

TREASURE COAST REGIONAL PLANNING COUNCIL

Final Agency Report on the Florida Power & Light Company Riviera Beach Energy Center

July 17, 2009

Introduction

Pursuant to the Florida Electrical Power Plant Siting Act (Sections 403.501 – 403.539, Florida Statutes) Florida Power & Light Company (FPL) has submitted to the Florida Department of Environmental Protection (FDEP) a Site Certification Application for the Riviera Beach Energy Center (RBEC). The proposal is to convert the existing Riviera Plant in Palm Beach County to a modern facility. As the coordinating agency, FDEP has requested that Council review the application and submit a report to FDEP. Council's report is due by August 26, 2009.

Council's report is to contain recommendations that address the impact upon the public of the proposed electrical power plant, based on the degree to which the power plant is consistent with the applicable provisions of the Strategic Regional Policy Plan adopted pursuant to Chapter 186, Florida Statutes and other matters within its jurisdiction.

Summary of the Project

The existing FPL Riviera Plant is located primarily within the City of Riviera Beach with a small portion in the City of West Palm Beach. The existing site consists of approximately 46 acres. The main part of the facility is situated on about 39 acres bound by U.S. Highway 1 to the west, the Port of Palm Beach to the north, Lake Worth Lagoon to the east, and residential development to the south. An additional 7 acres of the site occupied by transmission lines is located to the west of U.S Highway 1.

FPL has operated a power plant at this site since 1946. Units 1 and 2 went into service in 1946 and 1953, respectively. Both units were dismantled, removed from the site, and replaced by Units 3 and 4, which went into service in 1962 and 1963, respectively. Each unit is approximately a 300 MW unit with conventional dual-fired steam boilers and steam turbine units. The primary fuel type is heavy oil and the backup fuel type is natural gas. Currently, oil is delivered by barge through the Port of Palm Beach and natural gas is delivered through a lateral from the Florida Gas Transmission Company pipeline, which runs north-south through the region near the Florida Turnpike.

Water from Lake Worth Lagoon is used for once-through cooling water. Water for cooling is withdrawn from a slip in the Port of Palm Beach via a 125-foot submerged culvert. After the cooling water is heated, it flows through two 90-inch buried pipes extending 1,941 feet to a discharge point at a depth of 16.58 feet below mean sea level in the middle of Lake Worth Lagoon. A portion of the heated cooling water is discharged

via a siphon at an embayment near the shoreline to provide a warm water refuge for manatees.

The RBEC project consists of converting the existing Riviera Plant into a 1,250 MW combined cycle power plant. The combined cycle unit will consist of three advanced combustion turbines and three heat recovery steam generators, which will utilize waste heat from the combustion turbines to produce steam to be utilized in a single steam turbine generator. The converted plant will be located in the existing site boundaries east of U.S. Highway 1. The portion of the site west of U.S. Highway 1 will be used for construction parking and a laydown area for construction equipment and materials. A new manatee viewing center open to the public will be constructed in the southeast corner of the project site, adjacent to the manatee embayment area. The number of employees at the converted plant will be similar to the existing plant. The new RBEC is expected to begin operation in 2014.

The combustion turbines will use natural gas as the primary fuel with ultra low-sulfur distillate light oil used as a backup fuel. FPL is proposing to deliver natural gas to the site via a natural gas pipeline. FPL has filed a proposal with the Florida Public Service Commission for the construction of a new underground natural gas pipeline, the Florida EnergySecure Line, which would include a lateral pipeline to the RBEC. The Florida EnergySecure Line will require separate review and certification by the state. Onsite storage of natural gas is not proposed on the RBEC site. Ultra low-sulfur light oil will be delivered to the site by truck or existing pipeline and stored in a new fuel oil tank with integral secondary containment. The existing tanks will be permanently retired and removed along with the existing equipment according to applicable regulations.

Primary water uses at RBEC will be for cooling water and process water. Cooling water is required for condenser cooling and auxiliary equipment cooling. Condenser cooling for the steam cycle portion of the converted plant will be accomplished using the existing once-through cooling water system intake and discharge structures. Process water is required for combustion turbine inlet air cooling, nitrogen oxides injection water, steam cycle makeup, service water, and fire protection. Minor uses will include intake screen wash water, potable water for employee use, and water for landscape irrigation.

The stormwater management system for the converted plant will be designed to handle a 25-year 72-hour storm event. Storm water runoff that comes in contact with the power block and equipment areas will be treated through an oil/water separator and routed to the onsite stormwater detention ponds. Stormwater from outside the power block will also be collected and routed to the stormwater ponds. The storm water management system is designed to meet all federal, state, regional, and local requirements. All areas used for construction will meet stormwater management requirements through Best Management Practices, which are described in the RBEC Site Certification Application.

The RBEC will connect to the FPL transmission network through the existing switchyards, which will be expanded and relocated on the site. No new transmission lines are required to connect the RBEC to the existing transmission network. However, the application indicates that FPL will upgrade the existing transmission line between RBEC and the FPL Ranch Substation within the existing FPL transmission right-of-way and will

install a new 230 kV transmission line between the Ranch and Cedar Substations within an existing FPL transmission right-of-way. FPL will modify transmission line routing within the existing right-of-way adjacent to the Ranch Substation and will upgrade the existing Ranch and Cedar substations within the fence lines to accommodate the additional generation from RBEC. In addition, FPL will install new distribution lines from existing rights-of-way to provide temporary electric service to RBEC during construction. Any individual permits or approvals required for these activities will be obtained separately from the Power Plant Siting Act certification process.

Evaluation

The RBEC will be constructed within the existing site boundaries of the current Riviera Plant. The proposed project will more than double the generating capacity (1,250 MW versus 600 MW) of the existing Riviera Plant. The project will convert the existing 1960s vintage oil-fired facility to an advanced, natural gas-fired combined cycle plant that minimizes air pollutant emissions by using the most efficient pollution-preventing technology. The converted plant will use at least 33 percent less fuel than the existing plant to produce the same amount of electricity. The converted plant will reduce regulated air emissions by over 90 percent and will reduce the rate of carbon dioxide emissions at the facility by about 50 percent compared with the existing Riviera Plant. This will result in significant annual emissions reductions and air quality benefits. The converted plant will have a lower profile because the stacks will be about 150 feet high compared with the stacks at the existing plant, which are about 300 feet high. The converted plant will continue to use the existing Plant's once-through cooling water intake and discharge structures for condenser and auxiliary cooling. The design of the intake flow of cooling water for RBEC will be the same as for the existing plant. Conversion of the existing plant will not increase the potential thermal loading to Lake Worth Lagoon compared to the potential thermal loading from the existing plant. The number of traffic trips by employees to the new RBEC is expected to be approximately the same as the number of traffic trips to the existing Riviera Plant.

Council has recommended for many years that the existing Riviera Plant be upgraded because of issues related to soot and emissions from the facility. In its final agency report on the West County Energy Center (WCEC), Council urged FPL and the State of Florida to make modernization of the Riviera Plant a priority. Council recommended the review of the Site Certification Application for the Riviera Plant upgrade be expedited by the State and all parties involved in the review process. Furthermore, in the WCEC conditions of certification, Council included a special condition that recommended: Upon issuance of an affirmative determination of need by the Florida Public Service Commission for the Riviera Plant modernization project, the licensee shall take all prudent and commercially reasonable actions to convert the Riviera Power plant to natural-gas combined cycle generating technology by December 31, 2015. The Site Certification Application for the RBEC is consistent with the intent of this recommendation.

Council strongly supports upgrading older less efficient and more polluting facilities before developing new power plants. However, Council remains very concerned about FPL's increased reliance on natural gas and other fossil fuels for their electrical

generating units. An increase in the reliance of natural gas as a fuel source makes the region more vulnerable to supply interruptions than if a more balanced approach to fuel sources were adopted by FPL. Council continues to urge FPL and the State of Florida to continue developing new programs to: 1) reduce the reliance on fossil fuels as future energy sources; 2) increase conservation activities to offset the need to construct new power plants; and 3) increase the reliance on renewable energy sources to produce electricity.

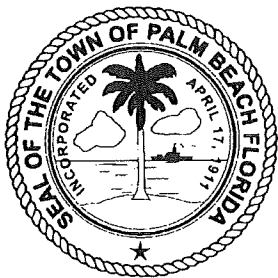
As part of this review, Council solicited comments from affected jurisdictions, including Palm Beach County, City of Riviera Beach, City of West Palm Beach, Town of Lake Park, Town of Mangonia Park, Town of Palm Beach, and Town of Palm Beach Shores. As of the date of this report, Council only received comments from the Town of Palm Beach (Exhibit 1). The Town is primarily concerned with potential impacts associated with the transport of fuel to the new power plant. Specifically, the Town would like to:

1. Prohibit the RBEC from receiving fuels from any water-based or subaqueous pipeline within the waters of, upon or below the seabed or beds of the Atlantic Ocean, the Palm Beach Inlet, and Lake Worth Lagoon to eliminate the possibility of significant environmental damage within the areas in question;
2. Prohibit the RBEC from receiving fuels from any offshore based terminal within the waters of the Atlantic Ocean, Palm Beach Inlet, and Lake Worth Lagoon for safety reasons and to eliminate the possibility of significant environmental damage within the areas in question from such terminal and associated pipeline; and
3. Prohibit the RBEC from receiving fuels from a liquefied natural gas tanker berthed at the Port of Palm Beach or at the RBEC facility to avoid having to deal with safety concerns with such vessels.

The Town of Palm Beach raises legitimate concerns with possible fuel deliver scenarios. However, none of the scenarios discussed by the Town are proposed by FPL in the RBEC Site Certification Application. These fuel delivery scenarios are not part of the proposed project. The potential impacts of these scenarios should be evaluated through the certification or permitting process if and when they are ever proposed. Council encourages FPL to meet with the Town of Palm Beach to clarify and discuss all fuel delivery options currently being considered for the RBEC. In addition, Council encourages FPL to work with the City of Riviera Beach and nearby communities to develop a plan to create and maintain beautified landscape buffers along the transmission line corridors connecting to the RBEC. Finally, Council encourages FPL to make a special effort to train and hire local residents for work on the project.

Conclusion

The RBEC Project is not in conflict or inconsistent with the goals, strategies, and policies contained in the Strategic Regional Policy Plan, provided that the project is constructed and operated in compliance with the conditions of certification approved by the State of Florida. Council recommends approval of the project.



TOWN OF PALM BEACH

Office of the Town Manager

June 26, 2009

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TREASURE COAST
REGIONAL PLANNING COUNCIL

Ms. Cindy Mulkey
Engineering Specialist
Department of Environmental Protection
Siting Coordination Office
Mail Station 48
3900 Commonwealth Blvd.
Tallahassee, FL 32399

Re: FPL Riviera Beach Energy Center (RBEC); Town of Palm Beach Preliminary Statement of Issues

Dear Ms. Mulkey:

I am writing this letter containing a Preliminary Statement of Issues on behalf of the Town of Palm Beach as the Town's designated staff member to monitor the proposed RBEC. For the record, this letter is being sent to you pursuant to the requirements of Chapter 62-17.093, Florida Administrative Code.

The Town of Palm Beach, hereinafter referred as the "Town," disputes that there will be "significant" benefits associated with the RBEC Project without certain precautions being taken with the proposal in conjunction with the approval process. The Town does not dispute that there could be a substantial increase in electrical generating capacity from the RBEC, but questions the efficacy of FPL's position that there will be less environmental impact absent a Florida Department of Environmental Protection (FDEP) requirement for FPL to limit the transmission of the primary fuel(s) needed to operate the RBEC to land based transmission lines. While RBEC regulated air emissions may be reduced if RBEC runs primarily on natural gas, FPL has not accounted for the environmental impact that will occur if the fuel transmission mechanism FPL employs to transport the natural gas or light oil needed as fuel for the RBEC is on, within, or below the waters of the Atlantic Ocean, the Palm Beach Inlet or the Lake Worth Lagoon.

The Town's preliminary issues with the proposed RBEC are as follows:

1. The FPL proposed RBEC should be precluded from receiving its required fuels from any water based or subaqueous pipeline within the waters of, upon or below the seabed or beds of the Atlantic Ocean, the Palm Beach Inlet and the Lake Worth Lagoon to eliminate the possibility of significant environmental damage within the areas in question.

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2. The FPL proposed RBEC should be precluded from receiving any fuel from any offshore based terminal within the waters of the Atlantic Ocean, the Palm Beach Inlet and the Lake Worth Lagoon for safety reasons and to eliminate the possibility of significant environmental damage within the areas in question from such terminal and associated pipeline.
3. The FPL proposed RBEC should be precluded from receiving any fuel from a Liquefied Natural Gas (LNG) tanker berthed at the Port of Palm Beach or at the RBEC facility to avoid having to deal with the many safety concerns with such vessels as they are easy targets for terrorist activities.

FPL is a subsidiary of FPL Group, Inc. In December 2004, another subsidiary of FPL Group announced that they had agreed with subsidiaries of the El Paso Corporation to combine development efforts and resources to bring a new supply of natural gas to South Florida. This combined effort by FPL Group was for a proposed pipeline to transport natural gas from a LNG terminal located on Grand Bahama Island in the Bahamas to the Florida mainland. The project ultimately became known as the Seafarer Pipeline System. This 162 mile, 26" pipeline would have traversed through international and U.S. waters. It was proposed to come on shore in Florida near the Port of Palm Beach and then travel 41 miles on shore with two delivery points; one a power plant and the other an existing gas transmission system known as the Florida Gas Transmission Pipeline.

The Seafarer Pipeline System would have had the capability of delivering 1.1 billion cubic feet a day of natural gas. The Seafarer Pipeline would have traversed over and/or under the off-shore reef system seaward of Palm Beach and the Palm Beach Inlet, potentially disrupting the operation of the Palm Beach Inlet Sand Transfer Plant, the fragile beds of the Atlantic Ocean, the Palm Beach Inlet, the Lake Worth Lagoon and, potentially, the usage, appearance and safety associated with the Peanut Island recreational area. Thereafter, the Seafarer Pipeline would have made landfall on FPL property just south of the Port of Palm Beach where the existing Riviera Beach Power Plant stands today and where the RBEC is proposed. The Town of Palm Beach, Palm Beach Shores and Palm Beach County strongly objected to the location of the Seafarer Pipeline through the Palm Beach Inlet. Environmental agencies had enumerable issues with the proposal and its impact on the fragile environment of the areas previously mentioned. Fortunately, in the latter part of 2006, El Paso Corporation cancelled the Seafarer Pipeline Project, which it had proposed in association with the FPL Group, without explanation.

Now comes FPL proposing to build a \$1.5 billion, 300 mile underground natural gas pipeline called the Florida Energy Secure Line that will connect a new interstate pipeline in Bradford County in North Florida to FPL's Indiantown plant. Two other lines will connect the new pipeline with plants FPL is modernizing in Riviera Beach (RBEC Project) and Cape Canaveral. Two-thirds of the pipeline capacity would be used to bring natural gas to the plants.¹ In spite of

¹ Florida Trend, June 2009.

this recent announcement, FPL provides no nexus between its newly announced land based pipeline project and the RBEC in its Site Certification Application.

With this recent announcement by FPL to transport natural gas a more traditional way by utilizing land-based pipelines, it should not be a problem for FPL or its parent, FPL Group, to commit in an irrevocable form, as determined by legal counsel for FDEP, that neither FPL, FPL Group, or any of FPL Group's subsidiaries will support, promote or utilize a subaqueous natural gas pipeline of any kind to provide natural gas or other fuels to fuel RBEC. Palm Beach noted with concern that FPL did not specify in its response to a Florida Fish and Wildlife question about fuel sources and how fuel will be delivered to the proposed new facility that the pipeline would be land based, thereby leaving open the possibility for the pipeline to be subaqueous emanating from the water bodies due east of the RBEC. Palm Beach requests that FDEP impose upon FPL a land based pipeline delivery of natural gas for the RBEC to ensure that not only the reductions in carbon dioxide emissions that FPL promises will be realized, but to eliminate the potential for water pollution and severe environmental damage off shore, on, or below, the sea bed of the Atlantic Ocean, the bed of the Palm Beach Inlet, the bed of the Lake Worth Lagoon and the environs of the Peanut Island recreational area. Additionally, enumerable safety concerns caused by the potential for placing a volatile pipeline in a shipping channel in a predominately residential environment should be prohibited to the extent that any such pipeline is related to the RBEC.

There is also the possibility that operators of the RBEC will someday seek to utilize an off-shore terminal to download and transmit fuels to the RBEC. This option would also require use of the waters and/or beds of the Atlantic Ocean, the Palm Beach Inlet, or the Lake Worth Lagoon. This possibility should not be allowed and its prohibition ensured by making such a prohibition a condition of RBEC approval.

Lastly, there are far too many safety issues and security concerns associated with LNG tankers. To avoid these risks to the predominately residential land uses in this region it should be a condition of approval of the RBEC that the berthing of any LNG tanker at the Port of Palm Beach or at the RBEC facility to fuel the RBEC shall not be allowed. The Town noted with concern that the FPL RBEC application referenced FPL's intention to renew its Easement and Facilities Agreement with the Port of Palm Beach to use Port property to accommodate FPL underground pipelines to berth slips and to maintain FPL berthing rights at the Port of Palm Beach.²

Based upon the forgoing identified preliminary issues, the Town respectfully requests:

1. The Governor and Cabinet sitting as the Siting Board or the Secretary of the FDEP need to prohibit the FPL proposed RBEC from receiving its required fuels from any water based or subaqueous pipeline within the waters of, upon or below the seabed or beds of

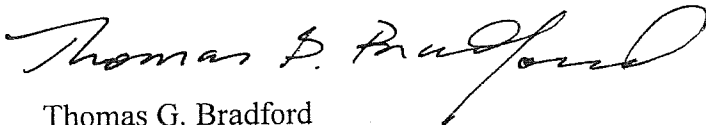
² See the FPL Site Certification Application, Volume I of III, February 2009, Section 3.2.4.

the Atlantic Ocean, the Palm Beach Inlet and the Lake Worth Lagoon to eliminate the possibility of significant environmental damage within the areas in question.

2. The Governor and Cabinet sitting as the Siting Board or the Secretary of the FDEP need to prohibit the FPL proposed RBEC from receiving any fuel from any offshore based terminal within the waters of the Atlantic Ocean, the Palm Beach Inlet and the Lake Worth Lagoon for safety reasons and to eliminate the possibility of significant environmental damage within the areas in question from such terminal and associated pipeline.
3. The Governor and Cabinet sitting as the Siting Board or the Secretary of the FDEP need to prohibit the FPL proposed RBEC from receiving any fuel from a Liquefied Natural Gas (LNG) tanker berthed at the Port of Palm Beach or at the RBEC facility to avoid having to deal with the many safety concerns with such vessels as they are easy targets for terrorist activities.

The preliminary issues raised herein relate to the submerged lands of Florida and the waters of this state, both of which are the purview of FDEP. FDEP's concurrence with the concerns expressed herein and your efforts to impose the same on FPL are greatly appreciated.

Sincerely,



Thomas G. Bradford
Deputy Town Manager

TGB/ab

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cc: Mayor and Town Council
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John S. Page, Director of Planning, Zoning and Building
John Lindgren, Planning Administrator
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Department of Environmental Protection
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