. The APCO may waive the requirements of this condition if the vapor control system does not exhaust to atmosphere or if all uncondensed VOC emissions collected by a vapor collection and control system are burned in fuel burning equipment or in a smokeless open flare and the source's Operating Permit contains adequate periodic monitoring to ensure the source meets 99% control efficiency. [District Rule 4401] Federally Enforceable Through Title V Permit
41. The control efficiency of the vapor collection and control system used to control VOC emissions from steam enhanced crude oil production well shall be determined by mass balance based on most stringent of a source test, USEPA approved emission factors, or Air Pollution (AP)-42 emission factors for components; and the efficiency of destruction devices determined by USEPA Method 25, 25a, or 25b as applicable. [District Rule 4401] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

42. Permittee shall maintain an inspection log which includes the following information: 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 and method of leak detection, 4) the size of the leak (in ppmv for gaseous leaks, and major or minor for liquid leaks), 5) the date the leaking component is repaired, replaced, or removed from service, 6) the identity and location of essential or critical components found leaking that cannot be repaired until the next regular process unit turnaround or not later than one year after leak detection, whichever comes later, 7) the methods used to minimize the leak from essential or critical components, 8) the date of re-inspection and the leak concentration (in ppmv) after the component is repaired or replaced, 9) the inspector's name, 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
43. Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components. The records shall include a copy of the current calibration gas certification from the vendor of the calibration gas cylinder, the date of calibration, the concentration of calibration gas, the instrument reading of calibration gas before adjustment, the instrument reading of calibration gas after adjustment, the calibration gas expiration date, and the calibration gas cylinder pressure at the time of calibration. [District Rule 4401] Federally Enforceable Through Title V Permit
44. The operator shall keep source test records which demonstrate compliance with the control efficiency requirements of the VOC collection and control system. [District Rule 4401] Federally Enforceable Through Title V Permit
45. Permittee 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
46. By January 30 of each year, permittee shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved OMP. [District Rule 4401] Federally Enforceable Through Title V Permit
47. Permittee shall maintain a copy of the latest APCO-approved Operator Management Plan (OMP) at the facility and make it available to the APCO, ARB, and US EPA upon request. [District Rule 4401] Federally Enforceable Through Title V Permit
48. The operator shall maintain monitoring records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401, 6.1] Federally Enforceable Through Title V Permit
49. The permittee shall keep accurate records of the amount of gas (pilot and waste gas) flared, H₂S content and recharging dates, 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
50. Permittee shall maintain a current well roster of all wells served by collection system, and such roster shall be made readily available for District inspection upon request. [District Rule 2520, 9.3.2 and District Rule 1070] Federally Enforceable Through Title V Permit
51. All records required by this permit shall be maintained and retained on-site for a minimum of five (5) years and made available for District, ARB, and EPA inspection upon request. [District Rules 2201 and 4401] Federally Enforceable Through Title V Permit