UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4
Atlanta, Georgia

Prevention of Significant Deterioration Permit
For Greenhouse Gas Emissions
Permit PSD-EPA-R4016

In accordance with the provisions of the Clean Air Act (CAA), Subchapter I, Part C, 42 U.S.C. § 7470, the implementing Prevention of Significant Deterioration (PSD) of Air Quality Regulations at the Code of Federal Regulations (CFR) Title 40, Section 52.21 (40 CFR § 52.21), and the Federal Implementation Plan (FIP) at 40 CFR § 52.37 [effective December 30, 2010, and published at 75 FR 82246 (Dec. 30, 2010)], the U.S. Environmental Protection Agency Region 4 hereby authorizes:

New Hope Power Company (NHPC)
Okeelanta Cogeneration Plant
8001 U.S. Highway 27 South
South Bay, Florida 33493

to construct and operate Greenhouse Gas (GHG) air emissions units as a modification to the existing Okeelanta Cogeneration Plant located at 8001 U.S. Highway 27 South, South Bay (Palm Beach County), Florida.

This modification to the Okeelanta Cogeneration Plant shall be constructed and operated in accordance with the terms and conditions set forth in this permit.

This permit becomes effective on April 18, 2014.

This permit addresses GHG-related PSD requirements only. For this Project, the State of Florida, through the Florida Department of Environmental Protection (FDEP), retains jurisdiction over PSD permitting for regulated pollutants other than GHGs. This permit shall not relieve the owner or operator of the responsibility to comply fully with all applicable provisions of federal and state law.

3/17/14 /signed/

Date Signed

Beverly H. Banister
Director
Air, Pesticides, and Toxics
Management Division

AUTHORITY

The EPA issues this permit pursuant to Subchapter I, Part C, of CAA, 42 U.S.C. § 7470, the implementing PSD Regulations at 40 CFR § 52.21, and the FIP at 40 CFR § 52.37 [effective December 30, 2010, and published at 75 FR 82246 (Dec. 30, 2010)]. This permit is based upon application materials submitted to the EPA by New Hope Power Company (NHPC), dated February 4, 2013; May 17, 2013; and November 11, 2013; supplemental submittals in the administrative record for this permit action, and upon the technical analysis performed by the EPA.

APPLICANT

New Hope Power Company
Okeelanta Cogeneration Plant
8001 U.S. Highway 27 South
South Bay, Florida 33493

PROJECT LOCATION

NHPC's project will be located at the existing Okeelanta Cogeneration Plant located at 8001 U.S. Highway 27 South, approximately 6 miles south of the city of South Bay (Palm Beach County), Florida.

PROJECT DESCRIPTION

NHPC has applied for a PSD air permit for the emission of GHGs pursuant to the CAA from the United States Environmental Protection Agency (EPA) Region 4 for a proposed project (Project) at the Okeelanta Cogeneration Station (Okeelanta). NHPC is proposing to build one natural-gas-fired boiler (Boiler D) to be used primarily for steam at their existing 140-megawatt (MW) net electric cogeneration facility. The facility currently operates three cogeneration boilers that combust primarily biomass (bagasse and wood) to generate steam and electricity (Boilers A, B and C). Boiler A can also fire natural gas and fuel oil. The primary fuel for Boiler D will be natural gas, with very low sulfur distillate fuel oil (fuel oil) used as backup.

This PSD permit for the Project requires the use of Best Available Control Technology (BACT) to limit emissions of GHGs to the greatest extent feasible.

EQUIPMENT LIST

The following devices and activities are subject to this PSD permit:

Unit ID	Description
Natural Gas Fired Boiler	• Maximum 1-hour combined heat input rate of 589 million British thermal units per hour (MMBtu/hr) (Higher Heating Value) • Maximum 1-hour steam production rate of 440,000 lb/hr • Use of economizer and air pre-heater

PERMIT CONDITIONS

I. PERMIT EXPIRATION

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

A. is not commenced [as defined in 40 CFR § 52.21(b)(9)] within 18 months after the approval takes effect; or

B. is discontinued for a period of 18 months or more; or

C. is not completed within a reasonable time.

II. PERMIT NOTIFICATION REQUIREMENTS

Pursuant to **Condition IX: *SPECIAL CONDITIONS***, Permittee shall notify the EPA Region 4 of the:

A. date construction is commenced, postmarked within 30 days of such date;

B. actual date of initial setting in operation for any purpose, postmarked within 15 days of such date; and

C. date upon which initial certification tests will commence, in accordance with the provisions of **Condition IX.D**, postmarked not less than 21 days prior to such date. Notification may be provided with the submittal of the certification test protocol required pursuant to **Condition IX.D**.

III. FACILITY OPERATION

A. At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, maintain and operate the facility 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.

B. The Permittee shall operate and maintain the boiler and associated components in a manner consistent with good engineering practices for its full utilization.

C. As soon as practicable following initial startup of the boiler (as defined in 40 CFR § 60.2) but prior to commencement of commercial operation, and thereafter, the Permittee shall develop and implement an operation and maintenance plan for the facility, consistent with **Condition III.B** above. At a minimum, the plan shall identify measures for assessing the performance of the facility, the acceptable range of the plant performance measures for achieving the design steam output, the methods for monitoring the plant performance measures, and the routine procedures for maintaining the facility in good operating condition.

IV. MALFUNCTION REPORTING

A. Permittee shall notify the EPA Region 4 via the contact information provided in **Condition X: *AGENCY NOTIFICATIONS*** within two (2) calendar days following the discovery of any failure of process equipment, or failure of a process to operate in a normal manner, which results in an increase in emissions above the allowable emission limits stated in **Condition IX** of this permit.

B. In addition, pursuant to **Condition X: *AGENCY NOTIFICATIONS***, Permittee shall provide written notification to the EPA within fifteen (15) calendar days of any such failure described under **Condition IV.A** above. This notification shall include 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 **Condition IX: *SPECIAL CONDITIONS***, and the methods utilized to mitigate emissions and restore normal operations.

C. 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.

V. RIGHT OF ENTRY

The EPA Regional Administrator, and/or an authorized representative, upon the presentation of credentials, shall be permitted:

A. 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;

B. 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;

C. to inspect any equipment, operation, or method subject to requirements in this PSD permit; and

D. to sample materials and emissions from the source(s).

VI. TRANSFER OF OWNERSHIP

In the event of any changes in control or ownership of the facility, this PSD permit shall be binding on all subsequent owners and operators. Within 14 days of any such change in control or ownership, Permittee shall notify the succeeding owner and operator of the existence of this PSD permit and its conditions by letter. Permittee shall send a copy of this letter pursuant to **Condition X: *AGENCY NOTIFICATIONS*** to the EPA Region 4 within thirty (30) days of its issuance.

VII. 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.

VIII. ADHERENCE TO APPLICATION AND COMPLIANCE WITH OTHER ENVIRONMENTAL LAWS

A. Permittee shall construct the Project in compliance with this PSD permit, the application on which this permit is based, 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 CAA.

B. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, or any other physical remains that could be associated with Native American cultures, or early colonial or America settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. Upon such discovery, Permittee, or other designee, shall contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at 850.245.6333 or 800.847.7278, as well as the appropriate permitting agency office

(FDEP and the EPA Region 4). Project activities shall not resume without verbal and/or written authorization from the Division of Historical Resource. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, *Florida Statutes.*

IX. SPECIAL CONDITIONS

A. Air Pollution Control Equipment and Operation

Permittee shall perform any necessary operations to minimize emissions so that emissions are at or below the emission limits specified in this permit.

B. Boiler Emission and Operational Limits and Work Practices

1. For maximized efficiency, the Permittee shall maintain efficient burner design and optimization, capture of energy from boiler blowdown, insulate the unit, and utilize instrumentation/controls to achieve high-efficiency/low-emissions performance including but not limited to practices as described in the application.

2. At all times, Permittee shall not discharge, or cause the discharge of, emissions from the boiler into the atmosphere in excess of the following:

Operating Scenario	GHG Emission Limit[1] (on gross output basis)
Natural Gas	157 pounds (lb) of carbon dioxide equivalent (CO_2e) per 1,000 lbs steam produced (30-day rolling average)
Fuel Oil	218 lb CO_2e per 1,000 lbs of steam produced (3-hour rolling average)

[1]Compliance with the above limits shall be demonstrated in accordance with **Condition IX.C.3**.

3. Except for periods of natural gas curtailment or supply interruption (as defined at 40 CFR 63.7575), boiler shall be limited to operating no more than 48 hours per 12-month rolling period when burning fuel oil. Permittee shall monitor and record hours burning fuel oil monthly and totalled every month for the previous 12 months.

4. The boiler shall maintain a heat conversion rate of heat input to usable steam of at least 85% (thermal efficiency) in any month, on a 30-day rolling average.

C. Monitoring for Boiler

1. Permittee shall record, for the boiler, the following on an hourly basis:

a. Heat input rate (MMBtu);

b. Steam output rate (1,000 lbs);

c. Unit operating time;

d. The type of fuel and amount of fuel (natural gas or fuel oil) burned.

2. Permittee shall calculate and record, for the boiler:

a. On a daily basis, a 30 day rolling average CO_2e emission rate, as described in **Condition IX.C.3,** (lbs CO_2e /1,000 lbs Steam) calculated as the sum of each hourly CO_2e emission rate times the unit operating time for the hour divided by the sum of the recorded steam output rates times the unit operating time for the hour for all hours of operation in each day averaged for the previous 30 days, while burning natural gas.

b. On an hourly basis, a 3-hour rolling average CO_2e emission rate, as described in **Condition IX.C.3,** (lbs CO_2e /1,000 lbs Steam) calculated as the sum of each hourly CO_2e emission rate times the unit operating time for the hour divided by the sum of the recorded steam output rates times the unit operating time for the hour for all hours of operation in each hour averaged for the previous 3 hours, while burning fuel oil.

c. On a daily basis, a 30 day rolling average conversion rate of heat input to steam produced, as described in Condition IX.B.4, calculated as the heat input rate times the unit operating time for the hour divided by the sum of the recorded useful steam output rates times the unit operating time for the hour for all hours of operation in day, averaged for the previous 30 days.

3. For demonstrating compliance with the limits specified in **Condition IX.B.2**, Permittee shall use the procedures set forth in 40 CFR part 98 to determine resulting GHG emissions (as CO_2e) based on the combination of calculated CO_2 emissions and calculated CO_2e of other GHG pollutants [as specified in **Condition E: *GLOBAL WARMING POTENTIAL (GWP)***]. Permittee shall keep adequate records of these GHG emission calculations according to requirements in **Condition IX.D.1**, on a daily basis**.**

D. Recordkeeping and Reporting

1. Permittee shall maintain a file of all records, data, measurements, reports, and documents related to the operation of the facility, including, but not limited to, the following:

a. All records or reports pertaining to adjustments and/or maintenance performed on any system or device at the facility pertaining to GHG emissions;

b. All other information that this permit requires the Permittee to obtain, maintain, or develop, recorded in a permanent form suitable for inspection.

2. Permittee shall maintain monitoring system records that include the following: the occurrence and duration of any startup, shutdown, malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance, duration of any periods during which monitoring data is unavailable, and corresponding emission measurements.

3. Permittee shall maintain records of all source tests and monitoring and compliance information required by this permit.

   Permittee shall maintain records and submit a written report of all deviations from permit requirements to the EPA semi-annually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, 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 September 30th and March 31st and shall include the following:

   a. If applicable, time intervals, data and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;

   b. If applicable, the time and date of each period during which the monitoring data was unavailable (monitoring down-time), except for zero and span checks, and the nature of monitoring system repairs or adjustments;

   c. A statement in the report of a negative declaration; that is, a statement when no excess emissions occurred or when the monitoring system has not been inoperative, repaired, or adjusted;

   d. Any failure to conduct any required source testing, monitoring, or other compliance activities; and

   e. Any violation of limitations on operation, including but not limited to restrictions on hours of operation.

5. Excess emissions shall be defined as any period in which the facility emissions exceed the maximum emission limits set forth in this permit.

6. A period of monitoring down-time shall be any unit operating clock hour in which sufficient data are not obtained by the monitoring methods to validate the hour for CO_2e.

7. Excess emissions indicated by the monitoring, source testing, or compliance monitoring shall be considered violations of the applicable emission limit for the purpose of this permit.

8. Permittee shall maintain a copy of the current operation and maintenance plan for the facility, and shall keep a copy of all prior versions of the plan for a minimum of five years. Permittee shall also keep records of the monitoring data for each of the facility

performance measures and all maintenance activities; the Permittee shall maintain such records for a minimum of five years following the date they are created

9. Unless otherwise specified herein, all records required by this PSD permit shall be retained for not less than five (5) years following the date of such measurements, maintenance, reports, and/or records. These records shall be made available for review upon request by the Agency or authorized representative during the course of an inspection.

E. Global Warming Potential (GWP)

For the purposes of showing compliance with any GHG emission limit in this permit, the GWP factors listed in 40 CFR part 98, subpart A, Table A-1 as of the date of this permit shall be used. The current GWP factors are listed below:

GHG Pollutant	GWP Factor
CO_2	1
CH_4	25
N_2O	298

X. AGENCY NOTIFICATIONS

All notifications, reporting or other communications relating to this permit shall be submitted to:

Chief
Air & EPCRA Enforcement Branch
Air, Pesticides and Toxics Management Division
U.S. EPA Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

In addition, electronic copies of the above-referenced notifications and communications shall be submitted to the following individuals at their corresponding email address:

Name	Email	Phone
Jason Dressler	dressler.jason@epa.gov	404-562-9208
Katy R. Lusky	forney.kathleen@epa.gov	404-562-9130
Heather Ceron	ceron.heather@epa.gov	404-562-9185