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

INACTIVE

B005282

Inactive type Permit has no description information.

EXPIRES LAST DAY OF: JUNE 2001

OWNER OF OPERATOR (Co.#1047)

High Desert Power Project, LLC
19000 Perimeter Road
Victorville, CA 92394

EQUIPMENT LOCATION (Fac.#2187)

HDPP Alternative Config
Southern California International Airport
Victorville, CA 92392

Description:
COMBUSTION TURBINE GENERATOR 2G-2 consisting of: Natural gas fueled combustion turbine generator power block with a connected heat recovery steam generator and steam condensing turbine, maximum heat input of 2230 MMBtu/hr and producing approximately 350 MW(e). Manufacturer, model and serial numbers will be specified when available.

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 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.

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 rates, computed every 15 minutes, verified by CEMS and annual compliance tests:
i. NOx as NO2 - 24.55 lb/hr (based on 2.5 ppmvd corrected to 15% oxygen and averaged over one hour)

Fee Schedule: 2 (f)	Rating: 2230000000 Btu	SIC: 4911	SCC: 20100201	Location/UTM(Km): 473E/3820N

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.

High Desert Power Project, LLC
ATTN: Accounts Payable

Victorville, CA 92394

By: **COPY**
Eldon Heaston
Air Pollution Control Officer

ii. CO - 23.91 lb/hr (based on 4.0 ppmvd corrected to 15% oxygen and averaged over 24 hours)
iii. Ammonia Slip - 10 ppmvd (corrected to 15% oxygen and averaged over three hours)
b. Hourly rates, verified by annual compliance tests or other compliance methods in the case of SOx:
i. VOC as CH4 - 3.42 lb/hr (based on 1 ppmvd corrected to 15% oxygen)
ii. SOx as SO2 - 1.51 lb/hr (based on 0.00064 lb/MMBtu (lower heating value))
iii. PM10 - 25.41 lb/hr

5. Emissions of CO and NOx from this equipment may exceed the limits contained in Condition 4 during startup and shutdown periods as follows:
a. Startup shall be defined as the period beginning with ignition and lasting until the equipment has reached operating permit limits. Cold startup means a startup when the CTG has not been in operation during the preceding 72 hours. Hot startup means a startup when the CTG has been in operation during the preceding 8 hours. Warm startup means a startup that is not a hot or cold startup. Shutdown shall be 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 - 4.5 hours
ii. Warm startup - 2.6 hours
iii. Hot startup - 1.9 hours
iv. Shutdown - 1 hour
c. During a cold startup emissions shall not exceed the following, verified by CEMS:
i. NOx - 561 lb
ii. CO - 6890 lb
d. During a warm startup emissions shall not exceed the following, verified by CEMS:
i. NOx - 269 lb
ii. CO - 3177 lb
e. During a hot startup emissions shall not exceed the following, verified by CEMS:
i. NOx - 215 lb
ii. CO - 2711 lb
f. During a shutdown emissions shall not exceed the following, verified by CEMS:
i. NOx - 133 lb
ii. CO - 288 lb

6. Emissions from this equipment, including the duct burner, may not exceed the following emisison limits, based on a calendar day summary:
a. NOx - 1495 lb/day, verified by CEMS
b. CO - 10,619 lb/day, verified by CEMS
c. VOC as CH4 - 1648 lb/day, verified by compliance tests and hours of operation in mode
d. SOx as SO2 - 36.2 lb/day, verified by fuel sulfur content and fuel use data
e. PM10 - 610 lb/day, verified by compliance tests and hours of operation

7. Emissions from this facility, including the cooling towers, may not exceed the following emission limits, based on a rolling 12 month summary:
a. NOx - 189 tons/year, verified by CEMS
b. CO - 484 tons/year, verified by CEMS
c. VOC as CH4 - 83 tons/year, verified by compliance tests and hours of operation in mode
d. SOx as SO2 - 12 tons/year, verified by fuel sulfur content and fuel use data
e. PM10 - 219 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 130 feet.

10. The owner/operator (o/o) shall not operate this equipment without the selective catalytic NOx reduction system with valid District permit C005286 and VOC and CO oxidation catalyst system with valid District permit C005288 installed and fully functional.

11. 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 a Continuous Emission Rate Monitoring System (CERMS). The operator shall install, calibrate, maintain and operate these monitoring systems according to a District-approved monitoring plan and 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.

12. 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 operator 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.

13. 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 and 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 scfmd.
g. Opacity (measured per USEPA Reference Method 9).
h. Ammonia slip in ppmvd at 15% oxygen.

14. 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 warm startup VOC emissions;
c. Characterization of hot startup VOC emissions; and,
d. Characterization of shutdown VOC emissions.

15. Continuous monitoring systems shall meet the following acceptability testing requirements from 40 CFR 60 Appendix B:
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
e. For ammonia, a District-approved procedure that is to be submitted by the o/o.

16. 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, numer of shutdowns, hours in cold startup, hours in warm startup, hours in hot startup, and hours in shutdown.
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 GG).
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 pollutant control system (recorded on an as-performed basis).

17. The o/o must surrender to the District sufficient valid Emission Reduction Credits for this facility 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 246 tons of NOx, 108 tons of VOC, and 219 tons of PM10 offsets (VOC ERCs from SCAQMD may be used as VOC ERCs at a rate of 1:1 or may be substituted for NOx ERCs at a rate of 1.6:1).

18. 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.

19. The o/o shall provide 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.

20. 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.

21. The intial 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:
a. Aldehydes and acrolein (measured per CARB method 430);
b. Certification of CEMS and CERMS at 100% load, startup modes and shutdown mode;
c. Characterization of cold startup VOC emissions;
d. Characterization of warm startup VOC emissions;
e. Characterization of hot startup VOC emissions; and
f. Characterization of shutdown VOC emissions.

22. Only one of the following configurations may be constructed at this site: the 3F combined cycle configuration, consisting of three F-class turbines and auxiliary equipment; or the 2G combined cycle configuration, consisting of two G-class turbines and auxiliary equipment.