Texas Commission on Environmental Quality
Air Permits Division

New Source Review (NSR) Boilerplate Special Conditions

This information is maintained by the Combustion/Coatings NSR Section and is subject to change. Last update was made **October 2006**. These special conditions represent current NSR boilerplate guidelines and are provided for informational purposes only. The special conditions for any permit or amendment are subject to change through TCEQ case by case evaluation procedures [30 TAC 116.111(a)]. Please contact the appropriate Combustion/Coatings NSR Section management if there are questions related to the boilerplate guidelines.

Less than 20 MW

FEDERAL APPLICABILITY

2. These facilities shall comply with applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources (NSPS) Title 40 Code of Federal Regulations Part 60, Subpart A (40 CFR Part 60, Subpart A), General Provisions, and Subpart GG or Subpart KKKK, Stationary Gas Turbines.

   If any condition of this permit is more stringent than the regulations so incorporated, then for the purposes of complying with this permit, the permit shall govern and be the standard by which compliance shall be demonstrated.

EMISSION STANDARDS AND OPERATING SPECIFICATIONS

3. This permit authorizes a XX compressor turbine with a nominal rating of XXXX-horsepower at 0°F each and the turbine shall be operated normally at full load.

4. Fuel for the gas turbine generator (GTG) is limited to pipeline-quality natural gas containing no more than 5.0 grain total sulfur per 100 dry standard cubic feet (dscf) on a one-hour average basis and 0.5 grain total sulfur per 100 dscf on a rolling 12-month average basis. The use of any other fuels will require prior authorization from the Executive Director of the Texas Commission on Environmental Quality (TCEQ).

5. Upon request by the Executive Director of the TCEQ or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuels fired in the gas turbine or shall allow air pollution control agency representatives to obtain a sample for analysis.

6. The GTG at full load, except for periods of start-up, shutdown, or maintenance, shall not exceed 15 parts per million by volume (ppmv) of oxides of nitrogen (NO_x) or 25 ppmv of carbon monoxide (CO), when corrected to 15 percent oxygen (O_2).

7. Opacity of emissions from any one stack authorized by this permit shall not exceed 5 percent averaged over a six-minute period. During periods of start-up, shutdown, or maintenance, the opacity shall not exceed 15 percent. Opacity shall be determined by the

U.S. Environmental Protection Agency (EPA) Reference Method 9 during the initial determination of compliance stack sampling.

INITIAL DETERMINATION OF COMPLIANCE

8. Sampling ports and platforms shall be incorporated into the design of all exhaust stacks according to the specifications set forth in the attachment entitled "Chapter 2, Stack Sampling Facilities." Alternate sampling facility designs may be submitted for approval by the TCEQ Regional Director or the TCEQ Compliance Support Division in Austin.

9. The holder of this permit shall perform stack sampling and other testing as required to establish the actual quantities of air contaminants being emitted into the atmosphere from Emission Point No. (EPN) XXX. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and in accordance with EPA Test Methods or by other equivalent methods approved by the TCEQ Compliance Support Division or TCEQ Regional Director. **(For reference, RM 201A and 202 or RM 5 modified to include back-half condensibles for the concentration of PM_{10}; RM 8 or RM 6 or 6c for sulfur dioxide (SO_2); RM 9 for opacity; RM 10 for the concentration of CO; RM 25A modified to exclude methane and ethane for the concentration of volatile organic compounds (VOC) to measure total carbon as methane; RM 20 for the concentrations of NO_x and O_2)**

   Fuel sampling using the methods and procedures of 40 CFR § 60.335(d) may be conducted in lieu of stack sampling for SO_2. If fuel sampling is used, compliance with NSPS Subpart GG or Subpart KKKK SO_2 limits shall be based on 100 percent conversion of the sulfur in the fuel to SO_2. Any deviations from those procedures must be approved by the Executive Director of the TCEQ prior to sampling. The TCEQ Executive Director or designated representative shall be afforded the opportunity to observe all such sampling. The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense.

   A. The TCEQ Regional Office shall be contacted as soon as testing is scheduled but not less than 45 days prior to sampling to schedule a pretest meeting.

      The notice shall include:

      (1) Date for pretest meeting.

(2) Date sampling will occur.
(3) Name of firm conducting sampling.
(4) Type of sampling equipment to be used.
(5) Method or procedure to be used in sampling.
(6) Procedure used to determine turbine loads during and after the sampling period.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports. A written proposed description of any deviation from sampling procedures specified in permit conditions, or the TCEQ or the EPA sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Regional Director or the TCEQ Compliance Support Division in Austin shall approve or disapprove of any deviation from specified sampling procedures. Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Permitting, Remediation, and Registration, Air Permits Division. Test waivers and alternate or equivalent procedure proposals for NSPS testing which must have the EPA approval shall be submitted to the TCEQ Compliance Support Division in Austin.

B. Each Turbine (EPNs XXX) shall be tested at full load for the atmospheric conditions which exist during testing. Each tested turbine load shall be identified in the sampling report. The permit holder shall present at the pretest meeting the manner in which stack sampling will be executed in order to demonstrate compliance with emission standards found in NSPS Subpart GG or Subpart KKKK.

C. Air contaminants to be sampled and analyzed while at full load include (but are not limited to) NO_x, O_2, CO, VOC, SO_2, PM_{10}, and opacity. (Fuel sampling using the methods and procedures of 40 CFR § 60.335[d] may be conducted in lieu of stack sampling for SO_2).

D. Air emissions from each GTG shall be tested while firing at additional partial load conditions to satisfy 40 CFR § 60.335. Air emissions to be sampled and analyzed while at a partial load include (but are not limited to) NO_x, O_2, and CO. Each tested load shall be identified in the sampling report.

E. The holder of this permit shall demonstrate during the initial compliance testing that the best available control technology has been selected for the GTG by demonstrating that the concentrations listed below will not be exceeded, when corrected to 15 percent O_2, and without correcting to ISO conditions.

(1) The stack concentration of NO_x shall not exceed 15 ppmv at full load..

(2) The stack concentration of CO shall not exceed 25 ppmv at full load.

(3) The stack concentration of VOC (calculated as propane), defined as total hydrocarbons minus methane and ethane, shall not exceed 2.5 ppmv at full load.

F. Sampling of the GTG shall occur within 60 days after achieving the maximum fuel firing rate at which the units will be operated but no later than 180 days after initial start-up of each unit. Additional sampling shall occur as may be required by the TCEQ or EPA.

G. Within 60 days after the completion of the testing and sampling required herein, three copies of the sampling reports shall be distributed as follows:

One copy to the TCEQ Regional Office.
One copy to the TCEQ Compliance Support Division, Austin.
One copy to the EPA Region 6 Office, Dallas. **(if PSD)**

CONTINUOUS DETERMINATION OF COMPLIANCE

10. In order to demonstrate that the emission limits specified in Special Condition No. 6 are continuously met, the holder of this permit shall conduct a semiannual evaluation of compressor turbine performance at the maximum load achievable based on ambient and available gas supply conditions for each turbine by measuring the NO_x, CO, and O_2 content of the exhaust. If a turbine has not operated for more than 2,000 hours in the current six-month period, testing may be delayed until the six-month period when operation has reached 2,000 hours since the last test. The use of portable analyzers specifically designed for measuring the concentration of each contaminant in pounds per million is acceptable for this evaluation. A hot air probe or equivalent should be used with portable analyzers to prevent introduction of error in results because of high stack temperatures. Three sets of measurements should be averaged to determine the concentrations. Prior to and following the measurements, the portable analyzer shall be checked for accuracy using an audit gas that conforms to the specifications in 40 CFR § 60, Appendix F, 5.1.2(3). Any other method must be approved by the TCEQ Regional Director or the TCEQ Compliance Support Division.

    Emissions shall be measured and recorded in the as-found operating condition, except no compliance determination shall be established during start-up, shutdown, or under breakdown conditions. Emission rates shall be reported in ppmv and corrected to 15 percent O_2 content.

11. The holder of this permit shall additionally install, calibrate, maintain, and operate

continuous monitoring systems to monitor and record the average hourly natural gas consumption of the gas turbines. The systems shall be accurate to ±5.0 percent of the unit's maximum flow.

12. The holder of this permit shall comply with all sulfur monitoring and recordkeeping requirements of NSPS Subpart GG or Subpart KKKK. Any request for a custom monitoring schedule shall be made in writing and directed to the TCEQ Compliance Support Division in Austin. Any custom schedule approved by TCEQ will be recognized as an enforceable condition of this permit.

RECORDKEEPING REQUIREMENTS

13. The following records shall be kept at the plant for the life of the permit. All records required in this permit shall be made available at the request of personnel from the TCEQ, EPA, or any air pollution control agency with jurisdiction.

    A. A copy of this permit.

    B. Permit application submitted XX and any subsequent representations submitted to the TCEQ.

    C. A complete copy of the testing reports and records of the initial performance testing completed pursuant to Special Condition No. 9 to demonstrate initial compliance.

14. The following information shall be maintained at the plant by the holder of this permit in a form suitable for inspection for a period of five years after collection and shall be made immediately available upon request to representatives of the TCEQ, EPA, or any local air pollution control program having jurisdiction.

    A. Records of the hours of operation and average daily quantity of natural gas fired in the turbines.

    B. Stack sampling results or other air emissions testing that may be conducted on units authorized under this permit after the date of issuance of this permit.