PERMIT APPLICATION

BACT ANALYSIS FOR GREENHOUSE GAS EMISSIONS FROM NEW NATURAL GAS-FIRED BOILER

New Hope Power Company
Okeelanta Cogeneration Plant

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1.0 INTRODUCTION

New Hope Power Company (NHPC) operates a 140-megawatt (MW) net electric cogeneration facility located adjacent to the Okeelanta Corporation sugar mill and refinery, approximately 6 miles south of South Bay in Palm Beach County, Florida. The facility has three essentially identical cogeneration boilers (Cogeneration Boilers A, B, and C) that combust primarily biomass (bagasse and wood) to generate steam and electricity. The cogeneration facility generates steam to produce electrical energy year-round, but also supplies the adjacent sugar mill with process steam during the sugar cane grinding season, approximately October through March. The facility also supplies the Okeelanta sugar refinery with process steam year-round.

NHPC is proposing to add a fourth boiler, "Boiler D", to the facility. Boiler D will be fired primarily with natural gas, with No. 2 fuel oil used only as a backup fuel. The new gas-fired boiler will allow NHPC the flexibility to produce steam and electricity year-round from all four boilers based on the most economical fuel or fuel mix, using bagasse, wood, No. 2 fuel oil, and/or natural gas. The current maximum electrical generating capacity of the facility (140 net MW) will not be increased with the addition of the new boiler.

Boiler D will have a maximum 1-hour average heat input rate of 589 million British thermal units per hour (MMBtu/hr) and a maximum 24-hour average heat input rate of 536 MMBtu/hr. The corresponding steam production rates are 440,000 pounds per hour (lb/hr) as a 1-hour average, and 400,000 lb/hr as a 24-hour average. The new gas-fired boiler will be permitted for 8,760 hours per year (hr/yr) operation.

The primary fuel for Boiler D will be natural gas, with very low sulfur distillate fuel oil used as backup. The distillate fuel oil will contain a maximum sulfur content of 0.05 percent. To control emissions of oxides of nitrogen (NO_x), the boiler will use ultra low-NO_x burners for firing natural gas and distillate oil. The very low sulfur content of the fuels utilized will control emissions of particulate matter (PM), sulfur dioxide (SO_2), mercury (Hg), and metals. A modern combustion system design and overfire air system will control emissions of carbon monoxide (CO) and volatile organic compounds (VOCs).

The construction of the new boiler requires an air construction permit and prevention of significant deterioration (PSD) approval. PSD approval requires the submission of air quality assessments for determining the facility's compliance with state and federal new source review (NSR) regulations. The critical aspects of these assessments include the air quality impact analyses performed using appropriate air dispersion models and the Best Available Control Technology (BACT) analyses that must be performed to evaluate the selected emission control technology.

The U.S. Environmental Protection Agency (EPA) has implemented regulations requiring a PSD review for new and modified sources with air emissions above certain threshold amounts. EPA's PSD regulations

are promulgated under Title 40, Parts 52 and 51.166 of the Code of Federal Regulations (40 CFR 52 and 51.166). Florida's PSD regulations are codified in Rule 62-212.400 of the Florida Administrative Code (F.A.C.). The Florida PSD regulations incorporate the requirements of EPA's PSD regulations. The new natural gas-fired boiler will be a "major modification" of an existing major source under PSD rules.

Based on the potential emissions from Boiler D, PSD review is required for each of the following regulated pollutants:

- NO_x
- CO
- PM with an aerodynamic diameter less than or equal to 10 microns (PM_{10})
- PM with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$)
- Greenhouse gases (GHGs)

Palm Beach County has been designated as an attainment area for several criteria pollutants: $PM_{2.5}$, SO_2, CO, and nitrogen dioxide (NO_2). Palm Beach County is unclassifiable for PM_{10} and lead (Pb), and a maintenance area for ozone (O_3). Palm Beach County is a PSD Class II area for PM_{10}, $PM_{2.5}$, SO_2, CO, NO_2, Pb, and VOCs. Therefore, the PSD review for Boiler D will follow the regulations pertaining to these designations. For each pollutant subject to PSD review, the following analyses are required:

1. Ambient monitoring analysis, unless the net increase in emissions due to the modification causes impacts that are below specified significant impact levels (SILs)
2. Application of BACT for each new or modified emissions unit
3. Air quality impact analysis, unless the net increase in emissions due to the modification causes impacts that are below specified SILs
4. Additional impact analysis (impact on soils, vegetation, visibility, and growth), including impacts on PSD Class I areas

The new boiler will be a minor source of hazardous air pollutants (HAPs), but the NHPC facility is a major source of HAPs.

The Florida Department of Environmental Protection (FDEP) has been delegated PSD review authority in Florida for all PSD pollutants with the exception of GHGs. Because Florida has not yet adopted EPA's PSD regulations related to GHG emissions, EPA retains PSD review authority for GHGs. EPA's authority is contained in a Federal Implementation Plan (FIP) that became effective on December 30, 2010. The FIP includes the EPA PSD regulations contained in 40 CFR 52.21, including the PSD applicability provisions, but applies only to GHGs.

As a result, a PSD permit application for the new Boiler D has been submitted to the FDEP that addresses NO_x, CO, PM_{10}, and $PM_{2.5}$. A copy of the FDEP PSD application is being provided separately to EPA Region 4.

The PSD application for GHG emissions, which requires a BACT analysis, is contained in this report. The GHG BACT analysis is contained in Section 2.0. Compliance with other federal requirements, including the Endangered Species Act, is addressed in Section 3.0 of this report.

2.0 BEST AVAILABLE CONTROL TECHNOLOGY ANALYSIS FOR GHGS

2.1 BACT Requirements

The 1977 Clean Air Act (CAA) Amendments established requirements for the approval of pre-construction permit applications under the PSD program. One of these requirements is that BACT be applied to pollutants that are subject to PSD review. This section presents the proposed BACT for GHGs. The approach to the BACT analysis is based on the regulatory definitions of BACT, as well as consideration of EPA's current policy guidelines requiring a "top-down" approach. A BACT determination requires a site-specific analysis of the technical, economic, environmental, and energy impacts of the proposed and alternative control technologies [40 CFR 52.21 (b)(12)].

The "top-down" approach consists of the following five steps, as described in the New Source Review Workshop Manual-Draft (EPA, 1990):

1) Identification of all available control technologies
2) Elimination of technically infeasible control options
3) Ranking of the technically feasible control technologies based on their effectiveness
4) Evaluation of the economic, environmental, and energy impacts of the feasible control options
5) Selection of BACT based on consideration of the above factors

For the proposed NHPC Boiler D project, PM/PM_{10}/$PM_{2.5}$, NO_x, CO, and GHGs are subject to PSD review and as a result, BACT review is required for these pollutants. In each case, BACT is an emission limitation that meets the maximum degree of emission reduction after taking into account the proposed project's specific economic, environmental, and energy impacts, while considering the application of the technologies proposed. If it is impractical to impose an emission limit, a work practice standard may be specified.

EPA has issued several guidance documents addressing BACT for GHG emissions from electric utility and industrial combustion sources. These documents include the following:

- PSD and Title V Permitting Guidance for Greenhouse Gases, November 2010
- Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from Industrial, Commercial, and Institutional Boilers, October 2010
- Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from Coal-Fired Electric Generating Units, October 2010
- Proposed New Source Performance Standards (NSPS) for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, 40 CFR 60, Subpart TTTT [77 Federal Register (FR) No. 72, pg. 22392, April 13, 2012]

The BACT analysis for Boiler D at NHPC follows these guidance documents. The following sections provide the required BACT analysis for GHGs.

2.2 Greenhouse Gases

As part of the BACT analysis, a review was performed of previous GHG BACT determinations for similar natural gas-fired industrial and electric utility boilers listed in the RACT/BACT/LAER Clearinghouse on EPA's web page. EPA's GHG permitting website was also reviewed. From this information, BACT determinations issued within the last 10 years (i.e., since 2002) were identified. A summary of these BACT determinations is presented in Table 2-1.

From the review of previous BACT determinations, there have only been three known BACT determinations for new natural gas-fired boilers. GHG BACT determinations for new natural gas-fired industrial and electric utility boilers have been based on clean (low-carbon) fuels and energy efficiency improvements. Only one previous BACT determination has a numerical emission limit, which is 117 pounds per million British thermal units (lb/MMBtu). The other two BACT determinations are based on good combustion or good operating practices.

2.2.1 Step 1 – Identification of Control Technologies

In the BACT analysis, GHGs are considered as a single air pollutant, which is the aggregate group of the six principal gases, carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). The aggregate of these emissions is expressed as CO_2 equivalents (CO_2e). CO_2 emissions result from the oxidation of carbon in the fuel, CH_4 emissions result from incomplete combustion, and N_2O emissions result primarily from low temperature combustion. CO_2, N_2O, and CH_4 are the principal GHGs that will be emitted from the new natural gas-fired boiler. Emissions of CH_4 and N_2O from natural gas-fired boilers are extremely low, and as a result, control options for these pollutants are not discussed.

EPA recommends that permit applicants and permitting authorities identify all "available" GHG control options that have the potential for practical application to the source under consideration. In the PSD and Title V Permitting Guidance for GHGs (EPA, 2010), EPA emphasizes two mitigation approaches for CO_2: energy efficiency and carbon capture and storage (CCS). The Guidance for GHGs also states that clean fuels, which would reduce GHG emissions, should be considered while recognizing at the same time that the BACT analysis does not need to include a clean fuel option that would fundamentally redefine the source.

In EPA's "Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from Industrial, Commercial, and Institutional Boilers" (October 2010), a number of GHG reduction measures are

identified. These include various energy efficiency improvements, post-combustion techniques (CCS), and other measures such as fuel switching and combined heat and power applications.

GHG emission control options are discussed below.

2.2.1.1 Clean Fuel

The definition of BACT in 40 CFR 52.21(b)(12) includes use of clean fuels as a pollution control technique. The combustion of natural gas emits almost 30 percent less CO_2 than fuel oil, and just under 45 percent less CO_2 than coal (source: 40 CFR 98, Subpart C; www.naturalgas.org). The proposed boiler will be fired primarily with natural gas, with No. 2 fuel oil used only as a backup fuel when natural gas is not available. Indeed, natural gas offers the lowest GHG emissions of all fuels available.

2.2.1.2 Energy Efficiency

Energy efficiency falls under the general category of lower-polluting processes/practices. Applying technologies, measures, and options that are energy efficient translates not only to the reduction of emissions of the particular regulated NSR air pollutant undergoing BACT review, but it also may achieve collateral reductions of emissions of other pollutants. There are different categories of energy efficient improvements:

- Technologies or processes that maximize the efficiency of the individual emissions unit
  - Replace/upgrade burners
  - Tuning
  - Optimization
  - Instrumentation and controls
  - Economizer
  - Air preheater
  - Insulation
  - Reduce air leakages
  - Capture energy from boiler blowdown
  - Condensate return
  - Reduce slagging and fouling of heat transfer surfaces
  - Insulating jackets
  - Reduce steam trap leaks
- Options that could reduce emissions from a new green field facility by improving the utilization of thermal energy and electricity that is generated and used on site (i.e., combined heat and power)

When the efficiency of the steam generation and power generation process is increased, less fuel is burned to produce the same amount of steam and electricity. This provides the benefits of lower fuel costs and reduced air pollutant emissions [including CO_2 on a pound per megawatt-hour (lb/MW-hr) basis]. In addition, a boiler that is a cogeneration unit produces both electric energy and additional useful thermal energy, which adds significantly to the overall energy efficiency of the unit.

2.2.1.3 Carbon Capture and Storage

CCS falls under the category of add-on controls, which are air pollution control technologies that remove pollutants from a facility's emissions stream (flue gas). As identified in EPA's *PSD and Title V Permitting Guidance for Greenhouse Gases*, EPA classifies CCS as an add-on pollution control technology that is "available" for large CO_2-emitting facilities including fossil fuel-fired power plants and industrial facilities with high-purity CO_2 streams. As a result, EPA requires that CCS be considered in Step 1 of the BACT analysis.

CCS is composed of three main components: CO_2 capture and/or compression, transport, and long-term, perpetual storage.

Carbon Capture – Before CO_2 gas can feasibly be stored, it must be captured as a relatively pure gas. Most power plants and other large point sources use air-fired combustors, a process that exhausts CO_2 diluted with nitrogen. According to the U.S. Department of Energy, flue gas from the combustion of fossil fuels contains approximately 5 to 15 percent CO_2. For effective carbon sequestration, the CO_2 in these exhaust gases must be separated and concentrated.

According to the Department of Energy's National Energy Technology Laboratory (NETL), technologies for capturing CO_2 from relatively dilute streams such as those produced by power generation facilities are less common. These technologies currently include amine and chilled ammonia solvent systems, which have been used with coal-based power plant applications.

The Carbon Sequestration Leadership Forum (CSLF), a ministerial-level international climate change initiative comprised of 24 member nations representing over 60 percent of the world's population, states: "Evolutionary improvements in existing CO_2 capture systems and revolutionary new capture and sequestration concepts will be needed to bring carbon capture costs down." The most likely options currently identifiable for CO_2 separation and capture include the following:

- Absorption (chemical and physical)
- Adsorption (chemical and physical)
- Low-temperature distillation

- Gas separation membranes
- Mineralization and biomineralization (http://www.cslforum.org/education/index.html#inFocus)

Carbon Transport – After the CO_2 is captured, it must be transported to a carbon sequestration site. Pipelines are the most common method for transporting large quantities of CO_2 over long distances. Shipping CO_2 via pipeline involves compressing gaseous CO_2 to a pressure above 1,160 pounds per square inch (psi), to increase CO_2 density and make it easier and less expensive to ship. A CO_2 pipeline would be similar to a high pressure natural gas pipeline. CO_2 also can be transported as a liquid in seagoing vessels or via tankers on roads or railways. In these instances, the CO_2 is held in insulated tanks at low temperatures and relatively low pressures.

Carbon Storage – In a CCS system, CO_2 is captured, transported if necessary, and then stored. Geologic formations such as depleted oil and gas reservoirs, unmineable coal seams, and underground saline formations are potential options for long-term storage. Pressurized CO_2 is injected into the deep geologic formations through drilled wells. Under high pressure, CO_2 turns to liquid and can move through a formation as a fluid. Once injected, the liquid CO_2 tends to be buoyant and will flow upward until it encounters a barrier of non-porous rock, which can trap the CO_2 and prevent further upward migration. When CO_2 is injected into a coal seam, it is adsorbed onto the coal surfaces, and methane gas is released and produced in adjacent wells. This technology is available. There are other mechanisms for CO_2 trapping as well: CO_2 molecules can dissolve in brine; react with minerals to form solid carbonates; or adsorb in the pores of porous rock.

Deep saline formations, which are layers of porous rock saturated with brine, present an enormous potential for geologic storage of CO_2. However, the industry doesn't have as much experience with saline formations as they have acquired through resource recovery from oil and gas reservoirs and coal seams. There is ongoing research focused on storage in organic rich shale, which is a thin horizontal layer of sedimentary rock with low vertical permeability, and in basalt formations, which are geologic formations of solidified lava. Other possible options include liquid storage in the ocean.

2.2.2 Step 2 – Technical Feasibility

Under the second step of the top-down BACT analysis, all available control techniques listed in Step 1 may be eliminated from further consideration if they are not technically feasible for the specific source and unit under review. EPA considers a technology to be technically feasible if it has been demonstrated and operated successfully on the same type of source under review.

2.2.2.1 Clean Fuels

Use of clean fuels is considered to be a technically feasible GHG emission control option for the new natural gas-fired boiler. The proposed boiler will primarily fire pipeline quality natural gas, with No. 2 fuel oil as backup, which are considered to be "clean fuels". Natural gas is considered to be the cleanest fuel available, as its CO_2e emissions are the lowest of any fossil fuel or biomass fuel. The use of No. 2 fuel oil will also be limited to a maximum of 15 percent of the potential total heat input on an annual basis.

2.2.2.2 Energy Efficiency

Efficient steam generation and power generation is considered to be technically feasible for the new natural gas boiler. Several techniques to improve energy efficiency were identified in Subsection 2.2.1.2. However, some of these techniques are only applicable to existing steam generating units. The techniques applicable to new steam generating units (boilers) are as follows:

- Efficient burner design
- Optimization
- Instrumentation and controls
- Economizer
- Air preheater
- Insulation
- Capture energy from boiler blowdown
- Condensate return
- Reduce slagging and fouling of heat transfer surfaces
- Insulating jackets
- Reduce steam trap leaks

2.2.2.3 Carbon Capture and Storage

In the PSD and Title V Permitting Guidance for GHGs, EPA states that it does not believe CCS will be a technically feasible BACT option in certain cases at this time. To establish that an option is technically feasible, the permitting record should show either that an available control option has been demonstrated in practice or is available and applicable, with the term "applicable" generally meaning a technology can reasonably be installed and operated on the source type under consideration. EPA recognizes the significant logistical hurdles that the installation and operation of a CCS system presents and that sets it apart from other add-on controls that are typically used to reduce emissions of other regulated pollutants.

It should also be noted that while CCS may be available as identified in EPA's PSD and Title V Permitting Guidance for Greenhouse Gases (November 2010), there are no CCS systems "commercially available" for full-scale power plants in the United States. Logistical hurdles for CCS include appropriate geological

formations within a reasonable distance, obtaining contracts for offsite land acquisition (including the availability of land), the need for funding (including, for example, government subsidies), timing of available transportation infrastructure, and developing a site for secure long term storage. Not every source has the resources to overcome the offsite logistical barriers necessary to apply CCS technology to its operations, and smaller sources will likely be more constrained in this regard. Based on these considerations, a permitting authority may conclude that CCS is not applicable to a particular source, and consequently not technically feasible, even if the type of equipment needed to accomplish the compression, capture, and storage of GHGs are determined to be generally available from commercial vendors.

There are no known applications of CCS for controlling CO_2 emissions from boilers in Florida, and there is uncertainty as to the location of available and acceptable geologic formations for long-term CO_2 storage. NHPC, being an independent cogeneration facility, does not have the financial resources required to implement CCS, and CCS if required would certainly render the project economically infeasible. Due to lack of commercial demonstration, CCS is considered to be technically and economically infeasible for controlling the CO_2 emissions from the new natural gas-fired boiler.

2.2.3 Step 3 – Rank Control Technologies by Control Effectiveness

Of the three potential control technologies discussed above, use of clean fuels and energy efficiency techniques are the technically feasible CO_2 control technologies (see Table 2-2). Together, these technologies present the top CO_2 control options.

2.2.4 Step 4 – Evaluation of Economic, Environmental, and Energy Impacts of Feasible Technologies

Under Step 4 of the top-down BACT analysis, economic, energy, and environmental impacts are evaluated for each option remaining under consideration. Energy efficiency improvements generally reduce emissions of all pollutants resulting from combustion processes, so any energy efficiency improvements are desirable. The new natural gas-fired boiler will be designed to maximize its thermal efficiency and will use clean fuels. Therefore, there are no additional economic impacts associated with these options.

The CCS option was eliminated in Step 2 as not technically feasible for the project. Although EPA considers CCS as technically available, it is not commercially available. Indeed, EPA recognizes that at present, CCS is an expensive technology, largely because of the costs associated with CO_2 capture and compression. In the Guidance, EPA states that even if not eliminated in Step 2 of the BACT analysis, on the basis of the current costs, CCS is more likely to be eliminated from consideration in Step 4 of the

BACT analysis, even in some cases where underground storage of the captured CO_2 near the facility is feasible.

2.2.5 Step 5 – Selection of BACT and Rationale

The efficiency of the generation technology in producing steam and electricity, and the fuel utilized, are the most important aspects in GHG emissions from industrial boilers and electric generation facilities. Together, efficiency and fuel type dictate the amount of GHG emissions per unit of steam production or electrical generation.

The new natural gas-fired boiler will be designed for a thermal efficiency of 85 percent. Although the specific boiler manufacturer has not yet been selected, the manufacturer will be required to supply a boiler with a minimum thermal efficiency of 85 percent. Energy efficiency measures incorporated into the proposed Boiler D will include the following:

- Efficient burner design, consistent with ultra-low NO_x emissions.
- Optimization – boiler operation will be optimized through the control system and initial tuning, and operated according to the manufacturer's recommendations through a boiler-specific Operation and Maintenance (O&M) Plan.
- Instrumentation and controls – a modern digital control system including an oxygen or CO_2 monitor will be installed on the boiler.
- Economizer – used to preheat boiler feedwater using boiler flue gas stream, which maximizes energy efficiency. Based on a design of other similar boilers, the temperature of the flue gas at the entrance of the economizer will be approximately 550 to 600 degrees Fahrenheit (°F) while the exit temperature will be 300°F or less.
- Insulation and refractory – significant heat loss can occur through the boiler shell, especially for large boilers. The proposed new boiler will be properly insulated by the manufacturer to minimize the heat energy losses. The radiation losses are expected to be less than 1 percent at full load, and less than 2 percent at 25-percent load. This demonstrates that radiation losses will be minimal.
- Minimize air leakages – NHPC will employ good maintenance practices to minimize air leakage during operation. Operational monitoring will also be used to identify air leakage conditions and sources. This monitoring will be incorporated into the O&M Plan.
- Capture energy from boiler blowdown – boiler blowdown is required to maintain water quality. However, some energy is lost. This waste heat can be recovered with a heat exchanger, flash tank, etc. to improve the overall efficiency of the boiler. Based on EPA's Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from Industrial, Commercial, and Institutional Boilers document, any boiler with continuous blowdown exceeding 5 percent of the steam rate is a good candidate for considering blowdown waste heat recovery. The new natural gas-fired boiler is expected to have a design continuous blowdown of less than 5 percent.
- Condensate return system – the new boiler's makeup water system will be incorporated into the existing makeup water system for the existing three cogeneration boilers.

This will take advantage of systems already in place to recover energy from the condensate.

- Reduce slagging and fouling of heat transfer surfaces – primarily through use of natural gas fuel.
- Steam line design and maintenance – appropriate measures will be included in the O&M Plan.

The boiler will also be operated very efficiently using clean fuels such as natural gas and low-sulfur fuel oil. An O&M Plan will be developed prior to boiler startup which will include measures to minimize the deterioration in boiler efficiency over time. The natural gas-fired boiler at NHPC will be brand new and specifically designed for its intended use at NHPC. Although some deterioration in the design efficiency of the boiler is expected to occur over time, based on the history of maintenance and operation at Okeelanta Cogeneration facility, the deterioration is expected to be minimal. Equipment deterioration primarily occurs over time with continued use. NHPC will schedule sufficient time for maintenance of the new boiler each year to minimize equipment deterioration over time.

In addition to the above measures, the boiler will be operated to produce both electrical energy and useful thermal energy, enhancing the energy efficiency of the unit. This measure will constitute the most significant energy efficiency method employed by the new boiler. The steam from the boiler is first sent through electric turbine generators, where electricity is generated. The steam discharging from the turbine generators, now at a lower pressure and temperature, is then sent to the Okeelanta sugar mill and refinery to provide useful thermal energy to the sugar production process.

Based on the above measures which will be implemented as BACT, no additional improvements in energy efficiency are necessary. Air preheat is a technique typically used in much larger boilers, such as those used in the electric utility industry, with heat inputs in excess of 1,000 MMBtu/hr and twice as large at the proposed natural gas-fired boiler. The proposed boiler will have a design efficiency of more than 80 percent. Installation of an air preheater is not practical for this boiler. An air preheater would also impose additional pressure loss on the system.

Natural gas will be used as the primary fuel in the proposed boiler, with No. 2 fuel oil as a backup fuel. This is consistent with the definition of BACT, which states that a design, equipment, work practice, operational standard, or combination thereof, may be prescribed instead to satisfy the requirement for the application of best available control technology.

NHPC has performed a calculation of Boiler D's projected CO_2 emission in terms of lb/MW-hr (Appendix A), using standard CO_2 emission factors for natural gas and No. 2 fuel oil. The calculations take into account

a margin to account for an actual boiler efficiency less than the selected boiler manufacturer's guaranteed efficiency NHPC has assumed, and also to account for efficiency degradation over the life of the boiler.

Boiler D will operate during the sugarcane processing season along with the other three existing NHPC biomass-fired boilers. During the off-season, Boiler D will operate along with one other existing NHPC biomass-fired boiler. The electrical generation and useful thermal output of Boiler D will be different under these two operating regimes. Under the crop season operating regime, Boiler D maximum CO_2 emissions are estimated at 825 lb/MW-hr while firing natural gas, and 1,151 lb/MW-hr while firing No. 2 fuel oil. Under the off-season operating regime, Boiler D maximum CO_2 emissions are estimated at 848 lb/MW-hr while firing natural gas, and 1,184 lb/MW-hr when firing No. 2 fuel oil.

As shown in Appendix A, the overall CO_2 limit, assuming 150 crop season days and 215 off-crop days, as well as the worst case of 85 percent natural gas firing and 15 percent No. 2 fuel oil firing, is 888 lb/MW-hr.

PSD regulations also require that BACT for a source cannot be less stringent than any federal new source performance standard (NSPS). On April 13, 2012, EPA proposed NSPS for Greenhouse Gas Emissions from Electric Utility Generating Units (77 FR No. 72, pg. 22392). The regulation would be codified in 40 CFR 60, Subpart TTTT. The proposed rule sets a CO_2 (note: not CO_2e) emission limit from all new electric utility generating units of 1,000 lb/MW-hr, 12-month rolling average. This limit is proposed regardless of fuel type, and therefore would apply to the proposed Boiler D regardless of fuel type. As shown above and in Appendix A, Boiler D CO_2 emissions are well below the proposed NSPS limit of 1,000 lb/MW-hr.

3.0 OTHER FEDERAL REQUIREMENTS

In addition to the CAA requirements, there are requirements in four other statutes that sometimes must be met before a source can begin construction and operation under a PSD permit. As discussed further below, the other statutory requirements that may apply to the project are the Endangered Species Act (ESA), the Coastal Zone Management Act (CZMA), the National Historic Preservation Act (NHPA), and the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). Environmental justice and tribal consultation must also be addressed as required by Executive Orders (EOs).

The permit applicant, through Golder Associates Inc., initiated contact with the EPA Region 4 Office in December 2012, and then with other implementing federal departments or agencies, state agencies, and tribal officials for these statutes to determine appropriate contacts and specific requirements that may apply to the proposed project. NHPC's contacts with the EPA and other federal, state, or tribal officials are documented in Appendix B. NHPC's assessment of the applicability of these statutory requirements is presented in the sections below. This includes specific information needed from NHPC that is identified below for the four statutes, and any additional information that was requested by the EPA.

3.1 Endangered Species Act

Under Section 7(a)(2) of the ESA, 16 U.S.C. § 1536(a)(2), the EPA must ensure that any action authorized, funded, or carried out by the EPA is not likely to jeopardize the continued existence of any federally listed endangered species or threatened species or result in the destruction or adverse modification of such species' designated critical habitat. If the EPA's action (i.e., permit issuance) may affect a federally listed species or designated critical habitat, Section 7(a)(2) of the ESA and relevant implementing regulations at 50 CFR 402 require consultation between the EPA and the U.S. Fish and Wildlife Service (FWS) and/or the National Marine Fisheries Service (NMFS), depending on the species at issue. After first contacting the EPA Regional Office to discuss the process, applicants should contact the FWS (and/or NMFS, if applicable) to ask whether there are any species or critical habitats listed or designated, or proposed for listing or designation, in the action area.

The NHPC site is located in the Everglades Agricultural Area (EAA), just south of Lake Okeechobee. The area surrounding NHPC is all agricultural area, primarily planted in sugarcane, with some sod and vegetable farms. The nearest national preserves or national parks are the Big Cypress National Preserve, located about 25 miles southwest, and the Everglades National Park, located about 55 miles south-southwest of the NHPC site. The Loxahatchee National Wilderness Area is located about 20 miles due east of the NHPC site. There are federally-listed threatened and endangered species in the Big Cypress Preserve and the Everglades National Park. Some of these may also be present in the Loxahatchee NWA.

NHPC submitted a Site Certification Application (SCA) to the FDEP in August 2004 for an expansion of its electrical generating capacity. This application was approved on May 17, 2005, and Conditions of Certification No. PA 04-46 were issued. The SCA stated that no critical habitat of endangered species existed within 5 miles [8 kilometers (km)] of the NHPC site.

Nevertheless, the predicted air quality impacts of the proposed new natural gas-fired boiler, presented in the FDEP air construction permit application, demonstrate that there will not be a significant air quality impact on these areas due to the proposed project. Air Quality Related Values (AQRVs) in the Everglades National Park will not be adversely affected. The modeling analysis demonstrated that the maximum impacts due to the proposed project are less than the EPA SILs for all pollutants and averaging times, except for 1-hour NO_2 concentrations. For 1-hour NO_2, concentrations fall below the SILs within 5 km of the NHPC facility.

As a result, no adverse effects to any threatened or endangered species which might be present near the facility are expected.

NHPC has initiated contact with the FWS and NMFS offices in the area to ask whether there are any species or critical habitats listed or designated, or proposed for listing or designation, in the action area. Further, NHPC requested a determination of any significant impact to endangered species due to the proposed project.

3.2 Coastal Zone Management Act

The CZMA encourages states to preserve, protect, develop, and where possible, restore or enhance valuable natural coastal resources such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs, as well as the fish and wildlife using those habitats. It includes areas bordering the Atlantic, Pacific, and Arctic Oceans, the Gulf of Mexico, Long Island Sound, and the Great Lakes.

In any application for a PSD permit for a facility located in a state's coastal zone (or outside the state's coastal zone but affecting any land or water use or natural resource of the coastal zone), the applicant should provide the EPA Regional Office with the applicant's own certification that the proposed activity complies with the enforceable policies of the state's NOAA-approved coastal program and that such activities will be conducted in a manner consistent with that program. The applicant also furnishes the state coastal zone management agency a copy of the certification, with necessary data and information. The state agency may concur or object to the consistency determination. The Regional Office cannot issue the license or permit until the state agency concurs in the certification or, through the state's failure to act, its concurrence can be conclusively presumed.

The NHPC site is located well inland of either the east coast or west coast of Florida. The east coast is located approximately 45 miles east of the site, while the west coast is approximately 70 miles west of the site. The FDEP application demonstrates that the proposed project will not affect any land or water use or natural resource along the coast of Florida.

NHPC has initiated contact with the NMFS office in the area to determine if the NHPC site is within the coastal zone, and if so, whether the project is consistent with Florida's coastal zone management plan.

3.3 National Historic Preservation Act

Section 106 of the NHPA requires the EPA, prior to the approval of the expenditure of any funds on, or prior to the issuance of any license for, an undertaking, to take into account the effects of its undertakings on historic properties and afford the Advisory Council on Historic Preservation (the Council) a reasonable opportunity to comment with regard to such undertakings (16 U.S.C. §470f). Under the Council's implementing regulations at 36 CFR 800, Section 106, consultation is required for all undertakings that have the potential to affect historic properties. Section 106 consultations assess whether historic properties exist within an undertaking's area of potential effect and, if so, whether the undertaking will adversely affect such properties. Consultation is generally with relevant state and tribal historic preservation authorities in the first instance, with opportunities for direct Council involvement in certain circumstances.

The term "historic properties" means prehistoric or historic districts, sites, buildings, structures, or objects included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Department of the Interior. Historic properties include properties of traditional religious and cultural importance to an Indian Tribe or Native Hawaiian organization.

NHPC submitted a SCA to the FDEP in August 2004 for an expansion of its electrical generating capacity. This application was approved on May 17, 2005, and Conditions of Certification No. PA 04-46 were issued. The SCA stated that a review of the State of Florida Master Site File (FMSF) was undertaken to determine if known archaeological or historic sites have been recorded for the NHPC site or adjacent properties. The FMSF search revealed that no archeological sites had been recorded on the NHPC site. Further, a letter was sent to the Florida Department of State, Division of Historical Resources (DHR) in 1993 requesting DHR to determine whether undiscovered archaeological or historical resources were likely to be present in the vicinity of the NHPC plant, and whether a pedestrian survey would be required. DHR responded and determined that:

- No significant archaeological or historical sites are recorded for or considered likely to be present in the project area

- Because of the project location and/or nature, it is unlikely such sites would be affected
- It was the opinion of DHR that the project would have no effect on historic properties listed or eligible for listing in the National Register of Historic Places

As a result, no adverse effects on any historical sites are expected due to operation of the proposed natural gas-fired boiler.

NHPC has initiated contact with the EPA Region 4 office to ask whether there are impacts upon historical sites due to the proposed project.

3.4 Magnuson-Stevens Fishery Conservation and Management Act

The MSFCMA was enacted to promote the U.S. fishing industry's optimal exploitation of coastal fisheries by consolidating control over territorial waters to manage fish stocks. Implementation of the MSFCMA is by the U.S. Department of Commerce, NMFS, and its appointed regional fishery management councils. As part of the permit review process, the EPA Regional Office should discuss the project with the NMFS.

As described in Section 3.2, the NHPC site is located well away from coastal areas, and therefore will not impact coastal fisheries. NHPC has initiated contact with the NMFS offices in the area to ask whether the proposed project would violate any provision of the MSFCMA.

3.5 Federal Land Manager

The EPA's policy is that the Federal Land Manager (FLM) should be notified by the EPA Regional Office about any project that is located within 100 km of a PSD Class I area. The FDEP air permit application addresses air impacts as well as AQRVs in the Class 1 area (Everglades National Park). The assessment demonstrates there will be no adverse effects due to the proposed project. NHPC has initiated contact with the FLM and FWS to request a determination of any adverse impacts on the PSD Class I area due to the proposed project.

3.6 Environmental Justice

EO 12898 provides for federal agencies to identify and address disproportionately high and adverse effects of their actions on minority, low-income, and tribal populations. The EPA defines environmental justice to include the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in environmental decisions that affect them.

The NHPC site is an existing site that has been in operation since 1996. The only nearby towns or cities are South Bay and Belle Glade. Due to the very low impacts of the proposed natural gas-fired boiler,

there will be no new impacts associated with the proposed project. Therefore, the proposed project will not disproportionately affect any minority, low-income, or tribal community.

3.7 Tribal Consultation

Under EO 13175, if the proposed project may affect tribal interests, the EPA Regional Office should initiate consultation with the affected tribe(s) sufficiently early in the process to allow for meaningful input by the tribe(s). In accordance with the Regional Office's consultation plans and practices, the Regional Office should engage in such consultation prior to taking actions or implementing decisions that may affect the tribes.

The nearest known Indian tribes to the NHPC site are the Big Cypress Indian Reservation, located about 20 miles southwest of the NHPC site, and the Miccosukee Indian Reservation, located about 25 miles south of the site. Again, due to the very low impacts predicted for the proposed NHPC project, the project should have no effect upon tribal interests.

TABLES

Table 2-1. Summary of GHG (CO_2, CH_4, N_2O) BACT Determinations for Large (> 250 MMBtu/hr) Natural Gas-Fired Boilers (2002 - 2012)

RBLCID	Company Name - Facility Name	State	Permit Number	Permit Date	Process Name	Throughput	Pollutant	Emission Limit	Control Method
*FL-0330	Port Dolphin Energy LLC	FL	DPA-EPA-R4001	12/1/2011	Boilers (4)	278 MMBtu/hr	Carbon Dioxide	117 lb/MMBtu	Tuning, Optimization, Instrumentation and Controls, Insulation, and Turbulent Flow
LA-0254	Entergy Louisiana LLC - Ninemile Point Electric Generating Plant	LA	PSD-LA-752	8/16/2011	Auxiliary Boiler	338 MMBtu/hr	Carbon Dioxide	117 lb/MMBtu (8-hr rolling avg)	Proper Operation and Good Combustion Practices
							Methane	0.0022 lb/MMBtu	Proper Operation and Good Combustion Practices
							Nitrous Oxide	0.0002 lb/MMBtu	Proper Operation and Good Combustion Practices
Consolidated Environmental Management- Nucor Steel Louisiana		LA	PSD-LA-751	11/8/2010 (prelim det)	Auxiliary Boilers (2)		Carbon Dioxide	N/A	Good combustion practices to maintain low fuel consumption

Table 2-2. Summary and Ranking of GHG (CO_2, CH_4, N_2O) Control Technologies

PM Abatement Method	Technique Now Available	Estimated Efficiency	Feasible and Demonstrated? (Y/N)	Rank Based on Control Efficiency	Employed by NHPC Boiler? (Y/N)
Clean Fuel	Fuel Substitution	NA	Y	1	Y
Energy Efficiency	Good Design	10 - 50%	Y	2	Y
Carbon Capture & Storage	Capture, Transport & Storage	>99%	NTF	NTF	N

Note: NTF = Not Technically Feasible.

[a] Technically feasible for fluidized bed boiler only.

APPENDIX A

CALCULATION OF CO_2 EMISSIONS FROM NEW BOILER D

Appendix A
Calculation of CO_2 Emissions From New Boiler D - Natural Gas Firing

Scenario assumes steam sent to Mill, which is used by the Mill to generate an additional 7 MW of electrical energy, is not counted.

Natural Gas Boiler Data

Net enthalpy =	1,138	Btu/lb
Steam Rate (full load) =	400,000	lb/hr steam
Efficiency =	85	%
Heat Input =	536	MMBtu/hr
CO_2 emission factor =	53.02	kg/MMBtu
CO_2 @ 400,000 lb/hr steam =	62,541	lb CO_2/hr
CO_2 @ 300,000 lb/hr steam =	46,906	lb CO_2/hr
CO_2 @ 120,000 lb/hr steam =	18,762	lb CO_2/hr

Crop Season Operation (Natural gas boiler provides 300,000 lb/hr steam)

Gross Electrical output =	17.5	MW	(1,200,000 lb/hr steam from all boilers generates 70 MW)
			NG boiler's portion of this is 70 MW x (300,000/1,200,000)
Useful thermal output to Mill:			
High pressure steam =	67,500	lb/hr	All boilers generate 270,000 lb/hr of HP steam to Mill not
Enthalpy =	1,336	Btu/lb	used for electrical energy production:
Heat output =	90.2	MMBtu/hr	NG boiler's portion of this is 270,000 x (300,000/1,200,000)
Low pressure steam =	97,500	lb/hr	All boilers generate 390,000 lb/hr of LP steam to Mill and Refinery;
Enthalpy =	1,177	Btu/lb	NG boiler's portion of this is 390,000 x (300,000/1,200,000)
Heat output =	114.8	MMBtu/hr	
Total useful thermal output =	204.9	MMBtu/hr	
=	60.1	MW	
Total Gross Output = (gross elect. + 75% of thermal)	62.6	MW	
CO_2 emissions =	750	lb CO_2/MWh	

Off-Season Operation (Natural Gas Boiler provides 120,000 lb/hr steam)

Gross Electrical output =	8.8	MW	(300,000 lb/hr steam from all boilers generates 22 MW)
			NG boiler's portion of this is 22 MW x (120,000/300,000)
Useful thermal output to Mill:			
High pressure steam =	0	lb/hr	No HP steam is sent to mill during off-season
Enthalpy =	1,336	Btu/lb	
Heat output =	0.0	MMBtu/hr	
Low pressure steam =	60,000	lb/hr	All boilers generate 150,000 lb/hr of LP steam to Refinery;
Enthalpy =	1,177	Btu/lb	NG boiler's portion of this is 150,000 x (120,000/300,000)
Heat output =	70.6	MMBtu/hr	
Total useful thermal output =	70.6	MMBtu/hr	
=	20.7	MW	
Total Gross Output = (gross elect. + 75% of thermal)	24.3	MW	
CO_2 emissions =	771	lb CO_2/MWh	

Appendix A
Calculation of CO_2 Emissions From New Boiler D- No. 2 Fuel Oil Firing

Scenario assumes steam sent to Mill, which is used by the Mill to generate an additional 7 MW of electrical energy, is not counted.

Natural Gas Boiler Data

Net enthalpy =	1,138	Btu/lb
Steam Rate (full load) =	400,000	lb/hr steam
Efficiency =	85	%
Heat Input =	536	MMBtu/hr
CO_2 emission factor =	73.96	kg/MMBtu
CO_2 @ 400,000 lb/hr steam =	87,242	lb CO_2/hr
CO_2 @ 300,000 lb/hr steam =	65,431	lb CO_2/hr
CO_2 @ 120,000 lb/hr steam =	26,173	lb CO_2/hr

Crop Season Operation (Natural gas boiler provides 300,000 lb/hr steam)

Gross Electrical output =	17.5	MW	(1,200,000 lb/hr steam from all boilers generates 70 MW) NG boiler's portion of this is 70 MW x (300,000/1,200,000)
Useful thermal output to Mill:			
High pressure steam =	67,500	lb/hr	All boilers generate 270,000 lb/hr of HP steam to Mill not
Enthalpy =	1,336	Btu/lb	used for electrical energy production:
Heat output =	90.2	MMBtu/hr	NG boiler's portion of this is 270,000 x (300,000/1,200,000)
Low pressure steam =	97,500	lb/hr	All boilers generate 390,000 lb/hr of LP steam to Mill and Refinery;
Enthalpy =	1,177	Btu/lb	NG boiler's portion of this is 390,000 x (300,000/1,200,000)
Heat output =	114.8	MMBtu/hr	
Total useful thermal output =	204.9	MMBtu/hr	
=	60.1	MW	
Total Gross Output = (gross elect. + 75% of thermal)	62.6	MW	
CO_2 emissions =	1,046	lb CO_2/MWh	

Off-Season Operation (Natural Gas Boiler provides 120,000 lb/hr steam)

Gross Electrical output =	8.8	MW	(300,000 lb/hr steam from all boilers generates 22 MW) NG boiler's portion of this is 22 MW x (120,000/300,000)
Useful thermal output to Mill:			
High pressure steam =	0	lb/hr	No HP steam is sent to mill during off-season
Enthalpy =	1,336	Btu/lb	
Heat output =	0.0	MMBtu/hr	
Low pressure steam =	60,000	lb/hr	All boilers generate 150,000 lb/hr of LP steam to Refinery;
Enthalpy =	1,177	Btu/lb	NG boiler's portion of this is 150,000 x (120,000/300,000)
Heat output =	70.6	MMBtu/hr	
Total useful thermal output =	70.6	MMBtu/hr	
=	20.7	MW	
Total Gross Output = (gross elect. + 75% of thermal)	24.3	MW	
CO_2 emissions =	1,076	lb CO_2/MWh	

Appendix A
Performance and Proposed GHG BACT Limit (Gross Basis)

Category	Units	Estimated Performance			
Season		Crop Season		Off Season	
Fuel		Gas	Oil	Gas	Oil
Heat Input	MMBtu/hr (HHV)	536	536	536	536
CO_2	lb/hr	46,906	65,431	18,762	26,173
Gross Output	MW	62.55	62.55	24.32	24.32
Gross Heat Rate	Btu/kWh (HHV)	8,562	8,562	22,016	22,016
CO_2	lb CO_2/MWh	750	1,046	771	1,076
Average On/Off Season	lb CO_2/MWh	750	1,046	771	1,076
Margin for Guarantee	%	5%	5%	5%	5%
Margin for Degradation	%	5%	5%	5%	5%
Proposed CO_2	**lb CO_2/MWh[a]**	**825**	**1,151**	**848**	**1,184**
Season Days	Days	150	150	215	215
Fuel Percentage	%	85%	15%	85%	15%
12-Month Average	**lb CO_2/MWh[b]**		**888**		

[a] Crop Season of Off Season averages.

[b] 12-month rolling average.

APPENDIX B

DOCUMENTATION OF NHPC CONTACTS WITH FEDERAL, STATE, AND TRIBAL OFFICIALS

U.S. FISH & WILDLIFE SERVICE

From: Sealey, Kristen
Sent: Wednesday, January 30, 2013 4:13 PM
To: victoria_foster@fws.gov
Cc: Buff, Dave; Cobb, Phil
Subject: PSD Greenhouse Gas Emissions Notification - New Hope Power Company, Florida
Attachments: 123-87582_NHPC Project Desc for Agencies.pdf

Hello Ms. Foster,

New Hope Power Company (NHPC) operates an electric cogeneration facility located adjacent to the Okeelanta Corporation sugar mill and refinery in Palm Beach County, Florida. NHPC is requesting authorization to add a natural gas-fired boiler to the facility. The new boiler will have a nominal steam generating capacity of 400,000-pound per hour (lb/hr), fired primarily by natural gas (No. 2 fuel oil as backup only), and will be permitted for 8,760 hr/yr operation. The construction of the new boiler requires prevention of significant deterioration (PSD) approval by U.S. EPA for emissions of greenhouse gases (GHG). Federal statutory requirements that may apply to the project are:

- Endangered Species Act
- Coastal Zone Management Act
- National Historic Preservation Act
- Magnuson-Stevens Fishery Conservation and Management Act
- Federal Land Manager

In addition, the project may affect PSD Class I areas (Everglades National Park)and other areas administered by the U.S. Fish and Wildlife Service. Indian tribal lands may also be affected.

The attached fact sheet provides additional information on the project including a project description, a site map, emission tables, and air quality impact assessments as it relates to the aforementioned statutory requirements. We ask that you review this information to determine if the proposed project will comply with the rules and policies administered by your agency.

Thank you in advance for your assistance with this PSD GHG review and approval. If you need additional information, please feel free to contact me by email or telephone at 352-336-5600.

Kristen Sealey | Project Engineer | **Golder Associates Inc.**
6026 NW 1st Place, Gainesville, Florida, USA 32607
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Work Safe, Home Safe

From: Sealey, Kristen
Sent: Wednesday, January 30, 2013 4:07 PM
To: jill_webster@fws.gov
Cc: Buff, Dave; Cobb, Phil
Subject: PSD Greenhouse Gas Emissions Notification - New Hope Power Company, Florida
Attachments: 123-87582_NHPC Project Desc for Agencies.pdf

Hello Ms. Webster,

New Hope Power Company (NHPC) operates an electric cogeneration facility located adjacent to the Okeelanta Corporation sugar mill and refinery in Palm Beach County, Florida. NHPC is requesting authorization to add a natural gas-fired boiler to the facility. The new boiler will have a nominal steam generating capacity of 400,000-pound per hour (lb/hr), fired primarily by natural gas (No. 2 fuel oil as backup only), and will be permitted for 8,760 hr/yr operation. The construction of the new boiler requires prevention of significant deterioration (PSD) approval by U.S. EPA for emissions of greenhouse gases (GHG). Federal statutory requirements that may apply to the project are:

- Endangered Species Act
- Coastal Zone Management Act
- National Historic Preservation Act
- Magnuson-Stevens Fishery Conservation and Management Act
- Federal Land Manager

In addition, the project may affect PSD Class I areas (Everglades National Park)and other areas administered by the U.S. Fish and Wildlife Service. Indian tribal lands may also be affected.

The attached fact sheet provides additional information on the project including a project description, a site map, emission tables, and air quality impact assessments as it relates to the aforementioned statutory requirements. We ask that you review this information to determine if the proposed project will comply with the rules and policies administered by your agency.

Thank you in advance for your assistance with this PSD GHG review and approval. If you need additional information, please feel free to contact me by email or telephone at 352-336-5600.

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Work Safe, Home Safe

NATIONAL PARK SERVICE

From: Sealey, Kristen
Sent: Wednesday, January 30, 2013 4:10 PM
To: andrea_stacy@nps.gov
Cc: Buff, Dave; Cobb, Phil
Subject: PSD Greenhouse Gas Emissions Notification - New Hope Power Company, Florida
Attachments: 123-87582_NHPC Project Desc for Agencies.pdf

Hello Ms. Stacy,

New Hope Power Company (NHPC) operates an electric cogeneration facility located adjacent to the Okeelanta Corporation sugar mill and refinery in Palm Beach County, Florida. NHPC is requesting authorization to add a natural gas-fired boiler to the facility. The new boiler will have a nominal steam generating capacity of 400,000-pound per hour (lb/hr), fired primarily by natural gas (No. 2 fuel oil as backup only), and will be permitted for 8,760 hr/yr operation. The construction of the new boiler requires prevention of significant deterioration (PSD) approval by U.S. EPA for emissions of greenhouse gases (GHG). Federal statutory requirements that may apply to the project are:

- Endangered Species Act
- Coastal Zone Management Act
- National Historic Preservation Act
- Magnuson-Stevens Fishery Conservation and Management Act
- Federal Land Manager

In addition, the project may affect PSD Class I areas (Everglades National Park)and other areas administered by the U.S. Fish and Wildlife Service. Indian tribal lands may also be affected.

The attached fact sheet provides additional information on the project including a project description, a site map, emission tables, and air quality impact assessments as it relates to the aforementioned statutory requirements. We ask that you review this information to determine if the proposed project will comply with the rules and policies administered by your agency.

Thank you in advance for your assistance with this PSD GHG review and approval. If you need additional information, please feel free to contact me by email or telephone at 352-336-5600.

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Work Safe, Home Safe

NOAA / NATIONAL MARINE FISHERIES SERVICE

From: Sealey, Kristen
Sent: Wednesday, January 30, 2013 4:10 PM
To: david.bernhart@noaa.gov
Cc: Buff, Dave; Cobb, Phil
Subject: PSD Greenhouse Gas Emissions Notification - New Hope Power Company, Florida
Attachments: 123-87582_NHPC Project Desc for Agencies.pdf

Hello Mr. Bernhart,

New Hope Power Company (NHPC) operates an electric cogeneration facility located adjacent to the Okeelanta Corporation sugar mill and refinery in Palm Beach County, Florida. NHPC is requesting authorization to add a natural gas-fired boiler to the facility. The new boiler will have a nominal steam generating capacity of 400,000-pound per hour (lb/hr), fired primarily by natural gas (No. 2 fuel oil as backup only), and will be permitted for 8,760 hr/yr operation. The construction of the new boiler requires prevention of significant deterioration (PSD) approval by U.S. EPA for emissions of greenhouse gases (GHG). Federal statutory requirements that may apply to the project are:

- Endangered Species Act
- Coastal Zone Management Act
- National Historic Preservation Act
- Magnuson-Stevens Fishery Conservation and Management Act
- Federal Land Manager

In addition, the project may affect PSD Class I areas (Everglades National Park)and other areas administered by the U.S. Fish and Wildlife Service. Indian tribal lands may also be affected.

The attached fact sheet provides additional information on the project including a project description, a site map, emission tables, and air quality impact assessments as it relates to the aforementioned statutory requirements. We ask that you review this information to determine if the proposed project will comply with the rules and policies administered by your agency.

Thank you in advance for your assistance with this PSD GHG review and approval. If you need additional information, please feel free to contact me by email or telephone at 352-336-5600.

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Work Safe, Home Safe