MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park AvenueVictorville,CA92392-2310
760.245.1661 -- 800.635.4617 -- FAX760.245.2022

# INACTIVE

B010314

Inactive type Permit has no description information.

## EXPIRES LAST DAY OF:APRIL 2009

## OWNER OF OPERATOR (Co.#46)

Victorville, City of
14343 Civic Drive
Victorville,CA92392-2399

## EQUIPMENT LOCATION (Fac.#2948)

Victorville 2 Hybrid Power Project
Perimeter Road
Victorville,CA92392

**Description:**
COMBUSTION TURBINE GENERATOR POWER BLOCK (#2) consisting of:Natural gas fueled General Electric 7FA combustion turbine generator block producing approximately 255 MW(e) with a connected heat recovery steam generator and a steam condensing turbine (shared with B010309), maximum turbine heat input of 1736.4 MMBtu/hr.

## EQUIPMENT

| Capacity | Equipment Description |
|---|---|
| 1736.4 | GE &FA Combustion Turbine (max heat input 1736.4 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.

2.This equipment shall be exclusively fueled with pipeline quality natural gas with a sulfur content not exceeding 0.2 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.

3.This equipment is subject to the federal NSPS codified at 40 CFR Part 60, Subparts A (General Provisions) and KKKK (Standards of Performance for New 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:1736400000Btu SIC:4911 SCC:20100201 Location/UTM(Km):467E/3828N

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.

Victorville, City of
Public Works - Fleet Division

Victorville,CA92392-2399

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, NOx, and VOC during periods of startup, shutdown and malfunction:
a. Hourly rate, computed every 15 minutes, verified by CEMS and annual compliance tests:
i. NOx as NO2 - 15.60 lb/hr and 2.0 ppmvd (corrected to 15% oxygen and averaged over one hour)
ii. CO - 14.25 lb/hr and 2.0 ppmvd (3.0 ppmvd with duct firing), corrected to 15% oxygen and averaged over one hour
b. Hourly rates, verified by annual compliance tests or other compliance methods in the case of SOx:
i. VOC as CH4 - 5.44 lb/hr (based on 1.4 ppmvd (2.0 ppmvd with duct firing) corrected to 15% oxygen)
ii. SOx as SO2 - 1.21 lb/hr (based on 0.2 grains/100 dscf fuel sulfur)
iii. PM10 - 18.0 lb/hr

5.Emissions of CO and NOx 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 the equipment has reached operating permit limits. Cold startup is defined as a startup when the CTG has not been in operation during the preceding 48 hours. Other startup is defined as a startup that is not a cold startup. 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.
b. Transient conditions shall not exceed the following durations:
i. Cold startup - 110 minutes
ii. Other startup - 80 minutes
iii. Shutdown - 30 minutes
c. During a cold startup emissions shall not exceed the following, verified by CEMS:
i. NOx - 96 lb
ii. CO -410 lb
d. During any other startup emissions shall not exceed the following, verified by CEMS:
i. NOx - 40 lb
ii. CO - 329 lb
e. During a shutdown emissions shall not exceed the following, verified by CEMS:
i. NOx - 57 lb
ii CO - 337 lb

6.Emissions from this equipment, including the duct burner, auxiliary equipment, engines and cooling tower, shall not exceed the following emission limits, based on a calendar day summary:
a. NOx - 1304 lb/day, verified by CEMS
b. CO - 4754 lb/day, verified by CEMS
c. VOC as CH4 - 555 lb/day, verified by compliance tests and hours of operation in mode
d. SOx as SO2 - 59 lb/day, verified by fuel sulfur content and fuel use data
e. PM10 - 917 lb/day, verified by compliance tests and hours of operation

7.Emissions from this facility, including the duct burners, auxiliary equipment, engines and cooling tower, shall not exceed the following emission limits, based on a rolling 12 month summary:
a. NOx - 108 tons/year, verified by CEMS
b. CO - 254 tons/year, verified by CEMS
c. VOC as CH4 - 34 tons/year, verified by compliance tests and hours of operation in mode
d. SOx as SO2 - 8 tons/year, verified by fuel sulfur content and fuel use data
e. PM10 - 124 tons/year, verified by compliance tests and hours of operation

8.Particulate emissions from this equipment shall not exceed an 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.

9.This equipment shall exhaust through a stack at a minimum height of 145 feet.

10.The owner/operator (o/o) shall not operate this equipment after the initial commissioning period without the oxidation catalyst with valid District permit C010316 and the selective catalytic reduction system with valid District permit C010317 installed and fully functional.

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.

12.Emissions of NOx, CO, oxygen and ammonia slip shall be monitored using a Continuous Emissions Monitoring System (CEMS). Turbine fuel consumption shall be monitored using a continuous monitoring system. Stack gas flow rate shall be monitored using either a Continuous Emission Rate Monitoring System (CERMS) meeting the requirements of 40 CFR Part 75 Appendix A or a stack flow rate calculation method. 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 after initial steam blows are completed. Two (2) months prior to installation the operator shall submit a monitoring plan for District review and approval.

13.The o/o shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the o/o shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District within forty-five (45) days after testing.

14.The o/o shall perform the following annual compliance tests in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. The following compliance tests are required:
a. NOx as NO2 in ppmvd at 15% oxygen and lb/hr (measured per USEPA Reference Methods 19 and 20).
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 dscf per minute.
g. Opacity (measured per USEPA Reference Method 9).
h. Ammonia slip in ppmvd at 15% oxygen.

15.The o/o shall, at least as often as once every five years (commencing with the initial compliance test), include the following supplemental source tests in the annual compliance testing:
a. Characterization of cold startup VOC emissions;
b. Characterization of other startup VOC emissions;
c. Characterization of shutdown VOC emissions.

16.Continuous monitoring systems shall meet the following acceptability testing requirements from 40 CFR 60 Appendix B (or otherwise District approved):
a. For NOx, Performance Specification 2.
b. For oxygen, Performance Specification 3.
c. For CO, Performance Specification 4.
d. For stack gas flow rate, Performance Specification 6 (if CERMS is installed).
e. For ammonia, a District approved procedure that is to be submitted by the o/o.
f. For stack gas flow rate (without CERMS), a District-approved procedure that is to be submitted by the o/o.

17.The o/o shall submit to the 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, NOx emission rate and ammonia slip.
b. Total plant operation time (hours), number of startups, hours in cold startup, hours in other 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 NOx, CO, PM10, VOC and SOx (including calculation protocol).
g. 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 KKKK).
h. A log of all excess emissions, including the information regarding malfunctions/breakdowns required by Rule 430.
i. Any permanent changes made in the plant process or production which would affect air pollutant emissions, and indicate when changes were made.
j. Any maintenance to any air pollutant control system (recorded on an as-performed basis).

18.The o/o must surrender to the District sufficient valid Emission Reduction Credits for this equipment before the start of construction of any part of the project for which this equipment is intended to be used. In accordance with Regulation XIII the operator shall obtain 141 tons of NOx, 45 tons of VOC, and 124 tons of PM10 offsets (VOC ERCs may be substituted for NOx ERCs at a ratio of 1.6:1).

19.During an initial commissioning period of no more than 120 days, commencing with the first firing of fuel in this equipment, NOx, CO, VOC and ammonia concentration limits shall not apply. The o/o shall minimize emissions of NOx, CO, VOC and ammonia to the maximum extent possible during the initial commissioning period.

20.The o/o shall tune each CTG and HRSG to minimize emissions of criteria pollutants at the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor.

21.The o/o shall install, adjust and operate each SCR system to minimize emissions of NOx from the CTG and HRSG at the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor. The NOx and ammonia concentration limits shall apply coincident with the steady state operation of the SCR systems.

22.The o/o shall submit a commissioning plan to the District and the CEC at least four weeks prior to the first firing of fuel in this equipment. The commissioning plan shall describe the procedures to be followed during the commissioning of the CTGs, HRSGs and steam turbine. The commissioning plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purposes of the activity. The activities described shall include, but not be limited to, the timing of the dry low NOx combustors, the installation and testing of the CEMS, and any activities requiring the firing of the CTGs and HRSGs without abatement by an SCR system.

23.The total number of firing hours of each CTG and HRSG without abatement of NOx by the SCR shall not exceed 624 hours during the initial commissioning period. Such operation without NOx abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system in place and operating. Upon completion of these activities, the o/o shall provide written notice to the District and CEC and the unused balance of the unabated firing hours shall expire.

24.During the initial commissioning period, emissions from this facility shall not exceed the following emission limits (verified by CEMS):
a. NOx - 32 tons, and 242 pounds/hour/CTG
b. CO - 118 tons, and 1337 pounds/hour/CTG

25.Within 60 days after achieving the maximum firing rate at which the facility will be operated, but not later than 180 days after initial startup, the operator shall perform an initial compliance test. This test shall demonstrate that this equipment is capable of operation at 100% load in compliance with the emission limits in Condition 4.

26.The initial compliance test shall include tests for the following. The results of the initial compliance test shall be used to prepare a supplemental health risk analysis if required by the District:
a. PAH;
b. Certification of CEMS and CERMS (or stack gas flow calculation method) at 100% load, startup modes and shutdown mode;
c. Characterization of cold startup VOC emissions;
d. Characterization of other startup VOC emissions; and
e. Characterization of shutdown VOC emissions.