

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

Mr. Ravi Joseph
Austin Energy Sand Hill
The City of Austin dba Austin Energy
721 Barton Springs Road
Austin, TX 78704

Dear Mr. Joseph:

On September 29, 2014 we issued Austin Energy Sand Hill Energy Center a GHG PSD Permit (PSD-TX-1012-GHG). We have discovered the permit was issued without changing the heading on page 2 from "Draft Permit Conditions" to "Final Permit Conditions".

We conclude that an update to the permit with the corrected heading would be *de minimis* in nature and are simply correcting this minor oversight in the final permit, applicable immediately. We have attached the permit with the corrected language. The permit issuance date remains September 29, 2014.

If you have any questions regarding this matter, please contact me at (214)665-6435 or Ms Tracie Donaldson, of my staff at (214) 665-6633.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jeff Robinson".

Jeffrey Robinson
Chief
Air Permit Section

Enclosures:

**PREVENTION OF SIGNIFICANT DETERIORATION PERMIT
FOR GREENHOUSE GAS EMISSIONS
ISSUED PURSUANT TO THE REQUIREMENTS AT 40 CFR § 52.21**

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6

PSD PERMIT NUMBER: PSD-TX-1012-GHG

PERMITTEE: The City of Austin dba Austin Energy
721 Barton Springs Road
Austin, TX 78704

FACILITY NAME: Sand Hill Energy Center

FACILITY LOCATION: 1101 Fallwell Lane
Del Valle, TX 78617

Pursuant to the provisions of the Clean Air Act (CAA), Subchapter I, Part C (42 U.S.C. Section 7470, *et. Seq.*), and the Code of Federal Regulations (CFR) Title 40, Section 52.21, and the Federal Implementation Plan at 40 CFR § 52.2305 (effective May 1, 2011 and published at 76 FR 25178), the U.S. Environmental Protection Agency, Region 6 is issuing a *Prevention of Significant Deterioration* (PSD) permit to the City of Austin dba Austin Energy (Austin Energy) for Greenhouse Gas (GHG) emissions. The Permit applies to the construction of an additional natural gas fired combined-cycle electric generating unit at the existing Sand Hill Energy Center (SHEC), located in Del Valle, Travis County, Texas.

Austin Energy is authorized to construct a new natural gas fired combined cycle electric generating unit as described herein, in accordance with the permit application (and plans submitted with the permit application), the federal PSD regulations at 40 CFR § 52.21, and other terms and conditions set forth in this PSD permit in conjunction with the corresponding Texas Commission on Environmental Quality (TCEQ) PSD permit No. PSD-TX-1012M2. Failure to comply with any condition or term set forth in this PSD Permit may result in enforcement action pursuant to Section 113 of the Clean Air Act (CAA). This PSD Permit does not relieve Austin Energy of the responsibility to comply with any other applicable provisions of the CAA (including applicable implementing regulations in 40 CFR Parts 51, 52, 60, 61, 72 through 75, and 98) or other federal and state requirements (including the state PSD program that remains under approval at 40 CFR § 52.2303).

In accordance with 40 CFR §124.15(b), this PSD Permit becomes effective 30 days after the service of notice of this final decision unless review is requested on the permit pursuant to 40 CFR §124.19.


Wren Stenger, Director
Multimedia Planning and Permitting Division

9/29/14
Date

**The City of Austin dba Austin Energy,
Sand Hill Energy Center (PSD-TX-48106-GHG)
Prevention of Significant Deterioration Permit
For Greenhouse Gas Emissions
Final Permit Conditions**

PROJECT DESCRIPTION

The City of Austin dba Austin Energy (Austin Energy) is proposing to construct a new combined cycle electric generating unit at the Sand Hill Energy Center (SHEC) in Travis County, Texas. The existing SHEC is a natural gas-fired combined-cycle base load power generating station that currently operates in a 1 by 1 by 1 (1 x 1 x 1) configuration (one combustion turbine, one heat recovery steam generator (HRSG) and one steam turbine) with a combustion turbine, (HRSG) equipped with duct burners, and a steam turbine. The new combined-cycle electric generating facility includes a new combustion turbine (GE.7FA.04) and HRSG equipped with duct burners. The resulting new facility will be a natural gas-fired combined cycle generating unit in a 2 by 2 by 1 (2 x 2 x 1) configuration (two combustion turbines, two HRSGs, and one steam turbine) that utilizes the existing non-modified steam turbine. Austin Energy retains the option to operate the existing or new facility in a 1 x 1 x 1 combined-cycle configuration, and with the addition of the new facility add the second option to operate the plant in a 2 x 2 x 1 combined- cycle configuration. The proposed facility at the SHEC will generate an additional 222 megawatts (MW) of gross electrical power. The additional facility at the SHEC will consist of the following sources of GHG emissions:

- One natural gas-fired combustion turbine (GE.7FA.04). The combustion turbine is equipped with a heat recovery steam generator (HRSG) and duct burners, dry low-NO_x (DLN) combustion system, and selective catalytic reduction (SCR);
- Natural gas fugitive emission sources; and
- Electrical equipment insulated with sulfur hexafluoride (SF₆)

EQUIPMENT LIST

The following devices are subject to this GHG PSD permit.

FIN/EPN	Description
SH8	1 Natural Gas-Fired Combined Cycle Combustion Turbine (Combustion Units). The combustion turbine is equipped with a heat recovery steam generator (HRSG) with duct burners and selective catalytic reduction (SCR).
SF6-FUG	SF ₆ Insulated Electrical Equipment (i.e., circuit breakers) with 59 lb SF ₆ capacity.
MS-FUG	Combined Cycle natural gas meter skid fugitives unit 8
PB-FUG	Combined Cycle Power Block fugitives unit 8

I. GENERAL PERMIT CONDITIONS

A. PERMIT EXPIRATION

As provided in 40 CFR §52.21(r), this PSD Permit shall become invalid if construction:

1. is not commenced (as defined in 40 CFR §52.21(b)(9)) within 18 months after the approval takes effect; or
2. is discontinued for a period of 18 months or more; or
3. is not completed within a reasonable time.

Pursuant to 40 CFR §52.21(r), EPA may extend the 18-month period upon a written satisfactory showing that an extension is justified.

B. PERMIT NOTIFICATION REQUIREMENTS

Permittee shall notify EPA Region 6 in writing or by electronic mail of the:

1. date construction is commenced, postmarked within 30 days of such date;
2. actual date of initial startup, as defined in 40 CFR §60.2, postmarked within 15 days of such date; and
3. date upon which initial performance tests will commence, in accordance with the provisions of Section VI, postmarked not less than 30 days prior to such date.
Notification may be provided with the submittal of the performance test protocol required pursuant to Condition VI.C.

C. FACILITY OPERATION

At all times, including periods of startup, shutdown, and maintenance, Permittee shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the EPA, which may include, but is not limited to, monitoring results, review of operating maintenance procedures and inspection of the facility.

D. MALFUNCTION REPORTING

1. Permittee shall notify EPA by mail within 48 hours following the discovery of any failure

of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in GHG emissions above the allowable emission limits stated in Sections II and III of this permit.

2. Within 10 days of the restoration of normal operations after any failure described in I.D.1., Permittee shall provide a written supplement to the initial notification that includes a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section II and III, and the methods utilized to mitigate emissions and restore normal operations.
3. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or any law or regulation such malfunction may cause.

E. RIGHT OF ENTRY

EPA authorized representatives, upon the presentation of credentials, shall be permitted:

1. to enter the premises where the facility is located or where any records are required to be kept under the terms and conditions of this PSD Permit;
2. during normal business hours, to have access to and to copy any records required to be kept under the terms and conditions of this PSD Permit;
3. to inspect any equipment, operation, or method subject to requirements in this PSD Permit; and,
4. to sample materials and emissions from the source(s).

F. TRANSFER OF OWNERSHIP

In the event of any changes in control or ownership of the facilities to be constructed, this PSD Permit shall be binding on all subsequent owners and operators. Permittee shall notify the succeeding owner and operator of the existence of the PSD Permit and its conditions by letter; a copy of the letter shall be forwarded to EPA Region 6 within thirty days of the letter signature.

G. SEVERABILITY

The provisions of this PSD Permit are severable, and, if any provision of the PSD Permit is held invalid, the remainder of this PSD Permit shall not be affected.

H. ADHERENCE TO APPLICATION AND COMPLIANCE WITH OTHER ENVIRONMENTAL LAWS

Permittee shall construct this project in compliance with this PSD Permit, the application on which this permit is based, the TCEQ PSD Permit PSD-TX-48106 and all other applicable federal, state, and local air quality regulations. This PSD permit does not release the Permittee from any liability for compliance with other applicable federal, state and local environmental laws and regulations, including the Clean Air Act.

I. ACRONYMS AND ABBREVIATIONS

AVO	Auditory, Visual, and Olfactory
BACT	Best Available Control Technology
CAA	Clean Air Act
CC	Carbon Content
CCS	Carbon Capture and Sequestration
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CH ₄	Methane
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
CT	Combustion Turbine
EF	Emission Factor
EPN	Emission Point Number
FIN	Facility Identification Number
FR	Federal Register
GCV	Gross Calorific Value
GHG	Greenhouse Gas
GWP	Global Warming Potential
HHV	High Heating Value
lb	Pound
LDAR	Leak Detection and Repair
MMBtu	Million British Thermal Units
MSS	Maintenance, Start-up and Shutdown
N ₂ O	Nitrous Oxides
NSPS	New Source Performance Standards
O ₂	Oxygen
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assurance and/or Quality Control
RATA	Relative Accuracy Test Audit
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TOC	Total Organic Carbon
TPY	Tons per Year
USC	United States Code
VOC	Volatile Organic Compound

II. Annual Emission Limits

The proposed BACT limits are in terms of efficiency measured in units of BTU of fuel energy consumed in order to generate a kilowatt of electricity (BTU/kWh). Any out-put based emissions, in pounds of CO₂ per megawatt hour (lbs/MWh) on a 365-day rolling average and annual emissions, in tons CO₂e per year (TPY) on a 365-day rolling total basis shall not exceed the following:

Table 1. Annual Emission Limits¹

FIN	EPN	Description	GHG Mass Basis		TPY CO ₂ e ^{2,3}	BACT Requirements
				TPY		
SH8	SH8	Combustion Turbine	CO ₂	1,460,386 ⁴	1,461,908	930 lbs CO ₂ /MWh on a 365-day rolling average basis. See permit conditions III.A.1.
			CH ₄	27.5 ⁴		
			N ₂ O	2.8 ⁴		
PB-FUG MS-FUG	PB-FUG MS-FUG	Natural Gas Fugitives	CO ₂	No Numerical Limit Established ⁵	No Numerical Limit Established ⁵	Implementation of AVO Program. See permit conditions III.B.1.
			CH ₄	No Numerical Limit Established ⁵		
SF6-FUG	SF6-FUG	Electrical Equipment Fugitives	SF ₆	No Numerical Limit Established ⁶	No Numerical Limit Established ⁶	See permit conditions III.B.2. through III.B.4.
Totals⁷			CO ₂	1,460,386	CO ₂ e 1,462,052	
			CH ₄	33		
			N ₂ O	2.8		
			SF ₆	0.00015		

1. Compliance with the annual emission limits (tons per year) is based on a 365-day rolling total.
2. The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions from the facility during all operations and include MSS activities.
3. Global Warming Potentials (GWP): CH₄ = 25, N₂O = 298, SF₆ = 22,800
4. The annual emissions limit for the combustion turbine is based on operating at maximum duct burner firing for 8,760 hours per year. The annual emission limit includes emissions from MSS.
5. Natural gas emissions from EPNs PB-FUG and MS-FUG are estimated to be 5.64 TPY of CH₄, 0.13 TPY CO₂, and 141 TPY CO₂e. The emission limit will be a design/work practice standard as specified in the permit.
6. SF₆ emissions from EPN SF6-FUG are estimated to be 0.00015 TPY of SF₆ and 3 TPY CO₂e. The emission limit will be a design/work practice standard as specified in the permit.
7. The total emissions include the PTE for natural gas and electrical equipment fugitive emissions. These totals are given for informational purposes only and do not constitute emission limits.

III. SPECIAL PERMIT CONDITIONS

A. Requirements for Combustion Turbine and Heat Recovery Steam Generator (HRSG) (EPN: SH8)

1. Combustion Turbine BACT Emission Limits

Table 2. BACT Emission Limits for Combustion Turbine on a 365 day rolling average

Turbine Model	Gross Heat Rate, with duct burner firing (Btu/kWh) (HHV) ¹	Output Based Emission Limit (lbs CO ₂ /MWh) gross with duct burning ¹
General Electric 7FA	7,943	930

¹ These limits apply with and without duct burner firing and includes startup and shutdown.

- a. For facility operations in a 1 x 1 x 1 plant configuration operation, compliance with the output based emission limit shall be determined by the following method. The CO₂ mass emission values shall be calculated over each operational hour of the compliance period and summed. The summed hourly CO₂ mass emission values shall be divided by the summed hourly total gross electrical output. Compliance shall be demonstrated on a 365-day rolling average basis.
- b. For facility operations in a 2 x 2 x 1 plant configuration operation, compliance with the output based emission limit shall be determined as follows:
 - i. The hourly gross electric output from the existing non-modified steam turbine shall be apportioned based on either the measured steam load or measured heat input. A plan to demonstrate the apportionment of the gross electric output shall be submitted within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days of the date of initial startup of the combustion turbine generator.
 - ii. The CO₂ mass emission values shall be calculated over each operational hour of the compliance period and summed. The summed hourly CO₂ mass emission values shall be divided by the combined sum of the hourly total gross electrical output from the steam turbine (as determined by the corresponding apportionment calculations represented in the plan) and the total gross electrical load from the combustion turbine. Compliance shall be demonstrated on a 365-day rolling average basis.
- c. Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days of the date of initial startup of the combustion turbine generators, the Permittee shall perform an initial emission

test for CO₂ and use emission factors from 40 CFR Part 98. The Permittee shall ensure that GHG emissions from the Combustion Turbine and Heat Recovery Steam Generator (HRSG) (EPN: SH8) into the atmosphere do not exceed the limits in lbs CO₂/MWh (gross) from Table 2 during the test. To determine compliance with the BACT emission limit, the Permittee shall calculate the emission rate based on the measured hourly energy output (MWh (gross)), when operating in a 1x1x1 configuration, while the combustion turbine is operating at or above 90% of its design capacity with duct burner firing, and the results shall be corrected to ISO conditions (59°F, 14.7 psia, and 67% humidity). If the combustion turbine does not meet the design emissions limit, then the Permittee shall remedy the combustion turbine's failure to meet the design emissions limit, will make corrections to the Combustion Turbine, and will only combust fuel to perform required tuning and modifications necessary to demonstrate compliance.

- d. Upon initial demonstration that the combustion turbine complies with the emission limit via emission tests, the Permittee shall not exceed the combustion turbine gross heat rate Btu/kWh (HHV) from Table 2 on a 365-day rolling average and shall not discharge or cause the discharge of emissions into the atmosphere in excess of the limits in tons of CO₂e on a 365-day rolling total as listed in Table 1. To determine this limit, the Permittee shall calculate the average hourly heat input rate over the applicable compliance period consistent with equation F-20 and the procedure provided in 40 CFR Part 75, Appendix F § 5.5.2 and the measured gross hourly energy output for the month.

2. Monitoring of Emissions for Combustion Turbine and Heat Recovery Steam Generator (HRSG) (EPN: SH8)

- a. Upon initial demonstration that the combustion turbine complies with the emissions limit via emission tests, the Permittee shall not discharge or cause the discharge of emissions from the Combustion Turbine or HRSG into the atmosphere in excess of the limits from Table 1 in tons of CO₂e on a 365-day rolling total basis, at all times including periods of startup and shutdown. To determine the amount of CO₂e, the Permittee shall calculate the amount of CO₂, CH₄ and N₂O in TPY based on the equation G-4 of 40 CFR 75, Appendix G and 40 CFR Part 98, Appendix C on a 365-day rolling total basis. The TPY values are multiplied by the respective Global Warming Potentials (GWP) contained in the Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1 to calculate the amount of CO₂e emitted in Tons/hr for the operational day. The resulting CO₂e value is added to the previous 365-day rolling total of CO₂e emissions. The Permittee shall determine compliance with the CH₄ and N₂O emissions limits

contained in Section II using the default CH₄ and N₂O emission factors contained in Table C-2 of 40 CFR Part 98 and the measured actual hourly heat input (HHV).

- b. As an alternative, the Permittee may install and operate a volumetric stack gas flow monitor and associated data acquisition and handling system in accordance with the CO₂ CEMS system provided in 40 CFR 75.10(a)(3) and (a)(5). If a CO₂ CEMS system is utilized, the hourly CO₂ emission value shall be measured by installing and operating a volumetric stack gas flow monitor or calculating the volumetric stack gas flow by the procedures of 40 CFR Part 75, Appendix D and associated data acquisition and handling system in accordance with the CO₂ CEMS system provided in 40 CFR § 75.10.
- c. In accordance with 40 CFR Part 75, Appendix D and 40 CFR Part 60, the Permittee shall ensure that all required fuel flow meters are installed, a periodic schedule for gross calorific value (GCV) fuel sampling is initiated and all certification tests are completed on or before the earlier of 90 unit operating days or 180 calendar days after the date the unit commences commercial operation (as defined in 40 CFR § 72.2).
- d. The Permittee shall ensure compliance with the specifications and test procedures for fuel flow meter and/or CO₂ emission monitoring system at stationary sources, 40 CFR Part 75 and 40 CFR Part 60.
- e. The Permittee shall meet the appropriate quality assurance requirements specified in 40 CFR Part 75, Appendixes D and F and 40 CFR Part 60 for the fuel flow meter and/or CO₂ emission monitoring system.

3. Work Practice and Operational Requirements for Combustion Turbine and Heat Recovery Steam Generator (HRSG) (EPN: SH8)

- a. The combined cycle combustion turbine and duct burners are limited to burning only pipeline natural gas. The gross calorific value of the fuel shall be determined monthly by the procedures contained in 40 CFR Part 75, Appendix F, § 5.5.2, and records shall be maintained of the monthly fuel GCV for a period of five years. Upon request, the Permittee shall provide a sample and/or analysis of the GVC for the fuel fired in the combustion turbine and/or duct burners or shall allow a sample to be taken by EPA for analysis.
- b. The flow rate of the fuel combusted in combustion turbine and duct burners shall be measured and recorded using an inline flow meter and automatically record the data with a data acquisition and handling system. The steam load and/or heat

input to the steam turbine shall also be measured and recorded.

- c. Permittee shall measure and record the gross energy output (MWh (gross)) on an hourly basis.
- d. On or before the date of initial performance test required by 40 CFR 60.8, and thereafter, Permittee shall install, and continuously operate, and maintain the HRSG equipped at or below the emissions limits specified in this permit.
- e. The Permittee shall perform an annual compliance test, at or above ninety percent (90%) of maximum load operations for the atmospheric conditions which exist during testing, corrected to ISO conditions to demonstrate compliance with the proposed heat rate in Table 2.
- f. On or after initial performance testing, Permittee shall use the combustion turbine, HRSG, and Plant-wide energy efficiency processes, work practices and designs as represented in the application.
- g. The Permittee shall minimize emissions during start-up and shutdown activities by operating and maintaining the facility and associated air pollution control equipment in accordance with good air pollution control practices, safe operating practices, and protection of the facility.

B. Requirements for Fugitive Emission Sources (EPNs: MS-FUG, PB-FUG and SF6-FUG)

- 1. The Permittee shall implement an auditory/visual/olfactory (AVO) method for detecting leaking from natural gas piping components, and make observations on a daily basis.
- 2. For emission unit SF6-FUG, SF₆ emissions shall be calculated annually (calendar year) in accordance with the mass balance approach provided in equation DD-1 of the Mandatory Greenhouse Gas Reporting rules for Electrical Transmission and Distribution Equipment Use, 40 CFR Part 98, Subpart DD. Permittee shall not exceed insulated circuit breaker SF₆ capacity exceeding 59 lbs.
- 3. Permittee shall equip the circuit breakers with a low pressure alarm and a low pressure lockout. The SF₆ leak detection system shall be able to detect a leak of at least 1lb per year.
- 4. Permittee shall maintain a file of all records, data measurements, reports and documents related to the fugitive emission sources including, but not limited to, the following: all records or reports pertaining to maintenance performed, all records relating to compliance with the Monitoring and Quality Assurance and Quality Control (QA/QC) procedures outlined in 40 CFR 98.304.

IV. RECORDKEEPING AND REPORTING

1. In order to demonstrate compliance with the GHG emission limits in Table 1, the Permittee will monitor the following parameters and summarize the data on a calendar month basis.
 - a. Operating hours for all air emission sources;
 - b. The natural gas fuel usage for all combustion sources, using continuous fuel flow monitors (a group of equipment can utilize a common fuel flow meter, as long as actual fuel usage is allocated to the individual equipment based upon actual operating hours and maximum firing rate); and
 - c. Annual fuel sampling of natural gas for gross calorific value (GCV).
2. Permittee shall implement an AVO program and keep records of the monitoring results, as well as the repair and maintenance records.
3. Permittee shall maintain all records, data, measurements, reports, and documents related to the operation of the facility, including, but not limited to, the following: all records or reports pertaining to significant maintenance performed on any system or device at the facility; duration of startup, shutdown; the initial startup period for the emission units; pollution control units, malfunctions; all records relating to performance tests, calibrations, checks, and monitoring of combustion equipment; duration of an inoperative monitoring device and emission units with the required corresponding emission data; and all other information required by this permit recorded in a permanent form suitable for inspection. The records must be retained for not less than five years following the date of such measurements, maintenance, reports, and/or records.
4. Permittee shall maintain records of all GHG emission units and CO₂ emission certification tests and monitoring and compliance information required by this permit.
5. Permittee shall maintain records and submit a written report of all GHG excess emissions to EPA semi-annually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator or authorized representative, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. The report is due on the 30th day following the end of each semi-annual period and shall include the following:
 - a. Time intervals, data and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;
 - b. Applicable time and date of each period during which the monitoring equipment was inoperative (monitoring down-time);
 - c. A statement in the report of a negative declaration; that is; a statement when no

- excess emissions occurred or when the monitoring equipment has not been inoperative, repaired or adjusted; and
- d. Any failure to conduct any required source testing, monitoring, or other compliance activities.

6. Excess emissions shall be defined as any period in which the facility emissions exceed a maximum emission limit set forth in this permit.
7. Excess emissions indicated by GHG emission source certification testing or compliance monitoring shall be considered violations of the applicable emission limit for the purpose of this permit.
8. All records required by this PSD Permit shall be retained and remain accessible for not less than 5 years following the date of such measurements, maintenance, and reporting.

V. SHAKEDOWN PERIODS

The combustion turbine emission limits and requirements in conditions II., III.A.1., and III.B. shall not apply during combustion shakedown periods. Shakedown is defined as the period beginning with initial startup and ending no later than initial performance testing, during which the Permittee conducts operational and contractual testing and tuning to ensure the safe, efficient and reliable operation of the plant. The shakedown period shall not exceed the time period for performance testing as specified in 40 CFR § 60.8. The requirements of special condition I.C. of this permit shall apply at all times.

VI. PERFORMANCE TESTING

- A. The Permittee shall perform stack sampling and other testing to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the stack of the Combustion Turbine and HRSG (SH8) to determine the initial compliance with the CO₂ emission limits established in this permit. Sampling shall be conducted in accordance with 40 CFR § 60.8 and EPA Method 3a or 3b for the concentration of CO₂.
1. Multiply the CO₂ hourly average emission rate determined under maximum operating test conditions by 8,760 hours for the combustion turbine.
 2. If the above calculated CO₂ emission total does not exceed the tons per year (TPY) specified on Table 1, no compliance strategy needs to be developed.
If the above calculated CO₂ emission total exceeds the tons per year (TPY) specified in Table 1, the facility shall:
 - a. Document the potential to exceed in the test report; and
 - b. Explain within the report how the facility will assure compliance with the CO₂ emission limit listed in Table 1.

- B. Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility, performance tests(s) must be conducted and a written report of the performance testing results furnished to the EPA. Additional sampling may be required by TCEQ or EPA.
- C. Permittee shall submit a performance test protocol to EPA no later than 30 days prior to the test to allow review of the test plan and to arrange for an EPA observer to be present at the test. The performance test shall be conducted in accordance with the submitted protocol, and any changes required by EPA.
- D. The turbine shall be tested at or above ninety percent (90%) of maximum load operations for the atmospheric conditions which exist during testing. The duct burners shall be tested at or above their maximum firing rate within the mechanical limits of the equipment for the atmospheric conditions which exists during the performance test while the turbine is operating as close to base load as possible. The tested turbine load shall be identified in the sampling report. The permit holder shall present in the performance test protocol the manner in which stack sampling will be executed in order to demonstrate compliance with the emissions limits contained in Section II.
- E. Air emissions from the HRSG exhaust stack shall be tested while firing at the minimum load in the normal operating range. The normal operating range consistent with emission limits is to be determined during stack testing. Air emissions that will be sampled and analyzed while at the minimum load include (but are not limited to) CO₂.
- F. Performance tests must be conducted under such conditions to ensure representative performance of the affected facility. The owner or operator must make available to the EPA such records as may be necessary to determine the conditions of the performance tests.
- G. The owner or operator shall provide, or cause to be provided, performance testing facilities as follows:
 - 1. Sampling ports adequate for test methods applicable to this facility,
 - 2. Safe sampling platform(s),
 - 3. Safe access to sampling platform(s), and
 - 4. Utilities for sampling and testing equipment.
- H. Unless otherwise specified, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For purposes of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply.

VII. Agency Notifications

Permittee shall submit GHG permit applications, permit amendments, and other applicable permit information to:

Multimedia Planning and Permitting Division
EPA Region 6
1445 Ross Avenue (6 PD-R)
Dallas, TX 75202
Email: Group R6AirPermits@EPA.gov

Permittee shall submit a copy of all compliance and enforcement correspondence as required by this Approval to Construct to:

Compliance Assurance and Enforcement Division
EPA Region 6
1445 Ross Avenue (6EN)
Dallas, TX 75202

