

US EPA ARCHIVE DOCUMENT

**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-1380-GHG

PERMITTEE: Lon C. Hill, LP
919 Milan St., Suite 2300
Houston, TX 77002

FACILITY NAME: Lon C. Hill Power Station

FACILITY LOCATION: 3501 Callicoatte Rd.
Corpus Christi, TX 78410

Pursuant to the provisions of the Clean Air Act (CAA), Subchapter I, Part C (42 U.S.C. § 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 Lon C. Hill, LP (LCH) for Greenhouse Gas (GHG) emissions. The permit applies to the construction of a new natural gas-fired combined-cycle electric generating plant known as the Lon C. Hill Power Station (LCHPS) to be located 3501 Callicoatte Rd. Corpus Christi, Nueces, County, Texas.

LCH is authorized to construct a new natural gas-fired combined-cycle electric generating plant 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. PSDTX1380. 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 LCH 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

Date

Lon C. Hill, LP (PSD-TX-1380-GHG)
Prevention of Significant Deterioration Permit
For Greenhouse Gas Emissions
Draft Permit Conditions

PROJECT DESCRIPTION

LCH is proposing to construct a new combined-cycle electric generating plant Lon C. Hill Power Station (LCHPS) in Nueces County, Texas. The LCHPS will generate approximately 625 to 740 megawatts (MW) of gross electrical power near the City of Corpus Christi. The LCHPS will consist of the following sources of GHG emissions:

- Two natural gas-fired stationary combustion turbines (2 combustion turbines, 2 heat recovery steam generators and 1 steam turbine) equipped with lean pre-mix low-NO_x combustors;
- Natural gas piping and metering;
- One diesel fuel-fired emergency electrical generator engine;
- One diesel fuel-fired fire water pump engine; and
- Electrical equipment insulated with sulfur hexafluoride (SF₆).

EQUIPMENT LIST

The following devices are subject to this GHG PSD permit.

FIN	EPN	Description
CC-101 CC-102	STK-101 STK-102	2 Natural Gas-Fired Combined-Cycle Combustion Turbines (Combustion Units). The combustion turbines are equipped with duct burner fired heat recovery steam generators (HRSGs).
ABL-100	ABLSTK-100	Natural gas-fired Auxiliary Boiler
FWP-100	FWPSTK-100	Fire Water Pump (Combustion Unit). 617 horsepower (hp) Diesel-Fired Fire Water Pump is rated at 4.3 MMBtu/hr. and limited to 100 hours of operation per year for non-emergency activities.
EGEN-100	EGENSTK-100	Emergency Generator (Combustion Unit). 1310 horsepower (hp) Diesel-Fired Emergency Generator is rated at 9.4 MMBtu/hr. and limited to 100 hours of operation per year for non-emergency activities.
SF6-100	SF6-100	SF ₆ Insulated Electrical Equipment (i.e., circuit breakers) with 75 lb. SF ₆ capacity.
FUGNG-100	FUGNG-100	Process Fugitives.

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 VII, 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 VII.C.

C. FACILITY OPERATION

At all times, including periods of startup, shutdown, and maintenance (MSS), 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 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 III and IV 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 Sections III and IV, 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, and a copy of the letter shall be forwarded to EPA Region 6 within 30 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 Number PSDTX1380 (when issued) 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.

II. ACRONYMS AND ABBREVIATIONS

AVO	Auditory, Visual, and Olfactory
BACT	Best Available Control Technology
CAA	Clean Air Act
CCS	Carbon Capture and Sequestration
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CH ₄	Methane
CO ₂	Carbon Dioxide
CO _{2e}	Carbon Dioxide Equivalent
CTG	Combustion Turbine generator
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
hr.	Hour
lb.	Pound
MMBtu	Million British Thermal Units
MSS	Maintenance, Start-up and Shutdown
N ₂ O	Nitrous Oxides
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assurance and/or Quality Control
SCR	Selective Catalytic Reduction
SF ₆	Sulfur Hexafluoride
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TPY	Tons per Year

III. Annual Emission Limits

Annual emissions, in tons per year (TPY) on a 12-month rolling total, shall not exceed the following:

Table 1. Annual Emission Limits

FIN	EPN	Description	GHG Mass Basis		TPY CO ₂ e ^{2,3}	BACT Requirements ¹
				TPY		
CC-101	STK-101	CT Combined-Cycle/Heat Recovery Steam Generator	CO ₂	1,255,491	1,256,763	920 lb CO ₂ /MWh (gross) with duct burning on 12-month rolling average per turbine. Start-up and Shutdown emissions limited to 500 hours per year. MSS emissions are limited to 115 tons CO ₂ /hr. Special Condition IV.A.1. and Table 2.
			CH ₄	23.3		
			N ₂ O	2.33		
CC-102	STK-102	CT Combined-Cycle/Heat Recovery Steam Generator	CO ₂	1,255,491	1,256,763	
			CH ₄	23.30		
			N ₂ O	2.33		
ABL-100	ALBS TK-100	Auxiliary Boiler	CO ₂	2,776	2,779	Good Combustion and Operating Practices Limit to 500 hr./yr - Special Condition IV.B.
			CH ₄	0.052		
			N ₂ O	.005		
FWP-100	FWP-STK-100	Firewater Pump	CO ₂	35.2	35.2	Good Combustion and Operating Practices
			CH ₄	No Emission Limit Established ⁴		
			N ₂ O	No Emission Limit Established ⁴		Limit to 100 hr./yr - Special Condition IV.C.
EGEN-100	EGEN STK-100	Emergency Generator	CO ₂	80	80	Good Combustion and Operating Practices
			CH ₄	No Emission Limit Established ⁴		
			N ₂ O	No Emission Limit Established ⁴		Limit to 100 hr./yr. - Special Condition IV.C.
NG-FUG	FUG-NGAS	Natural Gas Fugitives	CO ₂	No Emission Limit Established ⁵	No Emission Limit Established ⁵	AVO monitoring - Special Condition IV.D.
			CH ₄	No Emission Limit Established ⁵		
SF6-100	SF6-100	SF6 Fugitives	SF ₆	No Emission Limit Established ⁶	No Emission Limit Established ⁶	Instrument monitoring and alarm system - Special Condition IV.D.
Totals ⁷			CO ₂	2,513,873.2	2,517,468	
			CH ₄	88.3		
			N ₂ O	4.67		
			SF ₆	0.0002		

1. Compliance with the annual emission limits (tons per year) is based on a 12-month rolling total, to be updated the last day of the following month.
2. The TPY emission limits specified in this table shall not to be exceeded for this facility and include emissions from the facility during all operations including MSS activities.
3. Global Warming Potentials (GWP): CO₂ = 1, CH₄ = 25, N₂O = 298, SF₆ = 22,800
4. All values are less than 0.01 TPY with appropriate rounding. The emission limit will be a design/work practice standard as specified in the permit.

5. Fugitive process emissions from EPN FUGNGAS are estimated to be 41.7 TPY of CH₄, 0 TPY CO₂, and 1,043 TPY CO₂e. The emission limit will be a design/work practice standard as specified in the permit.
6. SF₆ emissions from EPN SF6-100 are estimated to be 0.00182 TPY SF₆ and 4.1 TPY CO₂e.
7. The total emissions for CH₄ and CO₂e include the PTE for process fugitive emissions of CH₄.

IV. SPECIAL PERMIT CONDITIONS

A. Requirements for Combustion Turbine Generators and Heat Recovery Steam Generators (EPNs: STK-101 and 102)

1. Combustion Turbine Generator BACT Emission Limits

Table 2. BACT Emission Limits for Combustion Turbines

Turbine Model	Gross Heat Rate ¹ (Btu/kWh) (HHV)	Duct Burners Annual Firing Rate ¹ (MMBtu/hr) (HHV)	Output Based Emission Limit gross, with or without duct burning ¹ (lb CO ₂ /MWh)	MSS Emission BACT Limit ² (tons CO ₂ /hr)
Siemens SGT6 5000F, GE 7FA.04 or equivalently rated	7,720	670	920	115

¹The firing rates are based on a 12-month rolling average.

²Limit is calculated based on a 12-month rolling average divided by the number of hours of maintenance, startup and shut down for that 12-month period.

- a. For facility operations in a 1 x 1 x 1 stationary combustion turbine 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 12-month rolling average.
- b. For facility operations in a 2 x 2 x 1 stationary combustion turbine configuration operation, compliance with the output based emission limit shall be determined as follows:
 - i. The hourly gross electric output from the 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(s).

- 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 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 each combustion turbine generator. The resulting quotient is added to the sum of quotients of the previous 11 operating months and divided by 12 to determine compliance with the 12-month rolling average.
- c. Upon initial demonstration that each stationary combustion turbine complies with the emission limit via emission tests, the Permittee shall not exceed the combustion turbine and duct burner annual firing rate, MMBtu/hr. (HHV) from Table 2 on a 12-month rolling average. To determine the limit, the Permittee shall calculate the average hourly heat input rate over the applicable compliance period consistent with equation F-20 and procedure provided in 40 CFR Part 75, Appendix F § 5.5.2 and the GCV of the fuel combusted for the corresponding compliance period. Add the quotient to the sum of the quotients of the previous 11 operating months and divide by 12 to determine the 12-month rolling average.
- d. The Permittee shall not discharge or cause the discharge of emissions into the atmosphere in excess of the limits in tons of CO_{2e} on a 12-month rolling total as listed in Table 1.
- e. The duct burners are limited to 4,375 hours of operation per year.
- f. Startup and Shutdown events are limited to 500 hours per year and shall comply with the MSS BACT emission limit of 115 tons CO₂ per hour on a 12-month rolling average basis.

2. Monitoring of CO₂ Emissions for EPNs: STK-101 and STK-102

- a. Upon initial demonstration that each stationary combustion turbine complies with the emissions limit via emission tests, the Permittee shall not exceed the CO_{2e} annual emission limit from Table 1, during normal operation. To determine the amount of CO_{2e}, the Permittee shall calculate the amount of CO₂, CH₄ and N₂O in TPY based on the equation G-4 of 40 CFR Part 75, Appendix G and 40 CFR Part 98, Appendix C. 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 CO_{2e} emitted in tons/hr. for the operational month. The resulting CO_{2e} value is added to the previous 11 months to determine the 12-month rolling total of CO_{2e} emissions.

The Permittee shall determine compliance with the CH₄ and N₂O emissions on a 12-month rolling total. 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 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. Stationary Combustion Turbine Work Practice and Operational Requirements

- 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 gross calorific value for a period of five years. Upon request, the Permittee shall provide a sample and/or analysis of 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 CTs 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. The Permittee shall measure and record the 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, the Permittee shall install, and continuously operate, and maintain the HRSGs equipped with a SCR so emissions are at or below the emissions limits specified in this permit and TCEQ permit PSDTX1380.
- 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, the Permittee shall use BACT practices and designs as represented in the permit application.

4. Requirements during Startup and Shutdown for EPN: STK-101, STK-102

- a. Permittee shall minimize emissions during startup 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. Permittee must record the time, date, fuel heat input (HHV) in mmBtu/hr. and duration of each startup and shutdown event in order to calculate the total CO_{2e} emissions. The records must include hourly CO₂ emission levels as measured by the fuel flow meter (or CO₂ CEMS with volumetric stack gas flowrate) and the calculations based on the actual heat input for the CO₂, CO_{2e}, N₂O, and CH₄ emissions during each startup and shutdown event based on the equations represented in the permit application. These records must be kept for five (5) years following the date of such event.
- c. During startup and shutdown, emissions from EPN: STK-101 or STK102 shall comply with all provisions of BACT emission limitations in Special Condition IV.A.1.f.

B. Requirements for Auxiliary Boiler (EPN:ABLSTK-100)

- 1. Boiler shall combust only natural gas.
- 2. Permittee shall measure and record the fuel flow rate using an inline flow meter and automatically record the data with a data acquisition and handling system.
- 3. Permittee shall calibrate and perform preventative maintenance check of the fuel gas flow meters and document annually.
- 4. Permittee shall perform cleaning of the burner tips annually, at a minimum.
- 5. Permittee shall perform cleaning of the convection section tubes annually, at a

minimum.

6. The maximum firing rate for the auxiliary boiler shall not exceed 95 MMBtu/hr.
7. A rolling 12-month average and the one-hour maximum firing rate shall be calculated daily to demonstrate compliance with the firing rates in IV.B.6.
8. Total firing hours of the auxiliary boiler may not exceed 500 hours per year.
9. Daily records of firing hours shall be recorded daily. A 12-month rolling total of boiler hours of operation shall be calculated daily to demonstrate compliance with the limitation of hours in IV.B.8.
10. Permittee shall install, operate, and maintain an automated air/fuel control system.
11. Permittee shall calibrate and perform preventative maintenance on the air/fuel control analyzers once per quarter, at a minimum.
12. Permittee shall install, operate, and maintain an O₂ analyzer on the boiler.
13. Oxygen analyzers shall continuously monitor and record oxygen concentration in the boiler. It shall reduce the oxygen readings to an averaging period of 6 minutes or less and record it at that frequency.
14. The oxygen analyzers shall be quality-assured at least quarterly using cylinder gas audits (CGAs) in accordance with 40 CFR Part 60, Appendix F, Procedure 1 § 5.1.2, with the following exception: a relative accuracy test audit is not required once every four quarters (i.e., four successive quarterly CGAs may be conducted).
15. Compliance with the Annual Emission Limit shall be demonstrated on a 12-month total, rolling monthly, calculated in accordance with 40 CFR § 98.33(a)(1)(i).

C. Requirements for the Fire Water Pumps (EPN: FWPSTK-100) and Emergency Generators (EPN: EGENSTK-100)

1. The Fire Water Pumps and Emergency Generators are authorized to fire diesel fuel containing no more than 0.0015 percent sulfur by weight. Upon request, Permittee shall provide a sample and/or an analysis of the fuel-fired in the emission units or shall allow a sample to be taken by EPA for analysis to demonstrate the percent sulfur of the fuel.
2. The Fire Water Pump and Emergency Generator are limited to 100 hours of non-emergency operation per year for each unit and a heat input value of 4.32 MMBtu/hr. and 9.38 MMBtu/hr., respectively. Compliance with the 100 hour non-emergency operational requirement is determined on a 12-month rolling total basis.
3. The Fire Water Pumps and Emergency Generators shall meet the applicable monitoring and recordkeeping requirements as required in 40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.
4. The Permittee shall install and maintain an operational non-resettable elapsed time meter for the Fire Water Pump and Emergency Generator.

5. The Permittee shall maintain a file of all records, data measurements, reports and documents related to the operation of the Fire Water Pumps and Emergency Generator, including, but not limited to, the following: all records or reports pertaining to maintenance performed, and all records relating to performance tests and monitoring of the emergency generator and fire pump equipment; for each diesel fuel oil delivery, documents from the fuel supplier certifying compliance with the fuel sulfur content limit of Special Condition IV.C.1., fuel heat input values and hours of operation required in Special Condition IV.C.2.; and all other information required by this permit recorded in a permanent form suitable for inspection. The file must be retained for not less than five years following the date of such measurements, maintenance, reports, and/or records.

D. Requirements for Fugitive Emission Sources (EPN: FUGNG-100 and SF6-100)

1. The Permittee shall implement an auditory/visual/olfactory (AVO) method for detecting leaking from natural gas piping components (EPN: FUGNG-100), and make observations on a daily basis.
2. For emission unit SF6-100, 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 75 lbs.
3. Permittee shall equip the circuit breakers with a low pressure alarm and a low pressure lockout. The alarm will alert operating personnel of any leakage in the system and the lockout will prevent any operation of the breaker due to lack of “quenching and cooling” SF₆.
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.
5. The Permittee shall provide data to show that minimal quantities of natural gas are released to the atmosphere during the turbine fuel line shutdown maintenance and when performing repair or maintenance on small equipment and fugitive components

V. RECORDKEEPING AND REPORTING

- A. 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.

1. Operating hours for all air emission sources;
 2. 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
 3. Annual fuel sampling for natural gas.
- B. The Permittee shall implement an AVO program and keep records of the monitoring results, as well as the repair and maintenance records.
- C. The 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 and 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.
- D. The Permittee shall maintain records of all GHG emission units and CO₂ emission certification tests and monitoring and compliance information required by this permit.
- E. The 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:
- 1 Time intervals, data and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;
 - 2 Applicable time and date of each period during which the monitoring equipment was inoperative (monitoring down-time);
 - 3 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
 - 4 Any failure to conduct any required source testing, monitoring, or other compliance activities.
 - 5 Any violations of limitations on operation.

- F. Excess emissions shall be defined as any period in which the facility emissions exceed a maximum emission limit set forth in this permit, or a malfunction occurs causing an emissions exceedance.
- G. 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.
- H. 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.
- I. Continuously means individual measurement no less frequent than once every 15 minutes. Electronic data may be reduced to hourly averages for recordkeeping purposes.

VI. SHAKEDOWN PERIODS

The combustion turbine emission limits and requirements in conditions III and IV.A.1., 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.

VII. 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 stacks of the CTGs and HRSGs (EPNs: STK-101, and STK-102) 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 turbines.
 - 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.** Other than within Shakedown Period under Section VI of this permit, 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 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. The owner or operator must provide the EPA at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the EPA the opportunity to have an observer present and/or to attend a pre-test meeting. If there is a delay in the original test date, the facility must provide at least 7 days prior notice of the rescheduled date of the performance test.
- D.** Performance tests must be conducted 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 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 IV.
- E.** Air emissions from each stationary combustion turbine exhaust stack (EPNs: STK-101, STK-102) shall be tested while firing at the minimum normal operation load (minimum normal load above 50 percent). The normal operating range consistent with emission limits is to be determined during stack testing. Air emissions that will be samples and analyzed while at the minimum load include (but are not limited to) CO₂ to characterize the emissions at this load.
- 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 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.

- I. Emissions testing, as outlined above, shall be performed on an annual basis, beginning one year after the initial performance test is completed.

VIII. 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