



MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

14306 Park Avenue Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCT

B013330

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: JUNE 2025

OWNER OF OPERATOR (Co. #2500)

5E Boron Americas, LLC
9329 Mariposa Rd. Suite # 210
Hesperia, CA 92344

EQUIPMENT LOCATION (Fac. #3893)

5E Boron Americas, LLC
27555 Hector Road
Newberry Springs, CA 92365

Description:

COGENERATION BOILER #3 consisting of: An Aryan model 45TPH/8MW natural gas fueled boiler, serial number TBD, capable of producing 45 tons of steam per hour at a nominal temperature of 842 Degrees Fahrenheit and 600 psig, and powering a steam turbine generator, make and model TBD capable of producing up to 8 MW of electrical energy. The boiler is heated via a single 165 MMBtu/Hour Aryan Low-NOx Burner. This boiler consumes approximately 160,000 cubic feet of natural gas per hour and has an exhaust flow of approximately TBD acfm at 257 degrees Fahrenheit through a TBD foot high by TBD foot diameter stack.

CONDITIONS:

1. This equipment shall be installed, operated and maintained in strict accordance with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit. [District Rules 204 and 1303]

2. This boiler shall only be fueled with PUC-Regulated pipeline quality natural gas. A dedicated fuel meter serving the three boilers described in District Permits B013328, B013329, and B013330 shall be installed to directly measure fuel usage. [District Rules 431, 1157 and 1303]

3. The three boilers described in District Permits B013328, B013329, and B013330 combined shall consume no more than 3,700 MMSCF of natural gas in any consecutive twelve month period. [District Rules 1302 and 1303]

Fee Schedule: 2 (f)

Rating: 165000000 Btu

SIC: 1479

SCC: 10200604

Location/UTM(Km): 552E/3846N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

5E Boron Americas, LLC
9329 Mariposa Rd. Suite # 210
Hesperia, CA 92344

By: **COPY**
Brad Poiriez
Air Pollution Control Officer

4.The natural gas burner shall not exceed the following emission limits as verified by the source tests required in Condition #5:

- a. NOx: No more than 9 ppmvd measured as NO₂ at 3% O₂ nor more than 0.011 lb/MMBtu;
 - b. SOx: No more than 0.70 ppmvd measured at 3% O₂ nor more than 0.0011 lb/MMBtu;
 - c. CO: No more than 50 ppmvd measured at 3% O₂ nor more than 0.039 lb/MMBtu;
 - d. PM₁₀: No more than 0.004 lb/MMBtu nor more than 20% opacity; and
 - e. VOC: No more than 6 ppmvd measured as C₃H₈ (Propane) at 3% O₂ nor more than 0.007 lb/MMBtu
- [40 CFR 60.42b, 60.43b, and 60.44b; District Rules 1157, 1303, and 1320]

5.The owner/operator must conduct an initial performance test (source test) for NO_x and CO within 60 days of achieving full production rate, but in no case later than 180 days after initial startup. Additionally, annual source tests for NO_x and CO shall be conducted at least once in every 12 month period following the most current test date.

The NO_x source test must be conducted in accordance with USEPA Method 7E or CARB Method 100, the CO source test must be conducted in accordance with USEPA Method 10 or CARB Method 100, and the Stack Gas Oxygen must be measured in accordance with USEPA Method 3 or 3A or ARB Method 100. All tests must be conducted while the furnace is running at a minimum load of 90%. The owner/operator must submit a source test protocol at least thirty (30) days prior to the scheduled source test date for District review and approval, and the owner/operator must conduct all required tests in accordance with the District-approved test protocol.

The owner/operator must notify the District a minimum of ten (10) days prior to the first day of testing so that an observer may be present.

The final source test results must be submitted to the District within forty-five (45) days of completion of the test. All compliance/certification test notifications, protocols, and results may be submitted electronically to reporting@mdaqmd.ca.gov
[40 CFR 60.8, 40 CFR 60.49b(b); District Rules 204, 1157(E)(1), and 1320]

6.Emissions from the entire facility shall not exceed the following limits:

- a. Oxides of Nitrogen (NO_x): 24 tons per consecutive twelve month period, measured as NO₂;
- b. Oxides of Sulfur (SO_x): 24 tons per consecutive twelve month period;
- c. Volatile Organic Compounds (VOC): 24 tons per consecutive twelve month period;
- d. Carbon Monoxide (CO): 95 tons per consecutive twelve month period;
- e. Hydrogen Sulfide (H₂S): 9.5 tons per consecutive twelve month period;
- f. Lead (Pb): 0.5 tons per consecutive twelve month period;
- g. Particulate Matter 10 microns and less (PM₁₀): 14.5 tons per consecutive twelve month period;
- h. Any single Hazardous Air Pollutant (HAP): 9.5 tons per consecutive twelve month period; and
- i. All HAPs combined: 24 tons per consecutive twelve month period.

Compliance shall be demonstrated to the District through the submission of a District approved Comprehensive Emission Inventory Report (CEI) or other equivalent and District approved method.

[District Rules 1302 and 1320]

7.This boiler is subject to the requirements of 40 CFR 60, Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units and District Rule 1157. In the event of conflict, the more stringent requirement shall apply.

[40 CFR 60, Subpart Db; District Rule 1157]

8.As required by 40 CFR 60, Subpart Db, the facility is required to install, calibrate, maintain, and operate a Continuous Emissions Monitoring System (CEMS) to measure NO_x and O₂ emissions discharged to the atmosphere and shall record the output of the system.

[40 CFR 60.8, 40 CFR 60.46b(c), 40 CFR 60.46b(e), 40 CFR 60.48b(b)]

9.The CEMS required under Condition 8 shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

[40 CFR 60.48b(c)]

10.In the event of a malfunction of any emissions related part of this boiler, the unit must be shut down as soon as safely possible and shall not be restarted until all malfunctions have been corrected. Equipment breakdowns shall be reported to the District in accordance with District Rule 430.

[District Rules 430 and 1302]

11.The owner/operator must maintain an operations log for this equipment. This log shall be maintained current, kept for a total of five (5) years and be provided to authorized personnel upon request. The log shall contain the following at a minimum:

- a. The monthly cumulative natural gas usage for the three boilers described in District Permits B013328, B013329, and B013330, in MMSCF.
 - b. Consecutive rolling 12 month period cumulative natural gas usage for the three boilers described in District Permits B013328, B013329, and B013330, in MMSCF.
 - c. Times and durations of malfunctions, a description of each malfunction, and the corrective action taken for each malfunction.
 - d. Records of the calibration of all monitoring devices.
 - e. The results of all initial, annual, and all subsequent source tests.
 - f. Equipment vendor specifications and related operation and maintenance requirements for the boiler and its monitoring equipment.
 - g. Fuel sulfur concentration (the owner/operator may use the supplier's certification of sulfur content if it is maintained as part of this log).
- [40 CFR 60.45b(j); 40 CFR 60.49b; District Rules 1157 and 1302]

12. The owner/operator shall submit a notification of initial startup to the District, which shall include the following:

- a. The design heat input capacity of the boiler;
 - b. Confirmation of the use of PUC-Regulated pipeline quality natural gas as the only fuel being used; and
 - c. The annual capacity factor at which the owner/operator anticipates operating the boiler.
- [40 CFR 60.49b(a)]

13. A statement certifying the total heat input for this boiler for the previous calendar year shall be submitted to the District no later than March first each year. The District's default value for the High Heating Value of natural gas is 1020 Btu/scf. This statement may be submitted electronically to reporting@mdaqmd.ca.gov

[District Rule 1157(E)(2)(a)]

14. A facility wide Comprehensive Emission Inventory (CEI) for all emitted criteria and toxic air pollutants must be submitted to the District, in a format approved by the District, upon District request.

[District Rule 107(b), H&S Code 39607 & 44341-44342, and 40 CFR 51, Subpart A]