



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

B007954

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: JANUARY 2026

OWNER OF OPERATOR (Co. #1302)

Blythe Energy, Inc
385 N Buck Blvd
Blythe, CA 92225

EQUIPMENT LOCATION (Fac. #2262)

Blythe Energy, Inc.
385 N. Buck Blvd
Blythe, CA 92225

Description:

COMBUSTION TURBINE GENERATOR POWER BLOCK (CT2) consisting of: Natural gas fueled Siemens F Class Model V84.3A(2) Serial No. 800437 combustion turbine generator power block producing approximately 260 MW(e) with a connected heat recovery steam generator and a steam condensing turbine (shared with B007953), maximum turbine heat input of 1776 MMBtu/hr.

CONDITIONS:

1. Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

[District Rule 1302(C)(2)(a)]

[PSD SE 03-01 4/04]

2. This equipment shall be exclusively fueled with pipeline quality natural gas with a sulfur content not exceeding 0.5 grains per 100 dscf on a twenty-four hour basis and not exceeding 0.25 grains per 100 dscf on a rolling twelve month average basis, and shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

[District Rules 431 and 1303]

[40 CFR 60.334(h)]

[PSD SE 03-01 4/04]

3. This equipment is subject to 40 CFR Part 60, Subparts A (General Provisions) and GG (Standards of Performance for Stationary Gas Turbines). This equipment is also subject to the Prevention of Significant Deterioration (40 CFR 51.166) and Federal Acid Rain (Title IV) programs. Compliance with all applicable provisions of these regulations is required.

Fee Schedule: 2 (f)

Rating: 1776000000 Btu

SIC: 4911

SCC: 20100201

Location/UTM(Km): 715E/3725N

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.

Blythe Energy, Inc
385 N Buck Blvd

Blythe, CA 92225-3301

By: **COPY**

Brad Poiriez

Air Pollution Control Officer

4. Emissions from this equipment (including its associated duct burner) shall not exceed the following emission limits at any firing rate, except for CO, NO_x, and VOC during periods of startup, shutdown and malfunction:

(a) Hourly rate, computed every 15 minutes, verified by CEMS and annual compliance tests:

- i. NO_x as NO₂ - the most stringent of 19.80 lb/hr or 2.5 ppmvd corrected to 15% oxygen and averaged over one hour. [PSD SE 03-01 4/04]
- ii. NO_x as NO₂ - effective May 7, 2016, 2.0 ppmvd corrected to 15% oxygen and averaged over a rolling 12 month period.
- iii. CO - the most stringent of 17.5 lb/hr or 4.0 ppmvd corrected to 15% oxygen and averaged over three hours. [PSD SE 03-01 4/04]
- iv. CO - 10 lb/hr averaged over a rolling 12-month period.

(b) Hourly rates, verified by annual compliance tests or other compliance methods in the case of SO_x:

- i. VOC as CH₄ - 2.9 lb/hr (based on 1 ppmvd corrected to 15% oxygen)
- ii. SO_x as SO₂ - 2.7 lb/hr (based on 0.5 grains/100 dscf fuel sulfur)
- iii. PM₁₀ - 6.2 lb/hr [PSD SE 03-01 4/04]

[District Rule 1303(A)]

[40 CFR 60.332(a)]

[40 CFR 70.6 (a)(3)(B) - Periodic Monitoring Requirements]

5. Emissions of CO and NO_x from this equipment shall only exceed the limits contained in Condition 4 during startup and shutdown periods as follows:

(a) Startup is defined as the period beginning with ignition and lasting until either the equipment complies with all Condition 4 operating permit limits for two consecutive 15-minute averaging periods or four hours after ignition, whichever occurs first. Shutdown is defined as the period beginning with the lowering of equipment from base load and lasting until fuel flow is completely off and combustion has ceased. [PSD SE 03-01 4/04]

(b) The emissions from each startup or shutdown event shall not exceed the following, verified by CEMS:

- i. NO_x - 376 lb [PSD SE 03-01 4/04]
- ii. CO - 3600 lb [PSD SE 03-01 4/04]

(c) Effective May 7, 2016, the CO emissions from all startup and shutdown events at both power blocks, averaged over a rolling 12-month period, shall not exceed 750 lb/event, verified by CEMS.

(d) The facility shall maintain records of each startup and shutdown event which shall include calculated emissions during each event based on CEMS data. Startup/shutdown records shall be retained for five (5) years following the date of each event. [PSD SE 03-01 4/04]

[District Rule 1303(A)]

[40 CFR 70.6 (a)(3)(B) - Periodic Monitoring Requirements]

6. Aggregate emissions from B007953 and B007954, including the associated duct burners, shall not exceed the following emission limits, based on a calendar day summary:

- (a) NO_x - 5762 lb/day, verified by CEMS.
- (b) CO - 8004 lb/day, verified by CEMS. [PSD SE 03-01 4/04]
- (c) VOC as CH₄ - 239 lb/day, verified by compliance tests and hours of operation in steady-state, pre-mix mode.
- (d) SO_x as SO₂ - 130 lb/day, verified by fuel sulfur content and fuel use data.
- (e) PM₁₀ - 298.5 lb/day, verified by compliance tests and hours of operation.

[District Rule 1303(A)]

7. Emissions from all Blythe Energy Project I permit units at this facility (as listed in Part I.A.1 of this Permit), including the cooling towers, shall not exceed the following emission limits, based on a rolling 12 month summary:

- (a) NO_x - 97 tons/year, verified by CEMS.
- (b) CO - 175 tons/year, verified by CEMS.
- (c) VOC as CH₄ - 24 tons/year, verified by compliance tests and hours of operation in steady-state, pre-mix mode.
- (d) SO_x as SO₂ - 12 tons/year, verified by fuel sulfur content and fuel use data.
- (e) PM₁₀ - 56.9 tons/year, verified by compliance tests and hours of operation.

These limits shall apply to all emissions from all Blythe Energy Project permit units at this facility (as listed in Part I.A.1, of the Federal Operating Permit), and shall include emissions during all modes of operation, including startup, shutdown and malfunction.

[District Rule 1303(B)]

[40 CFR 60.334(h)]

8.Particulate emissions from this equipment shall not exceed opacity equal to or greater than twenty percent (20%) for a period aggregating more than three (3) minutes in any one (1) hour, excluding uncombined water vapor.
[District Rule 401]

9.This equipment shall exhaust through a stack at a minimum height of 130 feet.
[District Rule 1302(C)(2)(a)]

10.The owner/operator (o/o) shall not operate this equipment after the initial commissioning period without the selective catalytic Nox reduction system with valid District permit C007960 as well as the oxidation catalyst with valid District permit C010833 installed and fully functional.
[District Rule 1303(A)]
[PSD SE 03-01 4/04]

11.The o/o shall provide stack sampling ports and platforms necessary to perform source tests required to verify compliance with District rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.
[District Compliance Test Procedural Manual; District Rules 217 and 1303]
[PSD SE 03-01 4/04]

12.Emissions of NOx, CO, oxygen and ammonia slip shall be monitored using a Continuous Emissions Monitoring System (CEMS). Natural gas heat input rates, derived from fuel flow meters and heat content (Btu/scf), are monitored in accordance with 40 CFR 75 Appendix D. Each CEMS shall be operational whenever the associated combustion turbine generator is in operation, including during periods of startup, shutdown and malfunction. The o/o shall install, calibrate, maintain, and operate these monitoring systems according to a District-approved monitoring plan and MDAQMD Rule 218, and they shall be installed prior to initial equipment startup. Six (6) months prior to installation the operator shall submit a monitoring plan for District review and approval.
[District Rule 1303]
[40 CFR 60.334]
[PSD SE 03-01 4/04]
[40 CFR 70.6 (a)(3)(B) - Periodic Monitoring Requirements]

13.The owner/operator must conduct all required compliance/certification 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.
[District Compliance Test Procedural Manual; District Rule 1303]
[PSD SE 03-01 4/04]

14.The o/o shall perform the following compliance tests at least every twelve (12) months:
(a) NOx as NO2 in ppmvd at 15% oxygen and lb/hr (measured per USEPA Reference Methods 19, 20, or 7E). If testing is performed at 90%-100% of rated capacity, then the annual RATA associated with the NOx CEMS in use on these units may be used in lieu of the required annual EPA Reference Method 20, as long as all of the requirements of prior test notification, proper test result submittal, etc., are followed.
(b) VOC as CH4 in ppmvd at 15% oxygen and lb/hr (measured per USEPA Reference Methods 25A and 18).
(c) SOx as SO2 in ppmvd at 15% oxygen and lb/hr.
(d) CO in ppmvd at 15% oxygen and lb/hr (measured per USEPA Reference Method 10).
(e) PM10 in mg/m3 at 15% oxygen and lb/hr (measured per USEPA Reference Methods 5 and 202 or CARB Method 5)
(f) Flue gas flow rate in dscfm.
(g) Opacity (measured per USEPA Reference Method 9).
(h) Ammonia slip in ppmvd at 15% oxygen.
[District Rule 1303]
[40 CFR 60.335]
[PSD SE 03-01 4/04]
[40 CFR 70.6 (a)(3)(B) - Periodic Monitoring Requirements]

15.VOC emissions during startup and shutdown periods will be calculated by the CEMS using the following emissions factors:
a. startup events: 0.0056 lb/mmBtu
b. shutdown events: 0.0107 lb/mmBtu

16. Continuous monitoring systems shall be installed, calibrated, certified, maintained and operated in accordance with the following:

- (a) For NO_x and oxygen, 40 CFR 75 appendices A and B.
- (b) For CO, 40 CFR 60 Appendix B Performance Specification 4 and 40 CFR 60 Appendix F except that:
 - i. The CGA frequency will follow 40 CFR 75 Appendix B Sections 2.2.1 and 2.2.4. Specifically, a CGA will be required at least once during each QA operating quarter, not to exceed four calendar quarters, plus a 168-unit operating hour grace period will apply following the expiration of a required CGA. CGAs will be conducted no less than 30 days apart, to the extent practicable.
 - ii. Analyzer ranges less than or equal to 30 ppm (i.e. CO low range) will be exempt from CGA requirements.
 - iii. All RATA testing shall be conducted at least once every four QA operating quarters but no less frequently than once every eight calendar quarters as provided in 40 CFR 75 App. B, 2.3.1.1. If RATA testing is not completed within this timeframe, a 720 unit operating hour grace period may be used, as provided in 40 CFR 75 App. B, 2.3.3.b. All RATA testing shall be conducted at the normal load level(s) as determined in accordance with 40 CFR 75 Appendix A Section 2.3.1.3(a).
- (c) For ammonia, a District approved procedure that is to be submitted by the o/o.

[District Rule 1303]

[40 CFR 60.334]

[PSD SE 03-01 4/04]

[40 CFR 70.6 (a)(3)(B) - Periodic Monitoring Requirements]

17. The o/o shall submit to the Air Pollution Control Officer (APCO) and USEPA Region IX the following information for the preceding calendar quarter by January 30, April 30, July 30 and October 30 of each year this permit is in effect. Each January 30 submittal shall include a summary of the reported information for the previous year. This information shall be maintained on site for a minimum of five (5) years and shall be provided to District personnel on request:

- (a) Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NO_x emission rate and ammonia slip.
- (b) Total plant operation time (hours), number of startups, hours in startup, and hours in shutdown period.
- (c) Date and time of the beginning and end of each startup and shutdown period.
- (d) Average plant operation schedule (hours per day, days per week, weeks per year).
- (e) All continuous emissions data reduced and reported in accordance with the District-approved CEMS protocol.
- (f) Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NO_x, CO, PM₁₀, VOC and SO_x (including calculation protocol).
- (g) Total monthly and rolling 12-month emissions of NO_x, CO and PM₁₀ from all permit units.
- (h) Total monthly and rolling 12-month fuel use in the gas turbines and duct burners.
- (i) Average NO_x concentration and average CO mass emission rate, for all operating periods except during startup, shutdown and malfunction, for each gas turbine and associated duct burner, calculated on a rolling 12-month basis.
- (j) Average CO emissions from all startups and shutdowns of the gas turbines, on a per event basis, calculated on a rolling 12-month basis.
- (k) Fuel sulfur content (monthly laboratory analyses, monthly natural gas sulfur content reports from the natural gas supplier(s), or the results of a custom fuel monitoring schedule approved by USEPA for compliance with the fuel monitoring provisions of 40 CFR 60 Subpart GG).
- (l) A log of all excess emissions, including the information regarding malfunctions/breakdowns required by Rule 430.
- (m) Any permanent changes made in the plant process or production, which would affect air pollutant emissions, and indicate when changes were made.
- (n) Any maintenance to any air pollutant control system (recorded on an as-performed basis).

[District Rules 430, 431, 1303]

[40 CFR 60.334]

[PSD SE 03-01 4/04]

[40 CFR 70.6 (a)(3)(B) - Periodic Monitoring Requirements]

18. Effective May 7, 2016, total fuel use in the two gas turbines and two duct burners (Permit #B007953 COMBUSTION TURBINE GENERATOR POWER BLOCK (CT1), Permit #B007954 COMBUSTION TURBINE GENERATOR POWER BLOCK (CT2), Permit #B007955 DUCT BURNER UNIT 1 and Permit #B007956 DUCT BURNER UNIT 2) shall not exceed 31,852,800 MMBtu in any rolling 12-month period.

[District Rule 1303 - Offsets]

19.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]

[PSD SE 03-01 4/04]