STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

IN RE: PROGRESS ENERGY FLORIDA HINES ENERGY CENTER POWER BLOCK 4 POWER PLANT SITING APPLICATION NO. PA 92- 33SA3.	)))))	Case No. 04-2817EPP

SITE CERTIFICATION RECOMMENDED ORDER

Pursuant to due notice, the Division of Administrative Hearings, by its duly-designated Administrative Law Judge, Charles A. Stampelos, held a certification hearing in the above-styled case on March 23, 2005, in Bartow, Florida.

APPEARANCES

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STATEMENT OF THE ISSUE

The issue to be resolved in this proceeding is whether the Governor and Cabinet, sitting as the Siting Board, should issue a final order granting certification to Progress Energy Florida ("PEF"), to construct and operate a new 530 megawatt ("MW") natural gas-fired electrical power plant in Polk County, Florida. The proposed site for the Project is located at PEF's existing Hines Energy Complex, southwest of Bartow, Florida.

PRELIMINARY STATEMENT

This proceeding was conducted pursuant to the Florida Electrical Power Plant Siting Act ("PPSA"), Chapter 403, Part II, Florida Statutes, and Florida Administrative Code Chapter 62-17, to consider PEF's application for site certification for the proposed Hines Power Block 4 (also referred to as the "Project").

On August 5, 2004, Florida Power Corporation, doing business as PEF filed its Supplemental Application for site certification for the Hines Power Block 4 with the Florida Department of Environmental Protection ("Department" or "FDEP"). The application was found to be complete on August 20, 2004. The application was found to be sufficient on November 22, 2004.

On November 23, 2004, the Florida Public Service Commission (FPSC) issued its Final Order determining the need for the proposed electrical power plant.

On February 16, 2005, FDEP issued its written Staff Analysis Report concerning the Project, as required by Section 403.507(4), Florida Statutes, incorporating the reports from other state and regional agencies and proposing a comprehensive set of proposed Conditions of Certification.

On February 17, 2005, a joint Prehearing Stipulation was submitted to the undersigned, which indicated that no party to this proceeding objected to certification of the Project.

On March 23, 2005, during the certification hearing, FDEP submitted its revised Staff Analysis Report as an exhibit.

After proper public notice by both PEF and by FDEP, a certification hearing was held in Bartow, Florida, on March 23, 2005, as required by Section 403.508(3), Florida Statutes. The purpose of the certification hearing was to receive oral, written, and documentary evidence concerning whether, through available and reasonable methods, the location and operation of the proposed Hines Power Block 4 would produce minimal adverse effects on human health, the environment, the ecology of the land and its wildlife, and the ecology of State waters and their aquatic life, in an effort to fully balance the increase in demand for an electrical power plant location and operation with the broad interests of the public. See § 403.502, Fla. Stat. The hearing would have also considered any petitions challenging the separate FDEP-issued prevention of significant deterioration

("PSD") permit for the Project. However, no such petition was filed.

At the certification hearing, PEF presented the oral testimony of three witnesses and had PEF Exhibits (PEF Ex.) numbered 1 through 10 admitted into evidence. These exhibits included the pre-filed written testimony of five witnesses. That testimony was filed pursuant to Florida Administrative Code Rule 62-17.141(3). The pre-filed written testimony of two witnesses, Karl Bullock and Richard Zwolak, has been accepted, based upon their execution of affidavits attesting to the accuracy of the testimony and accompanying exhibits. The other three witnesses adopted their pre-filed testimony during the hearing. FDEP presented the testimony of Steven Palmer, of the FDEP's Siting Coordination Office, and had FDEP Exhibits 1 and 2 (FDEP Ex.) admitted into evidence. No member of the public appeared at the hearing to offer testimony or other evidence on the Project.

Following the conclusion of the March 23, 2005, hearing, a one-volume Transcript (Tr.) of the hearing was filed on March 29, 2005. The Joint Proposed Recommended Order of PEF, FDEP, and the Southwest Florida Water Management District ("SWFWMD") was timely submitted and has been considered in the rendition of this Recommended Order.

FINDINGS OF FACT

Background

1. Progress Energy Florida, previously known as Florida Power Corporation, is an electric utility that provides electricity in a 35-county service area in Florida. This service area stretches from the Panhandle through the center of the state and includes the western coast of Florida north of Tampa Bay. PEF currently serves approximately 1.5 million customers in this service area. PEF has been providing electric service in Florida for over 100 years. PEF's current generating capacity is 9,174 megawatts. The Company currently operates 14 different power plant facilities in the state. PEF has a customer growth rate of 1.7 percent per year. (Hunter, Tr. 14-15; PEF Ex. 10, Slide 2).

2. The PEF Hines Energy Complex is located in the southwest portion of Polk County, Florida, approximately 3.5 miles south of the city of Bartow. The community of Homeland is located one mile northeast of the Hines site. County Road 555 runs through the Project site. The Hines site contains approximately 8,200 acres of reclaimed phosphate mine lands. The area around the larger Hines site has been dominated by phosphate mining operations, including mines, settling ponds, sand tailings, gypsum stacks, and chemical beneficiation plants. The adjacent land uses consist almost entirely of active

phosphate mining or mined and reclaimed lands. (PEF Ex. 6, Zwolak at 5-6; PEF Ex. RZ-2; PEF Ex. 1 at 2-1).

3. In the late 1980's, PEF began planning to meet the needs of future growth in customer demand for electricity and decided to identify a site that allowed for a wide variety of possible generation technologies, while at the same time meeting the ecological and regulatory requirements for building new generation. PEF solicited the help of a team of local community, educational, and environmental leaders to evaluate over 50 potential sites in Florida and South Georgia. This two-year process culminated in 1991 with the selection of the Hines site, then known as the Polk County site. (PEF Ex. 6, Hunter at 4).

4. In January 1994, the Governor and Cabinet, acting as the Siting Board, certified the Hines Energy Complex for an ultimate site capacity of 3,000 megawatts (MW) of generating capacity fueled by either natural gas, coal gas or fuel oil, and also granted certification for the construction and operation of an initial 470 MW combined cycle unit known as Power Block 1. Power Block 1 began operation in 1999. In 2001, the Siting Board also granted certification for the construction and operation of Hines Power Block 2, a 530 MW combined cycle unit. Power Block 2 began operation in 2003. In 2003, certification was granted by the Siting Board for Power Block 3, which is

currently under construction, and expected to be in service by late 2005. (PEF Ex. 6, Hunter at 5; PEF Ex. 1, Preface at 1-2; FDEP Ex. 2 at 1).

5. The original certification proceeding that culminated in the 1994 certification included extensive evaluations of the worst case capacity constraints and potential environmental effects of the operation of the expected 3,000 MW of capacity. Those evaluations included assessments of air quality impacts, water quality and wildlife impacts, water use, noise impacts, socioeconomic impacts and benefits, traffic impacts of construction and operation, and other impacts of the entire planned capacity of 3,000 MW. This original evaluation significantly reduces the time and expense for processing the Supplemental Site Certification Application and allows PEF to respond more quickly to the growth in demand for electrical generating facilities. The ultimate site capacity determination assures PEF that the Hines Energy Complex site has adequate air, water, and land resources to accommodate additional electrical generating facilities. The 1994 certification also established that the full 3,000 MW of generating capacity and the Hines site are consistent with the local land use plans and zoning regulations of Polk County. (PEF Ex. 1, Pre-1 to Pre-2 at 2.4 to 2.5).

6. The Hines Energy Complex contains a number of existing facilities and is divided into several major areas. The plant island is the location for the existing and future power generation facilities. It is approximately 704 acres. A 722-acre cooling pond, that is being expanded to approximately 1200 acres, has been constructed on the site, along with a 311-acre brine pond. A buffer and mitigation area has been created along the eastern portion of the Hines site containing approximately 2,498 acres. These areas serve as a wildlife corridor as well. Approximately 3500 acres of the site are designated for water crop areas to supply captured rainfall for use in the power plant. (PEF Ex. 6, Hunter at 3; PEF Ex. JJH-4; PEF Ex. 1 at 2-1).

7. The Hines Energy Complex is interconnected to the electrical grid through multiple existing electrical transmission lines. A new 20 mile long 230 kV transmission line to connect the Hines Site to the existing PEF West Lake Wales Substation is being permitted separately. Natural gas is delivered to the Hines Energy Complex by two existing natural gas pipelines, which will serve Power Blocks 1, 2, 3, and 4. Fuel oil is also burned in the existing units and is delivered by truck and stored in an onsite storage tank. A new fuel oil unloading station and a new fuel and storage tank will be added

to serve Power Block 4. (PEF Ex. 6, Hunter at 6, 8; PEF Ex. 1 at 3-1; Tr. 17).

Project Overview

8. The Hines Power Block 4 is a 530 MW combined-cycle power plant to be fueled primarily with natural gas. Fuel oil will be used as a backup fuel. The proposed Power Block 4 will be located entirely within the existing Hines Energy Complex site. The unit will be located west of Power Blocks 1, 2 and 3. All construction activities for Power Block 4 will occur within an approximately 5-acre portion of the plant island. (PEF Ex. 1, at 3-2, 4-1; PEF Ex. 6, Robinson at 5; Exs. JMR 4 and 5).

Need for Power Block 4

9. On November 23, 2004, the FPSC issued a Final Order determining the need for the PEF's Hines Power Block 4 Project. The FPSC determined that the Hines Power Block 4 will be needed by 2007 to maintain electric system reliability and integrity for PEF. This was based upon an evaluation of PEF's load forecast and maintenance of its required 20 percent reserve margin of generating capacity above the firm demand of PEF's customers. Power Block 4 adds to the diversity of PEF's generating assets in terms of technology, fuel, age, and functionality. Operational flexibility is provided by Power Block 4's dual fuel capability. The FPSC also found that the Hines Power Block 4 will contribute to the provision of adequate

electricity at reasonable cost. The FPSC concluded that PEF, in proposing the Hines Power Block 4, had identified the least cost alternative compared to other options, including outside proposals from third parties. There are no cost-effective conservation measures available that might mitigate PEF's need for Hines Power Block 4. In conclusion, the FPSC determined that PEF met the statutory requirements under Section 403.519, Florida Statutes, for the Commission to grant the determination of need for Hines Power Block 4. (PEF Ex. 3).

Project Schedule and Construction

10. The proposed Power Block 4 is similar to the existing Hines Power Blocks 1, 2, and 3, which exist or are currently under construction at the Hines site. The proposed combustion turbines for the new unit are two advanced General Electric 7FA combustion turbines, designed for dual fuel operation. Engineering of the units will commence in December 2005 and on-site construction will begin no later than the first quarter of 2006. The new unit is proposed to be in service by December 1, 2007. (PEF Ex. 6, Robinson at 4, 13-14).

11. Construction activities will be initiated by the preparation of the five-acre site for construction. This will include mobilization of contractors and subcontractors along with plant construction project management personnel. Existing construction laydown and parking areas will be utilized for

Power Block 4. On-site construction will begin with the installation of the circulating water piping and pilings for structural foundations. Power Block 4 will be mechanically complete by June 2007. (PEF Ex. 6, Robinson at 14).

12. The construction workforce for Power Block 4 is expected to average about 145 employees over the two-year construction period. Peak construction employment is estimated at 350 employees. The construction payroll is expected to be $15 million annually. Based upon prior experience during construction of Power Blocks 1, 2, and 3, it is expected that most construction workers will be drawn from the Polk County and Central Florida areas. Construction employees are expected to commute daily to the job site. Traffic improvements have already been made in the vicinity of the Hines Energy Complex. Traffic impacts related to construction of Power Block 4 will not require additional road improvements. (PEF Ex. 1 at 4-16 to 4-17).

13. No new roads will be required to support construction of Power Block 4 as the existing plant access road will be used during construction. Major project components will be delivered to the Hines site by rail or by truck. No off-site upgrade of rail or road facilities is expected to be necessary. All oversized deliveries will receive necessary Florida Department

of Transportation ("DOT") approvals. (PEF Ex. 1 at 3-20, 4-3; PEF Ex. 6, Robinson at 14-15).

14. Most major earthwork activities for construction for the Power Block 4 construction area were performed during initial site development activities that were completed in 1996. There are no expected impacts to land in the Project area except for minor grading, installation of foundation systems and infrastructure piping, the new control/administration building, and the new fuel oil tank. (PEF Ex. 1 at 4-1).

15. Heavily loaded and structural foundation loads such as the heat recovery steam generators, combustion turbines, steam turbines, and step-up transformers will be supported by deep foundations. These foundations will include deep foundations such as pilings similar to those used for Power Blocks 1, 2, and 3. Lightly loaded foundations will use spread foundations. Construction dewatering will occur primarily at excavations for the circulating water intake structure and the discharge head wall in the cooling pond. Other additional limited dewatering may occur, depending upon the amount of rainfall and the depth of other excavations onsite. Dewatering would be performed using well points or open pit sump pumps, which have a very localized impact area. Dewatering effluent will be routed to the existing on-site stormwater collection ditches for return to

the existing cooling pond. (PEF Ex. 6, Robinson at 12-13; PEF Ex. 1 at 4-7).

16. The entire Project area is outside the 100-year flood zone. There will be no construction impacts to either on-site or off-site water bodies or wetlands as a result of construction activities. (PEF Ex. 1 at 2-2, 4-5).

17. On-site construction activities will not have any measureable adverse ecological impacts. The five-acre Project area has already been cleared and graded in anticipation of construction of Power Block 4 and other future units. The Power Block 4 area is primarily bare soil, with very sparse weedy vegetation of low-ecological functional value. This habitat is suitable for few animals and exhibits low plant species diversity. It will not support populations of threatened and endangered species or species of special concern. There are no jurisdictional or non-jurisdictional wetlands that would be impacted by the development of Power Block 4 and the on-site portion of the new transmission line. Mitigation for wetland impacts on the Hines Energy Complex occurred as part of the original permitting process for the Hines Energy Complex. (PEF Ex. 6, Bullock at 5-6; PEF Ex. 1 at 4-10 to 4-12).

18. Construction noise impacts from construction of all phases up to the 3,000 MWs of ultimate site capacity were analyzed as part of the 1992 certification application. It was

shown at that time that the applicable noise criteria would be complied with during construction of each future phase. An updated analysis of construction noise from Power Block 4 reaffirmed the earlier analysis and demonstrated no adverse impacts from construction noise. The nearest residences are approximately 2.9 miles from the plant site. The Project construction noise levels will be less than the existing noise levels measured near these residences. Construction noise will have an insignificant effect on noise levels. (PEF Ex. 6, Osbourn at 15-16; PEF Ex 1 at 4-17 to 4-19).

19. During construction, the most prevalent construction air emissions will be fugitive dust, generated by site grading, excavation, vehicular traffic, and other construction activities. Dust control measures will be used and will typically require moisture conditioning of construction areas and roadways. Disturbed areas will also be stabilized by mulching or seeding as soon as practical. Crushed rock may also be used in high traffic areas. It is not expected that these air emissions from construction will present any significant air quality problems during the construction period. (PEF Ex. 1 at 4-14 to 4-16).

Project Description

20. Power Block 4 will be similar to the existing Power Blocks 1, 2, and 3 at the Hines site. Power Block 4 is a new

combined cycle unit of approximately 530 MWs. It will consist of two advanced GE 7 FA combustion turbines ("CT") designed for dual fuel operation, using primarily natural gas and low sulfur fuel oil as a backup fuel. Each CT will connect to an electrical generator, capable of generating approximately 170 MWs of electricity. Each CT in Power Block 4 will be paired with a heat recovery steam generator ("HRSG") which will extract heat energy from the CT's exhaust gas. The HRSG is essentially a boiler that turns heat in the CT's exhaust, which would be otherwise wasted, into steam. The steam produced in both HRSGs is used to drive a single steam turbine, which will produce an additional 190 MWs of electricity. (PEF Ex. 6, Robinson at 4 to 5; PEF Ex. JMR-2; FDEP Ex. 2 at 1-10).

21. The normal operating mode for Power Block 4 will be for both CTs to be in operation providing steam from their respective HRSGs to the single steam turbine. However, Power Block 4 can be operated in other ways, depending on the need for electricity. One CT can be operated at full load, producing steam from its HRSG that would power the steam turbine at half load while the other CT and HRSG are idle. The unit will be operated between 30 percent load and full load in the combined cycle mode while meeting its air emission permit requirements. (PEF Ex. 6, Robinson at 4-5).

22. Natural gas will be the principal fuel used in Power Block 4. Gas will be delivered by two existing gas pipelines that serve the Hines Energy Complex. A new on-site gas pipeline will be constructed to supply natural gas to the new Power Block 4 from the two on-site natural gas meter regulation stations. Fuel oil will be delivered by truck to a new fuel unloading facilities and stored in a new on-site fuel storage tank adjacent to Power Block 4. (PEF Ex. 1 at 3-4; Tr. 27).

23. The existing on-site electrical switchyard will be expanded to provide electrical transmission interconnection for Power Block 4. The on-site segment of a new 230 kV transmission line between the Hines Site and the PEF West Lake Wales electrical substation is included in the project for certification. (PEF Ex. 6, Robinson at 6; Tr. 17).

24. Pursuant to the authorization under the 1994 site certification, a 10,000 gallon per day domestic wastewater treatment plant will treat additional on-site domestic and sanitary wastewaters from on-site showers, lavatories, toilets, and drinking fountains for Power Block 4. The treated effluent is directed to the on-site cooling pond as makeup water. Potable water is provided from an existing on-site approved potable water system which is adequate to support Power Blocks 1, 2, 3, and 4. Potable water is supplied from well water and is treated and chlorinated for on-site uses such as drinking,

washing, showers, and other uses. A new on-site water distribution line will be installed to support Power Block 4 and the new control and administration building. (PEF Ex. 6, Robinson at 12; PEF Ex. 1 at 3-11 to 3-12).

25. Solid wastes that may be generated by Power Block 4 include circulating water systems screenings, sanitary waste solids, water treatment filter backwash solids, and solid wastes produced in the course of operating and maintaining the unit. Office wastes are expected to be the biggest component of these wastes. These wastes will be disposed of in differing ways. Circulating water systems screenings and water filter backwash will be recycled on-site to the extent possible. All other solid wastes will be disposed of off-site in appropriate facilities. PEF has a corporate commitment to waste minimization. This includes extensive recycling of waste products, reduction at the source, and elimination of most hazardous waste storage. This corporate commitment will be implemented on a continuing basis at the Hines Energy Complex. (PEF Ex. 6, Robinson at 12; PEF Ex. 1 at 3-18).

Water Use and Supply

26. The existing cooling pond will supply cooling water and other water needs for Power Block 4. Makeup water to the cooling pond is obtained from direct precipitation, reclaimed treated municipal effluent, on-site stormwater runoff, recycled

plant blowdown and wastewaters, water cropping, and groundwater. (PEF Ex. 1 at 3-7 to 3-9).

27. The process steam in the steam turbine is cooled to the liquid state in a steam condenser. The rejected heat from the steam is transferred to water pumped from the existing cooling pond into the circulating water system and then returned to the cooling pond. The heat rejected from the power plant results in forced evaporation above and beyond the natural evaporation that occurs in the cooling pond. The circulating water system equipment for Power Block 4 will include two new circulating water pumps capable of pumping 60,000 gallons per minute. An additional intake structure will be constructed at the cooling pond to support these pumps. (PEF Ex. 6, Robinson at 7-8; PEF Ex. 1 at 3-9 to 3-10).

28. All process water needs for Power Block 4 will be supplied from the existing cooling pond. Water is pumped from the pond to the water treatment area located east of the existing power blocks. The water is processed for use either as service water or as demineralized water. Service water is used for washdown of equipment and other uses. The higher quality demineralized water is used for makeup to the steam-condensate-feedwater cycle in the HRSGs to replace steam cycle losses. Demineralized water is also used when firing low sulfur fuel oil

in the CTs to control NO_x emissions. (PEF Ex. 6, Robinson at 8-9, Osbourn at 7; PEF Ex. 1 at 3-12 to 3-13).

29. The reverse osmosis equipment in the demineralized water system produces a brine reject that will be pumped to the existing on-site brine pond for evaporation. The only other wastewater streams from Power Block 4 will come from the boiler blowdown and from floor drains located throughout the facility. Boiler blowdown results from removal of a portion of the water cycling in the HRSG to control the buildup of solids in that water. Boiler blowdown is collected and pumped back to the cooling pond without further treatment. Areas that contain lubricating oil equipment or where fuel lines run above ground will have containment curbs or walls. Wastewater streams from these areas that may contain oil will be routed to the existing oil water separator to remove oil contamination prior to being pumped to the cooling pond. Any collected oil is properly disposed. All wastewaters are collected and processed as appropriate and pumped back to the cooling pond. The cooling pond has no discharge to area surface waters. (PEF Ex. 6, Robinson at 9-10; PEF Ex. 1 at 3-12 to 3-16; FDEP Ex. 2 at 13).

30. The cooling pond at the Hines Energy Complex experiences both natural and forced evaporation. The forced evaporation is that additional evaporation above and beyond natural evaporation and is caused by the heat rejected from the

power plant. The total annual average evaporation rate from the cooling pond from natural evaporation and from heat rejected by Power Blocks 1, 2, 3 and the proposed Power Block 4 is approximately 10 million gallons per day. This is an increase in evaporation of 2.2 million gallons per day for Power Block 4. This loss of water needs to be replenished to keep the cooling pond operating and keep the plant continuing in operation. (PEF Ex. 6, Robinson at 7-8; PEF Ex. 1 at 3-9).

31. It has been determined that, over the long term, Power Block 4 will require an average annual daily water supply of 2.4 million gallons per day. This is needed to replace evaporation from the pond and to supply the process water needs for the new unit. (PEF Ex. 1 at 3-8). The existing Conditions of Certification for the Hines Energy Complex authorize the use of up to 17.5 million gallons per day of groundwater beginning with the third generating unit at the Hines Energy Complex. The water needs for Power Block 4 will be supplied from these previously approved quantities of groundwater. The existing Units 1 and 2 utilize a mix of treated wastewater from on-site and off-site sources and captured rainfall to supply cooling and process water needs for Power Blocks 1 and 2. (PEF Ex. 1 at 3-7 to 3-9; PEF Ex. 6, Hunter at 7; FDEP Ex. 2, Appendix IV, SWFWMD Agency Report at 7).

32. Under the Conditions of Certification, no groundwater will be withdrawn to supplement the cooling pond until the operating level in the cooling pond falls to 160 feet. The proposed on-site withdrawals were previously evaluated as part of the initial certification proceeding in 1994 and were found to have no adverse impacts. The proposed on-site withdrawals of groundwater for Power Block 4 will not have any adverse impacts on existing legal users of water in the vicinity of the Project, on- and off-site wetlands, or to off-site land uses. PEF has investigated other reasonably obtainable sources of water in the region and found none that could meet the needs for Power Block 4. (PEF Ex. 1, Vol. 2, Appendix 10.6; FDEP Ex. 2, App. IV, SWFWMD Agency Report at 8-9).

33. PEF has undertaken several efforts to minimize the use of groundwater through the use of water conservation practices, as required by the Conditions of Certification in the 1994 site certification. These measures include the use of water conserving electric generation technologies, recycling of all wastewater streams, and the design of the power plant as a "zero discharge" facility. PEF is also continuing to investigate other sources of water supply for the Hines site. (FDEP Ex. 2, App. IV, SWFWMD Agency Report at 8).

34. Power Blocks 1 and 2 are supplied water from the on-site water cropping system and on-site and off-site treated

wastewaters. The capture and reuse of rainfall is an integrated part of PEF's efforts to reduce dependence on the Upper Floridan aquifer as a source of water. In addition, recycled plant wastewaters, treated wastewater from the City of Bartow, and nearby industrial and power plants are the other primary sources of water for Hines Power Blocks 1 and 2. The City of Bartow currently provides approximately 2.0 million gallons per day of treated wastewater for use at the Hines Energy Complex. (PEF Ex. 1, Hunter at 7; FDEP Ex. 2, App. IV, SWFWMD Agency Report at 6-8).

Air Emissions

35. The primary air pollutants emitted from Hines Power Block 4 will include nitrogen oxides ("NO_x"), carbon monoxide ("CO"), particulate matter ("PM"), and sulfur oxides such as sulfur dioxide. The primary cause of the air emissions from the new unit will be the combustion of natural gas and distillate oil in the CTs. Emissions of NO_x and CO will result from the combustion process. Emissions of PM and sulfur dioxide result from trace impurities in the fuel itself. (PEF Ex. 6, Osbourn at 4-5; Tr. 35-37).

36. Air emissions from Power Block 4 will be minimized through the inherent efficiency of the combined cycle technology, as well as the use of natural gas and light oil, use of combustion controls, and use of post-combustion control

technology for nitrogen oxide emissions. Natural gas is the cleanest of fossil fuels and contains minimal amounts of impurities. Light oil is also very low in impurities and its use will be limited to up to 1,000 hours per year per combustion turbine. Natural gas and light oil burn very efficiently, thus minimizing the formation of air pollutants. Emissions are also minimized through the use of advanced combustion control technology in the combustion turbine, specifically dry, low NO_x combustion controls for firing natural gas, and use of water injection when firing light oil. A post-combustion control technology, selective catalytic reduction ("SCR") will be used to further reduce NO_x emissions from Power Block 4. (PEF Ex. 6, Osbourn at 5-6; Tr. 35).

37. The Hines Power Block 4 is required to meet best available control technology ("BACT") requirements, which limits air pollution emission rates. The Project must also comply with ambient air quality standards ("AAQS") and prevention of significant deterioration ("PSD") increment standards, which establish levels of air quality which must be met. (PEF Ex. 6, Osbourn at 6-7; PEF Ex. 1 at 3.5 to 3-6; FDEP Ex. 2 at 6, 17).

38. Hines Power Block 4 is required to undergo PSD review because it is a new source of air pollution that will emit some air pollutants above the threshold amounts established under the PSD program. PSD review was required for air emissions of PM,

sulfur dioxide, NO_x, CO, and sulfuric acid mist because these emissions are greater than the established PSD thresholds. (PEF Ex. 6, Osbourn at 7).

39. The BACT analysis for Hines Power Block 4 is part of the evaluation of air emissions control technology under the PSD regulations and is applicable to all pollutants for which PSD review is required. BACT is a pollutant-specific emission standard that provides the maximum degree of emission reduction, after taking into account the energy, environmental, and economic impacts and other costs. (PEF Ex. 6, Osbourn at 6-7; FDEP Ex. 2 at 6).

40. For NO_x, FDEP has preliminarily determined for this facility a BACT emission limit of 2.5 parts per million when firing natural gas, and 10 parts per million when firing low sulfur fuel oil. These emission levels will be achieved by the use of dry low NO_x combustion technology when firing natural gas, use of water injection when firing fuel oil, and use of SCR technology. (PEF Ex. 6, Osbourn at 8; FDEP Ex. 2 at 9, 21, Table 4).

41. Emissions of carbon monoxide will be controlled using good combustion techniques. Sulfur dioxide emissions, including sulfuric acid mist, will be controlled through the use of clean fuels. Particulate matter emissions will be controlled through the use of clean fuels, natural gas, and low sulfur fuel oil.

Fuel oil firing will be limited to a maximum of about 1,000 hours per year. (PEF Ex. 6, Osbourn at 7-9; PEF Ex. 10, Slide 15; Tr. 36-37).

42. The air emissions from Power Block 4 cannot be permitted at a level that would cause or contribute to a violation of federal and state AAQS for the six criteria air pollutants or PSD increments for sulfur dioxide, NO_x, and PM. The PSD increments refer to the amount of incremental air quality deterioration allowed from a new air pollution source. Polk County is classified as a Class II area for PSD purposes. The nearest Class I PSD area within which limited increases in air pollutant concentrations are allowed is the Chassahowitzka National Wilderness Area. (PEF Ex. 6, Osbourn at 9-11; FDEP Ex. 2 at 6-8, 16-17).

43. Air emissions from Power Block 4 were principally analyzed for emissions from fuel oil firing as representing the maximum air quality impact. The air quality impact analysis was performed using approved air quality models and five years of historical hourly meteorological data. This analysis indicated that Power Block 4 will not cause any violations of federal or state AAQS and will comply with applicable PSD Class II and Class I increments. The maximum impact of the Project was estimated to be well below the applicable PSD Class II increments. Maximum ambient air impacts were also estimated to

be well below the applicable AAQS. Using worst case air emissions during oil firing, it was shown that the Project impacts would be less than the PSD Class I increments, as well as less than the Class I significant impact levels, and therefore were concluded not to be significant in the PSD Class I area. (PEF Ex. 6, Osbourn at 8-14, Exs. SO-3 and SO-4; FDEP Ex. 2 at 7-8, 16-17).

44. Air emissions from Power Block 4 are not expected to have any impact on vegetation or to cause any growth-related air quality impacts. The results of the visibility impact analysis of the Project's emissions in the nearest PSD Class I area demonstrated no adverse impact on visibility at that location due to Power Block 4. (PEF Ex. 6, Osbourn at 14-15; FDEP Ex. 2 at 6-7, 17).

Noise

45. Noise impacts during operation of Power Block 4 were shown not to be significant. Noise monitoring was originally conducted at various locations around the Hines Energy Complex site prior to construction and operation of Power Block 1. Additional noise monitoring was conducted at these locations in 2000 and 2004 during the permitting of Power Blocks 2 and 4, to determine any changes since the original permitting. There are only a few isolated rural residences in the land area surrounding the site. The nearest residence is about 2.5 miles

from the proposed Power Block 4. Industrial activities in the surrounding area result in considerable traffic on nearby roads, causing noise levels to exceed the EPA guideline of 55 dBA. Without the area traffic, ambient noise levels meet the EPA guidelines. (PEF Ex. 1 at 2-65 to 2-72). Using a conservative approach which tends to overstate the Project impacts, noise impacts due to operation of Power Block 4 would increase by less than 2 dBA at the nearest receptor and will not be significant. Therefore, the Project will meet applicable noise criteria and no significant noise impacts will occur as a result of the Project. (PEF Ex. 6, Osbourn at 15-16; PEF Ex. 10, Slide 23; PEF Ex. 1 at 5-9 to 5-12).

Land Use and Socioeconomic Impacts

46. The Plant Island, where Power Block 1 is in operation and where Power Block 4 will be constructed, is located near the southern end of the site. The northern boundary of the Plant Island is about two miles south of CR 640. The western limit of the City of Fort Meade is about 3.9 miles east of the Plant Island, and the unincorporated community of Homeland is more than 3.5 miles northeast of the Plant Island. The nearest residential use is three homes located approximately 2.5 miles from the southern boundary of the Plant Island. Otherwise, the entire area surrounding the proposed power plant site consists of existing or former phosphate mines. The site is buffered

from surrounding populations at Homeland and Fort Meade by an extensive buffer area on the eastern perimeter of the site. There has been almost no change in land use and very little change in the landscape in the area of the Hines Energy Complex since the original site certification. (PEF Ex. 6, Zwolak at 5-6).

47. There have not been any changes in the area surrounding the Hines Energy Complex that would change the land use and socio-economic conclusions reached in the Final Order of Certification issued for the site by the Siting Board on January 27, 1994. The most significant change has been the completion of another nearby power plant approximately three miles southeast of the Hines site. (PEF Ex. 6, Zwolak at 6).

48. No land use or socio-economic impacts will be associated with construction of Power Block 4 that were not previously addressed in the Final Order of Certification for the Hines Energy Complex in 1994. (PEF Ex. 6, Zwolak at 6-8).

49. The land use impacts from development and construction of Power Block 4 will be quite minimal, and the economic benefits will be substantial. Current operating employment at the Hines Energy Complex is 29. The staffing level at the plant is expected to increase by six employees with the addition of Power Block 4. Annual payroll was $2.7 million in 2002. The

annual payroll will increase by about $493,000 when Power Block 4 becomes operational in 2007. (PEF Ex. 6, Zwolak at 8).

50. The estimated increase in property taxes for Power Block 4 is $5.0 million. Over one-half of this revenue goes to support the Polk County school system. (PEF Ex. 6, Zwolak at 8; PEF Ex. 1 at 7-1).

Agency Positions and Stipulations

51. The FDEP, the Florida Department of Community Affairs, the FDOT, and the SWFWMD each prepared written reports on the Project. (FDEP Ex. 2). Each of these agencies either recommended approval of Hines Power Block 4 or otherwise did not object to certification of the proposed power plant. The FDEP has proposed a series of Conditions of Certification for the Project that incorporate the recommendations of the various reviewing agencies. At hearing, the FDEP added one additional condition related to air emissions monitoring. (Tr. 54-55). PEF states that it can comply with these Conditions of Certification in the design, construction, and operation of the Hines Power Block 4. (Tr. 21, 56). No state, regional, or local agency has recommended denial of certification of the Project or has otherwise objected to certification of the Project. (PEF Ex. 4).

52. Subject to compliance with the proposed conditions of certification, the proposed design of Hines Power Block 4 offers

reasonable assurance that the standards of the FDEP and other affected regulatory agencies will be met and that the operation safeguards are technically sufficient for the protection of the citizens of the state. The Hines Power Block 4, as proposed, minimizes through reasonable and available methods the adverse effects on human health, the environment, the ecology of the land and its wildlife, and the ecology of state waters and their aquatic life. (FDEP Ex. 1 at 28; Tr. 57-59).

CONCLUSIONS OF LAW

53. The Division of Administrative Hearings has jurisdiction over the parties to and the subject matter of this proceeding. §§ 120.569, and 120.57(1), 403.508(3), Fla. Stat.

54. This proceeding was conducted to implement the purposes and intent of the Florida Electrical Power Plant Site Certification process. The purposes of that process are to assure the citizens of Florida that the construction and operation safeguards of the PEF Hines Power Block 4 Project are technically sufficient to protect their health and welfare and to effect a reasonable balance between the need for the Project and the environmental impacts on air and water quality, fish and wildlife, and the water resources and other resources of the State resulting from the Project’s construction and operation. § 403.502(1)-(2), Fla. Stat.

55. In accordance with Chapters 120 and 403, Florida Statutes, and Florida Administrative Code Chapter 62-17, proper public notice was accorded all persons, entities, and parties entitled thereto. All the necessary and required governmental agencies were parties to this proceeding or were otherwise afforded adequate opportunity to participate in this proceeding. All required reports by State, regional, and local agencies were completed and presented.

56. The FPSC, in an Order dated November 23, 2004, has determined a need exists for the 530 MW (nominal) of electrical generating capacity to be supplied by the Project, pursuant to the requirements of Section 403.519, Florida Statutes.

57. The Governor and Cabinet of the State of Florida, sitting as the Siting Board, determined in an order dated January 26, 1993, that the Hines Energy Complex site is consistent with the existing land use plans and zoning ordinances of Polk County, pursuant to the procedures set out in Section 403.508(1) and (2), Florida Statutes. The addition of Power Block 4 will not expand the existing boundaries of the Hines Energy Center or introduce a new fuel not previously certified for the Hines Energy Complex. Further consideration of consistency with local land use plans and zoning ordinances is not required for this Supplemental Site Certification Application, pursuant to Section 403.517(3), Florida Statutes.

58. The FDEP and the other participating agencies have all recommended or otherwise do not object to certification of the Hines Power Block 4 for construction and operation, subject to this Recommended Order and to the Conditions of Certification recommended by FDEP. (FDEP Ex. 2). PEF has indicated its acceptance of these proposed conditions of certification. As a result, none of the parties to this proceeding oppose certification of the Hines Power Block 4.

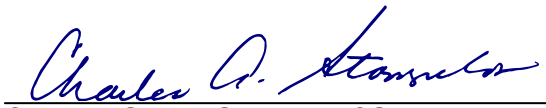
59. Based upon a preponderance of the evidence presented at the certification hearing held on March 23, 2005, PEF has met its burden of proving that the Hines Power Block 4 Project should be certified as proposed. Competent, substantial evidence presented at the hearing demonstrates that the construction and operational safeguards for the Hines Power Block 4 Project are technically sufficient to protect the health and welfare of the citizens of Florida and are reasonable and available methods to achieve that protection. If constructed, maintained, and operated in accordance with this Recommended Order and the FDEP's proposed Conditions of Certification, the proposed Project will produce minimal adverse effects on human health, the environment, the ecology of the land and its wildlife, and ecology of state waters and their aquatic life. Certification of the Project is consistent with the statutory goal of the Florida Electrical Power Plant Siting Act of

providing abundant, low cost electrical energy, and certification will affect a reasonable balance between the environmental and other impacts which might occur and the need for the Project as separately determined by the FPSC.

RECOMMENDATION

Based on the foregoing Findings of Fact and Conclusions of Law, it is RECOMMENDED that the Governor and Cabinet, sitting as the Siting Board, enter a Final Order granting certification to PEF to construct and operate a new 530 MW natural gas-fired electrical power plant (Hines Power Block 4 Project) in Polk County, Florida, in accordance with the Conditions of Certification, FDEP Exhibit 2.

DONE AND ENTERED this 5th day of April, 2005, in Tallahassee, Leon County, Florida.



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Filed with the Clerk of the
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NOTICE OF RIGHT TO SUBMIT EXCEPTIONS

All parties have the right to submit written exceptions within 15 days from the date of this Recommended Order. Any exceptions to this Recommended Order should be filed with the agency that will issue the Final Order in this case.