MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park Avenue Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

PERMIT TO OPERATE

B000555

Operation under this permit must be conducted in compliance with all information included with the initial application, initial permit condition, and conditions contained herein. The equipment must be maintained and kept in good operating condition at all times. This Permit to Operate or copy must be posted on or within 8 meters of equipment. If a copy is posted, the original must be maintained on site, available for inspection at all times.

EXPIRES LAST DAY OF: JULY 2027

OWNER OF OPERATOR (Co.#3254)

5E SVM Operations, LLC
13200 Main Street
Trona, CA 93562

EQUIPMENT LOCATION (Fac.#1735)

SVMU - Utilities Argus Facility
82090 First Street
Trona, CA 93562

Description:
BOILER, FOSSIL FUEL FIRED (NO. 25) consisting of: Manufactured by Combustion Engineering, Model VU-40. A tangentially fired unit burning pulverized coal with low NOx burners, secondary over fire air, flue gas reheater and a maximum firing rate of 1025 MMBtu/hr and a steam output of 750,000 lb/hr at 1,500 psig/950 degrees F. This boiler is equipped with main combustion zone urea injection and exhaust treatment as follows: sulfur trioxide injection, an electrostatic precipitator, and a wet sulfur dioxide scrubber. Fee ratings are calculated assuming 2550 Btu per horsepower.

EQUIPMENT

Capacity	Equipment Description
2.56	Fan, Forced Draft (1002 hp)
6.09	Fan, Induced Draft (2389 hp)
1025	Burners, Low NOx - Combustion Engineering (1025 MMBtu/hr)
0	Dampers, Separate Overfire Air - Combustion Engineering
0	Low NOx Concentric Firing System with Separate Overfire Air - GE
0	Urea Injection NOx Out Metering/Mixing Module, includes the following:
0	Tanks, Urea storage - 2 @ 6,500 gal ea and common w/boiler 26
0.001	Pumps, transfer - 2 @ 1/2 hp ea, 1 a spare and common w/boiler 26
0.003	Pumps, NOx Out Additive - 2 @ 1 hp ea, 1 a spare

Fee Schedule: 8 (f) Rating: 1042810000 Btu SIC: 4911 SCC: 10200212 Location/UTM(Km): 465E/3957N

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 SVM Operations, LLC
P.O. Box 367
Trona, CA 93592-0367

By: **COPY**
Brad Poiriez
Executive Director

UNOFFICIAL

Capacity	Equipment Description
0.01	Pumps, Dilution Water - 2 @ 5 hp ea, 1 a spare
0	Sulfur Trioxide Flue Gas Conditioning System, includes the following:
0	Tank, Molten Sulfur - one @ 5,500 gal (40 tons) common w/boiler 26
0.002	Pumps, Sulfur Metering - 2 @ .75 hp ea, 1 a spare
6.09	Pumps, Boiler Feed - 1 steam driven @ 2,389 hp
0	One electric 2,500 hp as backup for boilers 25 and 26
0	Coal Feed System, includes the following:
0.008	Feeders, Volumetric 3 @ 1 hp ea
3.05	Mills, Bowl Feed - 3 @ 400 hp ea

CONDITIONS:

1. The following emission limits are for the combined totals of this boiler (No. 25) and Boiler No. 26 (B000554) and shall not be exceeded at any firing rate:
A. CO: 54.4 lb/hr*
B. NMHC: 12.0 lb/hr**
C. NOx: (as NO2): 442 lb/hr*
D. PM: 111.0 lb/hr**
E. SOx: (as SO2): 89.4 lb/hr*
F. PM10:90.0 lb/hr**
G. Opacity: 20%
H. Sulfates: 46.5 lb/hr**
I. Mercury / 2.2 E-05 lb per MMBtu of heat input, each boiler. Limit does not apply during startup and shutdown (as defined in 40 CFR Part 63 Subpart 63.11237).

* These hourly rates, while monitored on CEMS, shall be based on a three-hour rolling average, computed every 15 minutes.
** These hourly rates shall be verified by the annual compliance tests which are required in Condition No. 2.
[District Rule 1303; District Rule 204; 40 CFR Part 63 Subpart JJJJJJ for CO and Mercury; 40 CFRPart 64- CAM (for PM10)]

2. Annual compliance tests, at least once every twelve (12) months, must be performed on this boiler and its pollution control equipment consisting of electrostatic precipitator C000557 and scrubber C000558. The owner/operator must submit a compliance/source test protocol at least thirty (30) days prior to the compliance/source test date. The owner/operator must conduct all required compliance/source tests in accordance with a District-approved test protocol. The owner/operator must notify the District a minimum of ten (10) days prior to the compliance/source test date so that an observer may be present. The final compliance/source test results must be submitted to the District within forty-five (45) days of completion of the test. All compliance/source test notifications, protocols, and results may be submitted electronically to reporting@mdaqmd.ca.gov

The following compliance tests are required:
A. Oxides of nitrogen (NOx as NO2 in ppmv at 3% O2, dry basis and lb/hr).
B. NMHC (in ppmv at 3% O2, dry basis and lb/hr).
C. Oxides of sulfur (SOx as SO2 in ppmv at 3% O2, dry basis and lb/hr).
D. Carbon monoxide (in ppmv at 3% O2, dry basis and lb/hr).
E. PM, PM10 and sulfates (as milligram/cubic meter, at 3% O2, dry basis and lb/hr).
F. Flue gas flow rate (SCFM, dry basis).
[District Rule 1303; 40 CFR Part 63 Subpart JJJJJJ; 40 CFR Part 64]

3. The daily emission of the following pollutants CO, NOx (as NO2) and SOx (as SO2) as well as O2 (a diluent gas) shall be monitored using a Continuous Emissions Monitoring System (CEMS). The stack gas opacity shall be monitored using a Continuous Opacity Monitoring System (COMS). These systems shall be operating at all times in accordance with the District approved monitoring plan.

The following are the acceptability testing requirements for the CEMS and COMS:
A. For COMS (Opacity) - Performance Specification 1 of 40 CFR 60 Appendix B.
B. For SO2 and NOx CEMS - Performance Specification 2 of 40 CFR 60 Appendix B.
C. For O2 CEMS - Performance Specification 3 of 40 CFR 60 Appendix B.
D. For CO CEMS - Performance Specification 4 of 40 CFR 60 Appendix B.

E. For quality assurance - Performance Specification 40 CFR 60 Appendix F.
[CO CEMS per 40 CFR 63.11224; 40 CFR Part 64]

4. The following are the acceptability testing requirements for the CEMS, CERMS, and COMS:
(a) For COMS (Opacity) - Performance Specification 1 of 40 CFR 60 Appendix B.
(b) For SO2 and NOx CEMS - Performance Specification 2 of 40 CFR 60 Appendix B.
(c) For O2 and CO2 CEMS - Performance Specification 3 of 40 CFR 60 Appendix B.
(d) For CO CEMS - Performance Specification 4 of 40 CFR 60 Appendix B.
(e) For CERMS - Performance Specification 6 of 40 CFR 60 Appendix B.
Note: CO2 emissions, CO2 CEMS and CERMS were installed per requirements of 40 CFR Part 98.
[CO CEMS per 40 CFR 63.11224; 40 CFR Part 64]

5. Electrostatic precipitator C000557 and scrubber C000558 shall be functional and operating under all conditions.
[District Rule 1303]

6. Until a digital acquisition system that is telemetrically compatible with District software is installed, quarterly reports shall be provided to the District Compliance Supervisor in accordance with the District approved monitoring plan and shall present, but not be limited to, the following data on a daily basis:
A. CEMS data.
B. COMS data.

All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.
[District Rule 1303; 40 CFR Part 64]

7. During periods of startup and shutdown the concentration of oxides of nitrogen shall not exceed 300 ppm when calculated per District Rule 475.
A. Startup is defined as when steam output is increasing but has not reached an output of 400,000 lb/hr.
B. Shutdown is defined as when steam output is decreasing and the output is less than 400,000 lb/hr.
[District Rule 476]

8. The NMHC emission rate given in Condition 1 above may be exceeded when the boilers are accepting vapor from the LLX basin, as long as the total NMHC emitted to the atmosphere from Boilers No. 25 & 26 and the LLX Basin (B000555, B000554 and B001916) does not exceed 773.6 pounds per day. Compliance with this condition shall be determined using records required by B001916, hours of operation and annual source testing for the boilers.
[District Rule 1303]

9. Particulate matter grain loading requirement of 0.01 gr/dscf and the NOx limit of 225 ppm shall be complied with.
[District Rules 476 and 1303 - BACT]

10. This equipment shall comply with District Rule 1157.1 - BARCT Requirements for Boilers and Process Heaters Outside the FONA (going into effect December 31, 2023) and the Standards of Performance for Fossil-Fuel Fired Steam Generators for Which Construction is Commenced After August 17,1971 (40 CFR 60 Subpart D) as applicable.

11. Pursuant to District Rule 1157.1 (going into effect December 31, 2023), this equipment shall not emit the following while burning solid fuel.

(a) Carbon monoxide (CO) in excess of 0.027 lb/MMBtu of heat input; and
(b) NOx in excess of 0.20 lbs/MMBtu of heat input for all operating conditions other than low carbon fuel conditions; and
(c) NOx in excess of 0.24 lbs/MMBtu of heat input under low carbon fuel conditions.
(d) These limits shall be averaged over any 30 consecutive operating day period under all operating conditions other than startup and shutdown periods as defined in condition 7 above.
(e) Permit units B000554 and B000555 may demonstrate compliance through averaging across both permit units.

Compliance for NOx emissions shall be demonstrated by NOx CEMS over 30 consecutive operating day periods (for all periods other than startup and shutdown periods as defined in the facility permit), using methods and procedures specified in Rule 1157.1.

Compliance shall be determined separately for periods with low carbon fuels and for periods without low carbon fuels, as defined in Rule 1157.1. For each operating condition (with and without low carbon fuels), compliance shall be demonstrated continuously by averaging hourly NOx data (hourly data will be calculated from 15-minute averages) over a 30 consecutive operating day period at that operating condition, calculating the lbs NOx and dividing by the total MMBtu during the same period.

In the absence of low carbon fuel use, the 30 consecutive day limit defaults to 0.20 lb/MMBtu per Item 11b above (other than startup and shutdown periods as defined in the facility permit) and the recordkeeping is simplified (only one operating condition).

Data shall be collected separately for each unit during each 30 consecutive operating day period and then averaged across the two permit units before comparison to the limit. Invalid data shall be substituted using most recent test data, or using an appropriate substitute data value.

Compliance for CO emissions shall be demonstrated by CO CEMS over 30 consecutive operating day periods (for all periods other than startup and shutdown periods as defined in the facility permit), using methods and procedures specified in Rule 1157.1.
Compliance for CO emissions shall be demonstrated by CO CEMS over 30 consecutive operating day periods (for all periods other than startup and shutdown periods as defined in the facility permit), using methods and procedures specified in Rule 1157.1.

Compliance shall be demonstrated continuously by averaging all valid hourly CO data (hourly data will be calculated from 15-minute averages) CO data over a 30 consecutive operating day period at that operating condition, calculating the average lbs CO and dividing by the total MMBtu during the same period.

Data shall be collected separately for each unit during each 30 consecutive operating day period and then averaged across the two permit units before comparison to the limit. Invalid data shall be substituted using most recent test data, or using an appropriate substitute data value.

[District Rule 1157.1]

12. Boiler 25 (B000555) and Boiler 26 (B000554) are subject to and must comply with all applicable requirements of New Source Performance Standard 40 CFR Part 60 Subpart D and National Emission Standards for Hazardous Air Pollutants 40 CFR 63 Subpart JJJJJJ.

13. For compliance with Rule 1157.1, this unit, for which the primary fuel is solid fuel, will comply with the "Solid fueled, high annual heat input permit unit" provisions as shown in District Rule 1157.1 (C)(4)(a), and is subject to NOx and CO compliance testing not less than once every 12 months, per District Rule 1157.1 (E)(1)(a).
[District Rule 1157.1]