



**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT



NOV 13 2013

Melinda Hicks  
Kern Oil & Refining Company  
7724 E Panama Lane  
Bakersfield, CA 93307-9201

**RE: Notice of Final Action - Authority to Construct**  
**Facility Number: S-37**  
**Project Number: S-1133043**

Dear Ms. Hicks:

The Air Pollution Control Officer has issued an Authority to Construct permit to Kern Oil & Refining Company for a 4.6 MW cogeneration system, at 7724 E Panama Lane, Bakersfield. Enclosed are the Authority to Construct permit and a copy of the notice of final action to be published approximately three days from the date of this letter.

Notice of the District's preliminary decision to issue the Authority to Construct permit was published on October 2, 2013. The District's analysis of the proposal was also sent to CARB and US EPA Region IX on September 27, 2013. All comments received following the District's preliminary decision on this project were considered.

Comments received by the District during the public notice period resulted in minor changes to the Authority to Construct. These comments and the District response to the comments are included as an enclosure. These changes were minor and did not trigger additional public notification requirements, nor did they have any impact upon the Best Available Control Technology determination or on the amount of offsets required for project approval.

**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

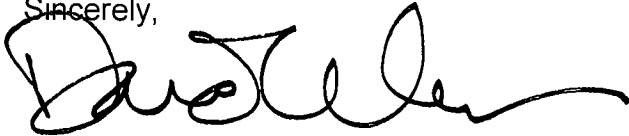
**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-6000 FAX: (559) 230-6061

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "David Warner", with a long horizontal flourish extending to the right.

David Warner  
Director of Permit Services

DW:RUE/ya

Enclosures

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



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-37-151-0

**ISSUANCE DATE:** 11/12/2013

**LEGAL OWNER OR OPERATOR:** KERN OIL & REFINING CO.  
**MAILING ADDRESS:** 7724 E PANAMA LANE  
BAKERSFIELD, CA 93307-9210

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

**EQUIPMENT DESCRIPTION:**

4.6 MW SOLAR CENTAUR MODEL 50-T6200S NATURAL GAS-FIRED GAS TURBINE ENGINE WITH DRY LOW-NOX COMBUSTORS AND 21.2 MMBTU/HR DUCT BURNER SYSTEM, AND WASTE HEAT RECOVERY SYSTEM, WITH SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM, AMMONIA INJECTION AND OXIDATION CATALYST (OR EQUIVALENT)

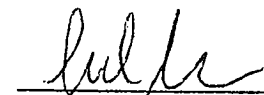
### CONDITIONS

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. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [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 / APCO



DAVID WARNER, Director of Permit Services

6. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
7. 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 (12/17/92), by using EPA method 9. 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
8. 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]
9. Cogeneration unit must be operated at least 228 feet from the property boundary. [District Rule 4102]
10. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance, with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
11. A totalizing mass or volumetric fuel flow meter shall be utilized and maintained to calculate the amount of gas combusted based on measured flow meter parameters (fuel pressure and temperature), gas composition, and HHV of the fuel. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
12. Combined turbine and duct burner total heat input shall not exceed 1,963.2 MMBtu/day nor 691,164 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Gas turbine engine and duct burner shall be fired on natural gas, consisting primarily of methane and ethane, with a sulfur content no greater than 1.0 grains of sulfur compounds (as S) per 100 dry scf of natural gas. [District Rules 2201, 4001, and 40 CFR 60.332 and 40 CFR 60.334] Federally Enforceable Through Title V Permit
14. Sulfur content of the natural gas being fired in the turbine shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for eight (8) consecutive weeks, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the permittee must return to weekly testing until eight (8) consecutive weeks show compliance. Natural gas vendor test data consistent with the natural gas fuel sulfur content test method listed in this permit may be used as verification of compliance with the fuel sulfur content limit. [District Rule 4001 and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
15. Emissions from the cogeneration system, except during periods of startup and shutdown, shall not exceed any of the following limits: 2.5 ppmvd NO<sub>x</sub> (0.0092 lb/MMBtu) @ 15% O<sub>2</sub> referenced as NO<sub>2</sub>; 6.0 ppmvd CO (0.0134 lb/MMBtu) @ 15% O<sub>2</sub>; 0.0068 lb-PM<sub>10</sub>/MMBtu; 2.0 ppmvd VOC (0.0026 lb/MMBtu) referenced as methane. NO<sub>x</sub> and CO emission limits are based on 3-hour rolling average period. If unit is in either startup, shutdown, or black start mode during any portion of a clock hour, the unit will not be subject to the ppmvd limits for NO<sub>x</sub> and CO during that clock hour. [District Rules 2201, 4201, and 4703] Federally Enforceable Through Title V Permit
16. Ammonia (NH<sub>3</sub>) emissions shall not exceed 10 ppmvd @ 15% O<sub>2</sub> over a 24-hour average period. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. [District Rule 4703] Federally Enforceable Through Title V Permit
18. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4703] Federally Enforceable Through Title V Permit
19. Source testing to determine NO<sub>x</sub> (as NO<sub>2</sub>), CO, VOC, ammonia emissions, and fuel gas sulfur content shall be conducted within 90 days of startup and at least once every twelve months thereafter. SCR catalyst inlet temperature and ammonia injection rate shall be recorded during any source testing. [District Rules 1081 and 4703]

CONDITIONS CONTINUE ON NEXT PAGE

20. Unit shall demonstrate compliance annually with NOx and CO emissions limits. An annual demonstration of compliance with the turbine in operation is not required in any year in which the turbine is not operated at all in the preceding 12 months, in such case, the unit shall be compliance source tested within 60 days of resumption of operation of the turbine. [40 CFR 60.4340 and District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
21. 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
22. Source testing shall be witnessed or authorized by District personnel and samples shall be collected by a California Air Resources Board (CARB) certified testing laboratory or a CARB certified source testing firm. [District Rule 1081] Federally Enforceable Through Title V Permit
23. For the purpose of determining compliance with the emissions limits (ppmvd @ 15% O<sub>2</sub>) during normal operation in this permit, the arithmetic mean of three test runs shall apply, unless two of the three results are above an applicable limit. If two of three runs are above the applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NOx - EPA Method 7E or 20 or CARB Method 100; CO -EPA Method 10 or 10B or CARB Method 100; VOC - EPA Method 18 or 25; PM10 - EPA Method 5 (front half and back half) or 201 and 202a; ammonia - BAAQMD ST-1B; and O<sub>2</sub> - EPA Method 3, 3A, or 20 or CARB Method 100. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081 and 4703, and 40 CFR 60.4400 (1)(i)] Federally Enforceable Through Title V Permit
25. HHV of the fuel shall be determined by using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703] Federally Enforceable Through Title V Permit
26. 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
27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rule 1081] Federally Enforceable Through Title V Permit
28. Permittee 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] Federally Enforceable Through Title V Permit
29. 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] Federally Enforceable Through Title V Permit
30. If the ammonia injection rate is less than the minimum ammonia injection rate demonstrated during the initial compliance test, the permittee shall return the ammonia injection rate above the minimum ammonia injection rate established during compliance testing as soon as possible, but no longer than 8 hours after detection. If the ammonia injection rate is not returned above the minimum ammonia injection rate established during compliance testing within 8 hours, the permittee shall notify the District within the following 1 hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced ammonia injection rate. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must 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 2201 and 4703] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

31. The permittee shall monitor and record the stack concentration of NO<sub>x</sub> (as NO<sub>2</sub>), CO, O<sub>2</sub>, and NH<sub>3</sub> weekly. If compliance with the NO<sub>x</sub> and CO emissions is demonstrated for eight (8) consecutive weeks, then the monitoring frequency will be reduced to monthly. If deviations are observed in two consecutive months, monitoring shall revert to weekly until 8 consecutive weeks show no deviations. 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 one (1) day of restarting the unit unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the week if on a weekly monitoring schedule. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
32. If the NO<sub>x</sub> and/or CO concentrations, as measured by the permittee with a portable analyzer, exceed the permitted emission limits, the permittee shall notify the District and return the NO<sub>x</sub> and CO concentrations to the permitted emission limits as soon as possible but no longer than eight (8) hours after detection. If the permittee's portable analyzer readings continue to exceed the permitted emissions limits after eight (8) hours, the permittee shall notify the District within the following one (1) hour, and conduct a certified source test within 60 days to demonstrate compliance with the permitted emissions limits. In lieu of conducting a source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must 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 performing the notification and testing required by this condition. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
33. 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 2201 and 4703] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, O<sub>2</sub> and NH<sub>3</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub>, CO, and NH<sub>3</sub> concentrations corrected to 15% O<sub>2</sub>, (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 2201 and 4703] Federally Enforceable Through Title V Permit
35. 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. [40 CFR 60.4330(a)(2), 60.102a(g)(1)(ii), 60.104a, and District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
36. The owner or operator shall maintain all records of required monitoring data and support information for a period of five years from the date of data entry and shall make such records available to the District upon request. [40 CFR 60.108a and District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
37. The owner or operator shall maintain a stationary gas turbine system operating log that includes, on a daily basis, the actual local startup and stop time, length and reason for reduced load periods, total hours of operation, the type and quantity of fuel used, duration of each start-up and each shutdown time period; and, on a monthly basis, fuel HHV. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
38. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NO<sub>x</sub>: 2,385 lb/quarter; SO<sub>x</sub>: 739 lb/quarter; PM<sub>10</sub>: 1,763 lb/quarter, and VOC: 674 lb/qtr. Offsets include the applicable offset ratio specified in Section 4.8 of Rule 2201 (as amended 4/21/11). PM<sub>10</sub> may be offset using SO<sub>x</sub> at an interpollutant offset ratio of 1.0 tons SO<sub>x</sub>/ton PM<sub>10</sub>. [District Rule 2201] Federally Enforceable Through Title V Permit
39. ERC Certificate Numbers C-1191-2, S-2387-5, S-2649-4, and S-3806-1 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit