



Facility # S-37
KERN OIL & REFINING CO.
PANAMA LN & WEEDPATCH HWY
BAKERSFIELD, CA 93307-9210

AUTHORITY TO CONSTRUCT (ATC)

QUICK START GUIDE

1. **Pay Invoice:** Please pay enclosed invoice before due date.
2. **Modify Your Title V Permit.** Prior to operating the equipment authorized under this ATC, submit an application to modify your Title V permit. See application forms at <http://www.valleyair.org/permits/TVforms>.
3. **Fully Understand ATC:** Make sure you understand ALL conditions in the ATC prior to construction, modification and/or operation.
4. **Follow ATC:** You must construct, modify and/or operate your equipment as specified on the ATC. Any unspecified changes may require a new ATC.
5. **Notify District:** You must notify the District's Compliance Department, at the telephone numbers below, upon start-up and/or operation under the ATC. Please record the date construction or modification commenced and the date the equipment began operation under the ATC. You may NOT operate your equipment until you have notified the District's Compliance Department. A startup inspection may be required prior to receiving your Permit to Operate.
6. **Source Test:** Schedule and perform any required source testing. See http://www.valleyair.org/busind/comply/source_testing.htm for source testing resources.
7. **Maintain Records:** Maintain all records required by ATC. Records are reviewed during every inspection (or upon request) and must be retained for at least 5 years. Sample record keeping forms can be found at http://www.valleyair.org/busind/comply/compliance_forms.htm.

By operating in compliance, you are doing your part to improve air quality for all Valley residents.

For assistance, please contact District Compliance staff at any of the telephone numbers listed below.

Samir Sheikh

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-37-1-17

ISSUANCE DATE: 04/28/2023

LEGAL OWNER OR OPERATOR: KERN OIL & REFINING CO.
MAILING ADDRESS: PANAMA LN & WEEDPATCH HWY
BAKERSFIELD, CA 93307-9210

LOCATION: PANAMA LN & WEEDPATCH HWY
BAKERSFIELD, CA 93307-9210

SECTION: 25 **TOWNSHIP:** 30S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 120 MMBTU/HR CRUDE UNIT INCLUDING ONE DESALTER, FOUR FRACTIONATION VESSELS, STRIPPER, TWO ACCUMULATORS, LIGHT NAPHTHA STABILIZER, KNOCKOUT DRUM SCRUBBER, ONE 60 MMBTU/HR TULSA HEATERS INC. PROCESS HEATER, ONE 60 MMBTU/HR BORN HEATER AND 35 HEAT EXCHANGERS: INSTALL A SELECTIVE CATALYTIC REDUCTION SYSTEM ON EACH PROCESS HEATER TO COMPLY WITH THE TIER 2 NOX LIMITS OF DISTRICT RULES 4306 AND 4320

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. Authority to Construct (ATC) S-37-1-15 shall be implemented prior to or concurrent with this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grain/dscf. Emissions of combustion contaminants shall not exceed 0.1 grain per cubic foot of gas calculated to 12% CO₂ at dry standard conditions. Emissions of combustion contaminants shall not exceed ten (10) pounds per hour. [District Rules 4201 and 4301] 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.

Samir Sheikh, Executive Director / APCO



Brian Clements, Director of Permit Services

S-37-1-17 : Apr 28 2023 3:00PM -- MUTHANAM : Joint Inspection NOT Required

5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. The exhaust stacks of each process heater 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]
8. 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
9. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. [District Rules 2520 and 4301] Federally Enforceable Through Title V Permit
10. The duration of each startup and shutdown period of the 60 MMBtu/hr Born heater and 60 MMBtu/hr Tulsa heater shall not exceed 9.7 hours and 6.4 hours respectively. Emission limits of District Rules 4305, 4306, and 4320 shall be waived during periods of startup and shutdown. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Annual startup and shutdown hours of operation for each 60 MMBtu/hr process heaters shall not exceed 48.3 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. 60 MM Btu/hr Tulsa Heaters Inc. process heater shall be equipped with eight Caldius LE-CSG-8W low NO_x burners, each having a maximum heat release of 8.18 MM BTU/HR. Heater shall be fired exclusively on PUC or FERC regulated natural gas or refinery fuel gas. [District Rules 2201, 4305, 4306, 4320 and 4351] Federally Enforceable Through Title V Permit
14. Heat input to Tulsa Heater Inc. process heater shall not exceed 60 MMBtu/hr (hhv), as measured on an annual average basis. [District rule 2201] Federally Enforceable Through Title V Permit
15. 60 MMBtu/hr Born heater shall be equipped with John Zink PSMR-19 low NO_x burners and shall be fired exclusively on PUC or FERC regulated natural gas or refinery fuel gas. [District Rules 2201, 4305, 4306, 4320 and 4351] Federally Enforceable Through Title V Permit
16. Refinery fuel gas supply shall be equipped with continuous H₂S monitor meeting the requirements of NSPS Subpart J. [40 CFR Part 60 Subpart J] Federally Enforceable Through Title V Permit
17. Draeger tubes shall be used as an alternative method for measuring fuel gas H₂S during scheduled maintenance or unscheduled interruptions of CEMs. Draeger tube use shall be limited to no more than 96 continuous hours and fuel gas H₂S shall be checked a minimum of every two hours during scheduled maintenance or unscheduled interruptions of CEMs. Alternate method of measuring fuel gas H₂S shall occur no more than 192 hours in any calendar year. [District Rule 4320 and 40 CFR 60.13(i)] Federally Enforceable Through Title V Permit
18. Sulfur content of refinery fuel gas burned in crude unit heaters shall not to exceed 5 gr S/100 scf (84.5 ppmv H₂S). [District Rules 2201 and 4320 and 40 CFR Part 60 Subpart J] Federally Enforceable Through Title V Permit
19. Sulfur content of natural gas burned in crude unit heaters shall not exceed 1 gr S/100 scf (15.9 ppmv H₂S). [District Rules 2201 and 4320 and 40 CFR Part 60 Subpart J] Federally Enforceable Through Title V Permit
20. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [District Rules 2520 and 4801, and Kern County Rule 407] Federally Enforceable Through Title V Permit
21. This unit is subject to Rule 4455 Leak Detection and Repair Conditions on the facility wide permit S-37-0. [District Rule 4455] Federally Enforceable Through Title V Permit
22. The compressors associate with Skids C-02 and C-03 are subject 40 CFR Part 60 Subpart GGGa. The requirements are identified in the facility-wide permit. [40 CFR Part 60 Subpart GGGa] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For valves and connectors associated with compressor skids C-02 and C-03 , a leak shall be defined as a reading of methane in excess of 100 ppmv above background when measured per EPA Method 21. For pump and compressor seals associated with compressor skids C-02 and C-03, a leak shall be defined as a reading of methane in excess of 500 ppmv above background when measure per EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
24. VOC emission rate from fugitive components associated with compressor skids C-02 and C-03 shall not exceed 10.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Permit holder shall maintain accurate component count for compressor skids C-02 and C-03 and resultant emissions according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-3a (Feb 1999), Correlation Equations Method. Permit holder shall update such records when new components are approved and installed. Components shall be screened and leak rate shall be measured in accordance with the frequency of inspection specified in Rule 4455. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Except during startup or shutdown periods, the NOx emission rate of each 60 MMBtu/hr process heater shall not exceed 5 ppmv @ 3% O2 or 0.006 lb/MMBtu. [District Rules 2201, 4301, 4305, 4306, 4320, and 4351 and Kern County Rule 408] Federally Enforceable Through Title V Permit
27. During startup and shutdown periods the NOx emission rate of each 60 MMBtu/hr process heaters shall not exceed 91 ppmv (0.11 lb/MMBtu). [District Rules 2201, 4301, and 4351 and Kern County Rule 408] Federally Enforceable Through Title V Permit
28. The emission rates of each 60 MMBtu/hr process heater shall not exceed any of the following limits: CO: 239 ppmvd @ 3% O2; VOC: 0.0026 lb/MMBtu; PM10: 0.014 lb/MMBtu; NH3: 10 ppmvd; or SOx: 0.0167 lb SO2/MMBtu. [District Rules 2201, 4301, 4305, 4306, 4320, and 4351 and Kern County Rule 408] Federally Enforceable Through Title V Permit
29. Permittee shall demonstrate compliance with the heat input limit of Tulsa Heaters Inc. process heater by maintaining records of hhv of fuel burned and of the cumulative annual fuel use (scf/yr). Records shall be kept for a period of five years and shall be made readily available for District inspection upon request. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
30. The permittee shall monitor and record the stack concentration of NOx, CO, NH3 and O2 at least once during each month in which source testing 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 Draeger 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 it has been performed within the last month. [District Rules 4305, 4306,4320, and 4351] Federally Enforceable Through Title V Permit
31. If the NOx, CO or NH3 concentrations, as measured by the portable analyzer or the District approved ammonia monitoring equipment, 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 continue 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 Rules 4305, 4306, 4320, and 4351] Federally Enforceable Through Title V Permit
32. 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 Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. Ammonia emission readings shall be conducted at the time the NO_x, CO and O₂ readings are taken. The readings shall be converted to ppmvd @ 3% O₂. [District Rules 4305, 4306, 4320, and 4351] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO_x, CO, NH₃ and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x, CO and NH₃ concentrations corrected to 3% 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 Rules 4305, 4306, 4320, and 4351] Federally Enforceable Through Title V Permit
35. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. Source testing to measure NO_x, CO and NH₃ emissions from each process heater shall be conducted within 60 days of initial operation of the unit under this Authority to Construct (ATC) permit. [District Rules 2201, 4306, 4320, and 4351] Federally Enforceable Through Title V Permit
37. Source testing to measure NO_x, CO, and NH₃ emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. 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 2201, 4305, 4306, 4320 and 4351] Federally Enforceable Through Title V Permit
38. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
39. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, 4320 and 4351] Federally Enforceable Through Title V Permit
40. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
41. 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 1081, District Rule 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. Source testing shall be conducted using the methods and procedures approved by the District. 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. [District Rule 1081] Federally Enforceable Through Title V Permit
43. Operator shall perform annual source testing for NO_x (ppmv) according to EPA Method 7E (or ARB Method 100), stack gas oxygen by EPA Method 3 or 3A (or ARB Method 100), NO_x emission rate (heat input basis) by EPA Method 19, CO by EPA method 10 or ARB method 100, stack gas velocities by EPA Method 2, stack gas moisture content by EPA Method 4, and NH₃ by BAAQMD method ST-1B. [District Rule 1081, 2201, 4305, 4306, 4320, and 4351] Federally Enforceable Through Title V Permit
44. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
45. Nitrogen oxide (NO_x) emission concentrations in ppmv shall be referenced at dry stack gas conditions, and shall be calculated to 3.00 percent by volume stack gas oxygen and averaged over 60 minutes, and lb/MMBtu rates shall be calculated as lb NO₂/MMBtu of heat input (hhv). [District Rules 2201, 4306, 4320, and 4351] Federally Enforceable Through Title V Permit
46. 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

47. Annual test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
48. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
49. All units in a group for which representative units are source tested to demonstrate compliance for NOx limits of this permit shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
50. All units in a group for which representative units are source tested to demonstrate compliance for NOx limits of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to refinery gas) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
51. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
52. The permittee shall maintain daily and annual records of startup and shutdown events including the date and duration of each event, and the cumulative annual total of non-steady state hours of operation for each process heater. [District Rules 2201, 4305, 4306, 4320] Federally Enforceable Through Title V Permit
53. Copies of all purchased fuel invoices, gas purchase contract, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. Operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel [District Rule 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
54. The permittee shall maintain records of: (1) permit number of the unit(s) operating during monitoring, (2) the date and time of NOx, CO, NH3 and O2 measurements, (3) the O2 concentration in percent and the measured NOx, CO and NH3 concentrations corrected to 3% O2, (4) make and model of exhaust gas analyzer, (5) exhaust gas analyzer calibration records, (6) the method of determining the NH3 emission concentration, and (7) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, 4320, and 4351] Federally Enforceable Through Title V Permit
55. Operator shall maintain all records of the reason for alternative monitoring and required fuel gas H2S monitoring data and support information. [District Rules 4320 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
56. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. [District Rules 1070, 4305, 4306, 4320 and 4351] Federally Enforceable Through Title V Permit
57. All records shall be maintained and retained on-site for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule Rules 1070, 4305, 4306, 4320, and 4351] Federally Enforceable Through Title V Permit