Florida Department of Environmental Protection

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PERMITTEE

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

Authorized Representative:
Mr. Jose Gonzalez, General Manager & Vice President

Air Permit No. 0990332-019-AC
Permit Expires: December 31, 2013
SIC No. 4911
Cogeneration Boiler A
Installation of Natural Gas Burners
Palm Beach County

PROJECT

The Okeelanta Cogeneration Plant is located off U.S. Highway 27 South approximately six miles south of South Bay in Palm Beach County, Florida. The UTM coordinates of the facility are Zone 17, 524.9 kilometers (km) East and 2940.1 km North. The project is the installation four natural gas burners in Cogeneration Boiler A. Each natural gas burner will have a rating of 100 million British thermal units per hour.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida
Electronic Signature

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Written Notice of Intent to Issue Air Permit package (including the Written Notice of Intent to Issue Air Permit, the Public Notice of Intent to Issue Air Permit, the Technical Evaluation and Preliminary Determination and the Draft Permit) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Mr. Jose Gonzalez, NHPC: Jose_Gonzalez@floridacrystals.com
Mr. Micah Leis, NHPC: Micah_Leis@floridacrystals.com
Mr. Ricardo Lima, Okeelanta Corporation: Ricardo_Lima@floridacrystals.com
Mr. David Buff, P.E., Golder Associates: dbuff@golder.com
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Ms. Heather Ceron, EPA Region 4: ceron.heather@epa.gov
Ms. Lynn Scearce, DEP PC Reading File: lynn.scearce@dep.state.fl.us
Ms. Barbara Friday, DEP Reading File: barbara.friday@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.
Electronic Signature

FACILITY DESCRIPTION

The facility consists of two adjacent plants. The Okeelanta Corporation operates a sugar mill and a sugar refinery (ARMS Facility I.D. No. 0990005) including packaging and transshipment activities. New Hope Power Company (the permittee) operates a 140 megawatts cogeneration plant (DEP File No. 0990332) that provides process steam for the sugar mill/refinery and generates electricity for sale to the power grid. The cogeneration plant, sugar mill, and sugar refinery are all considered a single facility for purposes of the Prevention of Significant Deterioration (PSD) and Title V regulatory programs. The facility is located off U.S. Highway 27 South, approximately six miles south of South Bay in Palm Beach County, Florida. The UTM coordinates of the facility are Zone 17, 524.9 kilometers (km) East and 2940.1 km North.

PROJECT DESCRIPTION

The following emission unit (EU) is affected by this permitting action.

EU ID No.	Emission Unit Description
001	Cogeneration Boiler A (760 MMBtu/hour)

Cogeneration Boiler A currently burns biomass (bagasse and wood) as its primary fuel and No. 2 fuel oil (maximum sulfur content of 0.05 percent by weight) as a supplemental fuel to generate steam. The permittee requests authorization to install four natural gas burners in Cogeneration Boiler A. The natural gas burners will be installed in each of the four corners of the boiler. Each natural gas burner will have a rating of 100 million Btu per hour (MMBtu/hour) for a total natural gas firing capability of 400 MMBtu/hour.

Cogeneration Boiler A was previously permitted to burn natural gas (Permit Nos. 0990332-013-AC/PSD-FL-196L through 0990332-017-AC/PSD-FL-196P); however, the natural gas burners were never installed in the boiler. Once the burners are installed, natural gas will be burned as a supplemental fuel, similar to the manner in which No. 2 fuel oil is currently burned. Biomass will remain the primary fuel. Natural gas will be used as for flame and load stabilization, as well as during periods of startup, shutdown, and malfunction. Additionally, natural gas may be fired alone at certain times up to the full natural gas firing capability. As already required by an existing permit (Permit No. 0990032-017-AC/PSD-FL-192P), fossil fuels will not be burned for more than 25 percent of the heat input to the boiler during any calendar quarter.

The permittee plans to install the natural gas burners prior to the beginning of the 2012 sugar cane crop season, which will begin in approximately October 2012. The following equipment will be installed:

- Burner elements, including tilting air nozzles and gas injectors;
- Natural gas pilots;
- Flame scanners for main burners;
- Main and pilot piping module assembly;
- Burner gas shutoff and vent valves;
- Flexible gas hoses to burners;
- Burner management system; and
- Interconnecting piping, tubing, conduit, and wiring.

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility does **not** operate units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the PSD of Air Quality.

- The facility operates units that are subject to the New Source Performance Standards (NSPS) in Part 60, Title 40 of the Code of Federal Regulations (CFR) and the National Emissions Standards for Hazardous Air Pollutants (NESHAP) in Part 60, Title 40 of the CFR.

PREVIOUS APPLICABLE REQUIREMENTS

The conditions of this permit supplement all previously issued air construction and operation permits for this emission unit. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations. [Rule 62-4.070, F.A.C.]

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department of Environmental Protection (Department). The Office of Permitting and Compliance mailing address is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. All documents related to applications for permits to operate an emissions unit shall be submitted to the Air Resource Section of the Department's South District Office at: 2295 Victoria Avenue, Suite 364, Fort Myers, Florida 33902-2549. The telephone number is 239/344-5651 and the fax number is 850/412-0590. Copies shall be sent to each agency identified under Compliance Authority.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Air Resource Section of the Department's South District Office at: 2295 Victoria Avenue, Suite 364, Fort Myers, Florida 33902-2549. The telephone number is 239/344-5651 and the fax number is 850/412-0590. Copies of all such documents shall also be submitted to the Air Pollution Control Section of the Palm Beach County Health Department at P.O. Box 29, West Palm Beach, Florida 33402-0029 (Telephone No. 561/837-5900 and Facsimile No. 561/837-5295).

3. Appendices: The following Appendix is included in Section 4 of this permit:

   - Appendix A: Citation Formats and Glossary of Common Terms;
   - Appendix B: General Conditions: and
   - Appendix C: Common Conditions.

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Source Obligation:

   (a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

   (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

8. Application for Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

9. Actual Emissions Reporting: This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.

   a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.

   b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 5-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

      1) The name, address and telephone number of the owner or operator of the major stationary source;

      2) The annual emissions calculations pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;

      3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and

      4) Any other information that the owner or operator wishes to include in the report.

   c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

   For this project, the permit requires the annual reporting of actual NO_X, CO and SO_2 emissions for the following units: Cogeneration Boiler A (EU 001).

   [Application 0990332-019-AC; and Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

This section of the permit addresses the following emission unit.

EU ID No. 001	Cogeneration Boiler A
Description: This unit is a biomass-fired spreader stoker steam boiler manufactured by Zurn and designed to produce approximately 506,100 pounds per hour of steam at 1500 pounds per square inch, gage (psig) and 975 degrees Fahrenheit (°F). *Fuels and Capacity*: The primary fuel is biomass (760 MMBtu/hour), which includes bagasse from the adjacent sugar mill and clean wood material delivered to the plant by area subcontractors. The auxiliary fuels are natural gas (400 MMBtu/hour) as a result of this permitting action and very low sulfur distillate oil (490 MMBtu/hour). *Controls*: Pollution control equipment includes low nitrogen oxide (NO_X) burners for gas firing, a selective non-catalytic reduction system to reduce NO_X emissions, mechanical dust collectors and an electrostatic precipitator to reduce particulate matter (PM) emissions, and an activated carbon injection system to reduce potential mercury emissions. Good combustion practices and the efficient combustion of clean, low sulfur fuels minimize emissions of carbon monoxide (CO), sulfuric acid mist (SAM), sulfur dioxide (SO_2), and volatile organic compounds (VOC). *Stack Parameters*: Exhaust gases exit a 10 feet diameter stack that is at least 199 feet tall and with a volumetric flow rate of approximately 319,000 actual cubic feet per minute (acfm) at 352 °F.	

CONSTRUCTION DETAILS

1. New Construction: This minor permit modification authorizes the addition of four 100 MMBtu/hour low NO_X natural gas burners to Cogeneration Boiler A for a total natural gas firing capacity of 400 MMBtu/hour. The natural gas burners will be installed in each of the four corners of the boiler. This will match the existing natural gas burning capability of Cogeneration Boilers B and C (EU 002 and 003). The natural gas burners will be installed at the location of the existing overfire air ports. Two of the five port nozzles in each corner will be replaced with the natural gas burners. Within 10 days of establishing commercial operation utilizing the natural gas burners, the permittee shall notify the Compliance Authority. The notification shall include the date of commercial startup and identify any substantial changes in the final equipment that differ from the application. [Design; Rule 62-4.070(3), F.A.C.]

OPERATIONAL RESTRICTIONS

2. Permitted Capacity: The maximum heat input rate to Boiler A shall not exceed 400 MMBtu/hour when burning 100 percent natural gas. [Application; Rules 62-212.400 and 62-4.070(3), F.A.C.]

3. Auxiliary Fuel: Boiler A is authorized to fire pipeline quality natural gas as a startup and auxiliary fuel. [Application; Rules 62-212.400 and 62-4.070(3), F.A.C.]

4. Fossil Fuel Limitation: The firing of fossil fuels shall be less than 25 percent of the total heat input to Boiler A during any calendar quarter. [Application; Rules 62-212.400 and 62-4.070(3), F.A.C.]

5. Fuel Records: The permittee install a natural gas flow meter on Boiler A to determine the fuel consumption rate. [Application; Rules 62-212.400 and 62-4.070(3), F.A.C.]

APPLICABLE NSPS

6. NSPS Subpart Da: Boiler A is subject to the requirements of NSPS 40 CFR 60, Subpart Da - Standards of Performance for Electric Utility Steam Generating Units. This standard has emission limits for PM, SO_2 and NO_X applicable to Boiler A when firing natural gas. [NSPS 40 CFR 60, Subpart Da]

EMISSION LIMITS

7. PM Emission Limits: The NSPS Subpart Da PM limit is 0.03 lb/MMBtu of heat input for all fuels. Compliance is shown by a three run stack test average. Meeting the previously set PM BACT emission limit of 0.026 lb/MMBtu by a three run stack test average ensures compliance with the NSPS Subpart Da emission limit. [NSPS 40 CFR 60, Subpart Da and PSD-FL-196L]

8. SO_2 Emission Limits: The NSPS Subpart Da SO_2 limit is 0.20 lb SO_2/MMBtu of heat input for liquid and gaseous fuels not derived from solid fuel. Compliance is by a continuous emission monitoring system (CEMS) on a 30-day rolling average basis. Meeting the previously set SO_2 BACT emission limit of 0.20 lb/MMBtu on a 24-hour rolling average basis ensures compliance with the NSPS Subpart Da emission limit. [NSPS 40 CFR 60, Subpart Da and PSD-FL-196L]

9. NO_X Emission Limits: The NSPS Subpart Da NO_X limit is 0.20 lb/MMBtu of heat input for gaseous fuels not derived from coal. Compliance is by a CEMS on a 30-boiler operating day rolling average basis. Meeting the previously set NO_X BACT emission limit of 0.15 lb/MMBtu on a 30-boiler operating day rolling average basis ensures compliance with the NSPS Subpart Da emission limit. [NSPS 40 CFR 60, Subpart Da and PSD-FL-196L]

MONITORING AND REPORTING

10. Monitoring while Firing Natural Gas: Monitoring while firing natural gas to show that PSD significant emission rates (SER) were not exceeded as a result of this project shall be performed in accordance with the procedures given in **Specific Conditions 29.d and 29.e** of permit PSD-FL-196L. [Application; Rules 62-212.400 and 62-4.070(3), F.A.C]