

**STATE OF FLORIDA**  
**DEPARTMENT**  
**OF**  
**ENVIRONMENTAL PROTECTION**



**Electric Power Plant Site Certification**  
**Project Analysis Report**

**Florida Power and Light Company**  
**Cape Canaveral Energy Center**

**PA 08-53**  
**DEP OGC Case No. 08-2971**  
**DOAH Case No. 09-0039EPP**  
**August 10, 2009**

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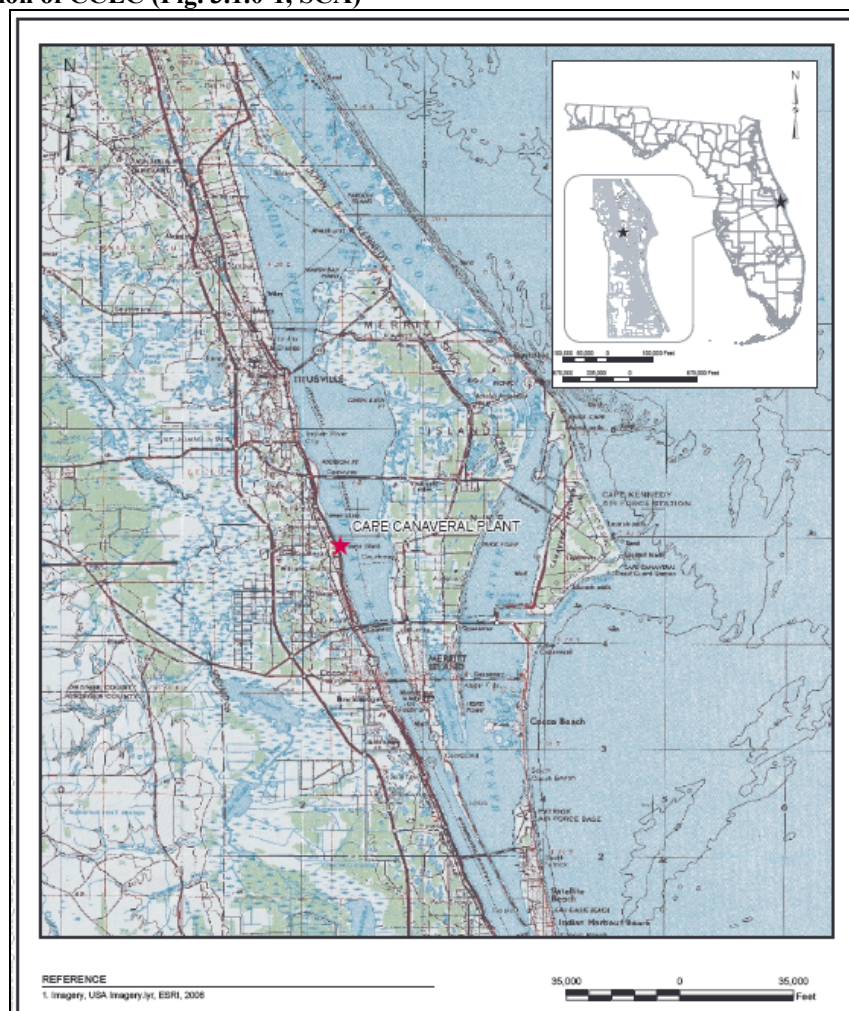
## 1.0 SUMMARY

### 1.1 Facilities Overview

#### 1.1.1. Existing Facilities

The Cape Canaveral Energy Center (CCEC) is owned and operated by the Florida Power and Light Company (FPL), and is located between Cocoa and Titusville, in unincorporated Brevard County, Florida (Figure 1). The CCEC Site is bounded on the east by the Indian River Lagoon (Intracoastal Waterway), on the west by U.S. Highway 1, on the south by Cottrell Avenue, and on the north by a private medical/office facility. The CCEC Site consists of about 41.4 acres of FPL-owned property that includes the land that extends east into the Indian River Lagoon (Intracoastal Waterway), which is also referred to as “the peninsula”. This man-made peninsula is a functioning and integral component of the site and the Cape Canaveral Plant operations; specifically, the peninsula was constructed by FPL to serve as a barrier for thermal discharge between the plant intake and discharge structures (Figure 2). In addition, the peninsula has a functioning barge slip of about 1.5 acres submerged land leased from the State of Florida that services the plant.

Figure 1. Location of CCEC (Fig. 3.1.0-1, SCA)



**Figure 2. Aerial View (Fig. 3.1.0-3, SCA)**



### **1.1.2 Proposed Project Description**

FPL proposes to convert the existing 43-year-old Cape Canaveral Plant [two nominal 400-megawatt (MW) conventional dual-fuel fired generating units and support facilities] into a more efficient energy facility using the latest combined cycle technology. The converted plant will be located within the existing plant site boundaries. The conversion is intended to result in increased power generation without using additional land and water sources. The converted plant should be more energy efficient than the existing plant and provide cleaner energy to FPL's customers. The converted plant is expected to use at least 33 percent less fuel than the existing plant, for an equivalent amount of electricity production. It should be capable of producing nearly 54 percent more electricity (i.e., 1,250 MW vs. current 800 MW). The existing Cape Canaveral Plant is anticipated to be renamed the Cape Canaveral Energy Center (CCEC), with an in-service date for the converted plant of about June 2013. The project includes CCEC, an offsite construction laydown and parking area, and a minor upgrade to existing transmission

lines/switchyard/substation to connect CCEC to the FPL transmission system. The existing Units 1 and 2 are shown in Figure 3. The newly proposed plant is shown in Figure 4.

**Figure 3. FPL Cape Canaveral Existing Units 1 and 2**



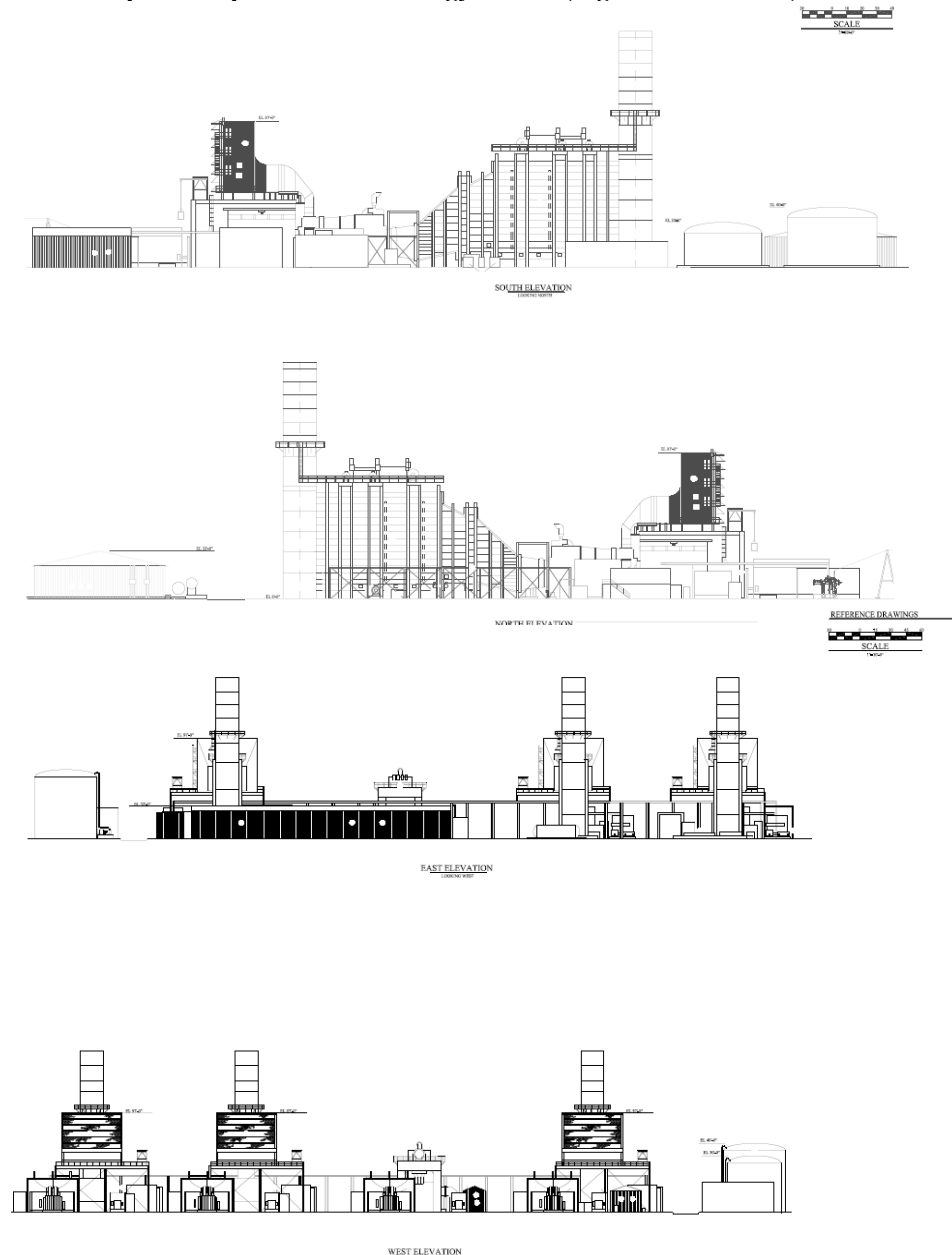
**Figure 4. Artist Rendition of New Combined Cycle Unit - CCEC**



CCEC will be a 3-on-1 combined cycle unit, which will consist of three new advanced combustion turbines (CTs) and one steam turbine/electric generator. Each CT will be connected to a heat recovery steam generator (HRSG). The HRSG will use the waste heat energy from the CTs to produce steam to be utilized in a new steam turbine/electric generator. The CTs are similar to, but much larger and more efficient than, traditional jet engines. The CTs produce electrical energy by direct connection to an electric generator. The exhaust heat from the CTs, which would otherwise be wasted energy released to the atmosphere, will be routed through the HRSGs that act as boilers to produce steam for the new turbine generator to produce additional electricity. The HRSGs will have duct burners to maximize the converted plant's generating capacity. Natural gas will be the primary fuel for the converted plant. Ultra low-sulfur light oil will be used as a backup fuel for the CTs. The primary cooling water source for CCEC will be the Indian River Lagoon (Intracoastal Waterway), which will continue to provide once-through cooling water. The existing municipal water supply will continue to be used for process water.

By using natural gas as a primary fuel, the converted plant will tend to minimize air emissions and will be among the cleanest and most efficient fossil fuel-fired electric power generating plants of its type in the State of Florida. Decommissioning and dismantling of the existing generating units will be part of the project and will be required prior to the construction of CCEC. Certain components, such as the cooling water intake and discharge infrastructure and the transmission facilities, will remain intact for use with the converted plant.

**Figure 5. Profile of Proposed Cape Canaveral Energy Center (Figure 4.2.0-2 SCA)**



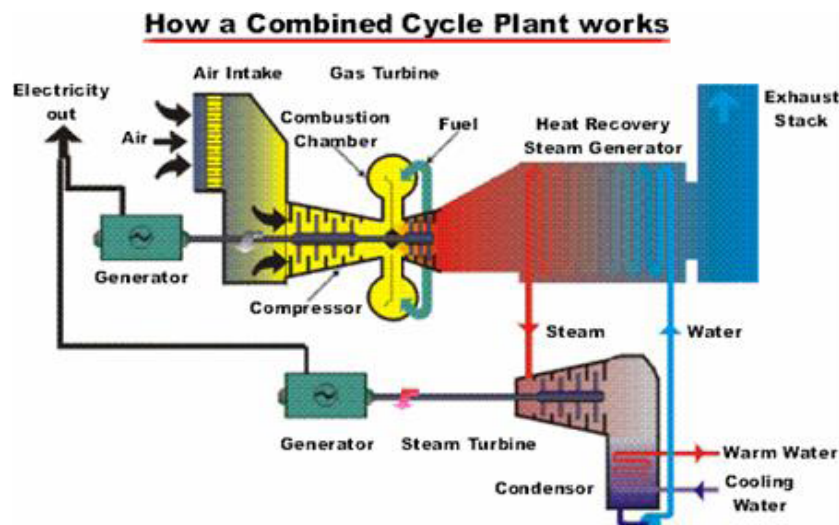
### 1.1.3 Natural Gas-Fired Combined Cycle Generating Unit

The existing Cape Canaveral Plant consists of two nominal 400-MW electrical generating units with conventional dual-fuel fired steam boilers and steam turbine generators. Each of these

conventional steam boilers can burn No. 6 fuel oil or natural gas. Unit 1 entered service in 1965 and Unit 2 entered service in 1969. Existing onsite support facilities include service buildings, an administration building, fuel oil tanks, water treatment facilities, once-through cooling water intake and outfall structures, wastewater treatment basins and an onsite gas pipeline and gas yard leased by Florida Gas Transmission (FGT). Offsite support facilities, located on the west side of U.S. Highway 1, include a well field, transmission lines, and a substation.

Two different classes of CT designs are currently considered for the converted plant: the Mitsubishi Power Systems (MPS) “G” Class CTs, and the Siemens Power Generation, Inc. “H” Class CT. The MPS “G” Class CTs consist of the M501G (used at West County Energy Center), the updated M501G3 and the M501G1PLUS. Duct burners are proposed for each HRSG and will be fired during peak demand periods to achieve the total nominal generating capacity. Duct firing will be limited to an equivalent of 2,880 hours per CT per year at the maximum firing rate. Each CT will utilize evaporative cooling for inlet air cooling. Evaporative cooling systems achieve adiabatic cooling using water in the form of water evaporated from a treated paper material. The evaporated water extracts the latent heat of vaporization from the inlet air stream when the water droplet is converted to water vapor (Figure 6).

**Figure 6. Components of a Combined Cycle Unit**



Heat is removed at a rate of 1,075 British thermal units per pound (Btu/lb) of water. The result is a cooler, more moisture-laden air stream. This allows additional power to be produced. Gas for CCEC will be transported to the site via a natural gas pipeline. New onsite gas compressors may be installed by FPL to raise the gas pressure to the appropriate level for the CTs. The project may also involve installation of a new onsite gas yard and onsite gas pipeline. Ultra low-sulfur light oil will be either trucked or barged to the site and stored in an existing fuel oil tank. When firing natural gas, NO<sub>x</sub> emissions will be controlled using dry low-NO<sub>x</sub> (DLN) combustion technology and selective catalytic reduction (SCR). Demineralized water is utilized during firing of ultra low-sulfur light oil to reduce the combustion temperature and the generation of NO<sub>x</sub> emissions from the CT. Water injection and SCR will be used to reduce NO<sub>x</sub> emissions when firing ultra low-sulfur light oil.

## **1.2 Environmental and Social Impacts**

The Cape Canaveral Energy Center site is situated on 43 acres site located in unincorporated Brevard County, Florida. Port St. John Dependent District City of Cocoa is located within 5 miles to the south and the City of Titusville to the north.

The CCEC site is designated as Public Facility under the existing future land use map of the Brevard County Comprehensive Plan's future land use element. Adjacent properties are designated as follows; residential to the south and southwest, commercial to the northwest, utility systems to the west and private medical facility to the north. The CCEC is not situated within a 100 or 500 year flood zone although the shoreline is considered within the 100 year flood plain.

There are two national wildlife refuges (NWRs) and one conservation area within 5 miles of the site: Merritt Island NWR, St. John's NWR, and Pine Island Conservation Area, which are all located in Brevard County. The nearest federal prevention of significant deterioration (PSD) Class I Areas are the Chassahowitzka National Wildlife Refuge located 109 miles from the site and the Everglades National Park, located about 175 miles. Federal Class I Areas are defined by the Clean Air Act and include certain national parks, national wilderness areas, and international parks that were in existence as of August 7, 1977. These areas represent natural conservation of historical landmarks in this country and are protected by more stringent air quality requirements than other regions.

### **1.2.1 Local Air Quality Impacts**

The Department of Environmental Protection's Division of Air Resource Management regulates major air pollution sources in accordance with Florida's Prevention of Significant Deterioration (PSD) program, as defined in Rule 62-212.400, F.A.C. For new major facilities, or for modifications to existing facilities, each registered air pollutant is reviewed for PSD applicability based on emissions thresholds known as Significant Emission Rates (SERs).

Best Available Control Technology (BACT) review is required under FDEP and US Environmental Protection Agency (EPA) regulations pertaining to PSD. BACT review is required only for those pollutants that trigger PSD review. Although the emission limits proposed for CCEC appear to be reflective of BACT, as proposed a PSD review is not required for the converted plant.

The project includes and requires the permanent shutdown and dismantling of Units 1 and 2 and the respective stacks as well as one of the fuel oil storage tanks. When emissions from Unit 3 are considered and offset by reductions from the shut down and dismantlement of Units 1 and 2, there will not be a significant net emission increase in any PSD pollutant.

The Department has made a determination that the proposed CCEC Project will comply with all applicable state and federal air pollution regulations as conditioned by the final Air Construction Permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, the emissions standards determinations, review of the air quality impact analysis, and the conditions specified in the permit (see: [http://arm-permit2k.dep.state.fl.us/adh/prod/pdf\\_permit\\_zip\\_files/0090006.005.AC.F\\_pdf.zip](http://arm-permit2k.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0090006.005.AC.F_pdf.zip)).

### 1.2.2 Air Quality Impacts (CO2 Emissions)

In light of the heightened concerns over global warming and Florida's commitment to *The Climate Registry*, it is appropriate to consider carbon dioxide (CO2) emissions from the proposed project. The following summary is intended to put into perspective the projected CO2 emissions from the CCEC project with respect to global CO2 emissions and CO2 emissions from other types of electrical generating facilities.

#### Current and Predicted Levels of Carbon Dioxide Emissions

The primary source of CO2 emissions is the combustion of fossil fuels such as coal, natural gas, and oil. Florida ranks fifth in the nation for CO2 emissions from fossil fuel combustion, contributing almost four and one half percent to the nation's total emissions in 2005.<sup>1</sup> Refer to table 1 below for a comparison of 2005 emissions.

**Table 1. 2005 Emission Comparison**

| <b>Emission Origin</b> | <b>2005 Total CO<sub>2</sub> Emissions<br/>(million metric tons)</b> |
|------------------------|----------------------------------------------------------------------|
| Texas                  | 663.87                                                               |
| California             | 390.64                                                               |
| Pennsylvania           | 277.0                                                                |
| Ohio                   | 269.97                                                               |
| Florida                | 260.74                                                               |
| United States          | 5,966.04                                                             |
| World <sup>2</sup>     | 28,193.00                                                            |

Until recently the United States was the largest emitter of carbon dioxide emissions. According to preliminary estimates China has been the top emitter since 2006.<sup>3</sup>

The Energy Information Administration predicts emissions of CO<sub>2</sub> will reach almost 8,000 million metric tons in the U.S. by the year 2030.

#### Efficiency and Fuel Considerations

Emissions of CO2 directly relate to the quantity of combusted fossil fuel. The more fuel consumed, the more carbon released into the atmosphere. As technologies improve, electric generating facilities of all types are constructed with greater and greater efficiencies. Higher efficiency units require less fuel for equal amounts of energy production. This translates to fewer overall carbon emissions from the more efficient units.

Carbon emissions are also dependent upon the types of fuels combusted. To produce the same amount of energy, more CO2 is released when burning coal, than when burning fuel oil or

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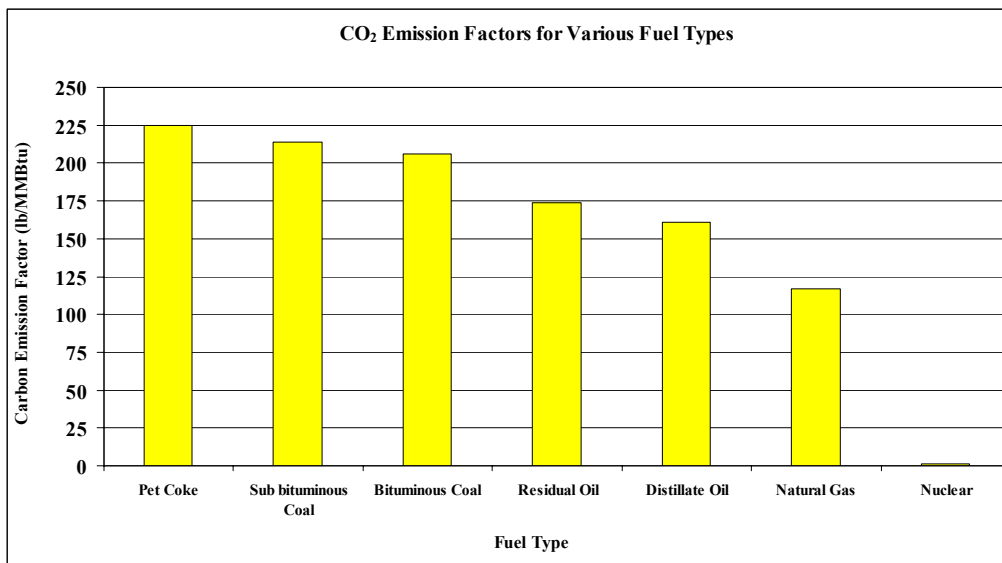
<sup>1</sup>U.S. Environmental Protection Agency, State CO<sub>2</sub> Emissions from Fossil Fuel Combustion 1990-2005. Available at [http://epa.gov/climatechange/emissions/state\\_energyco2inv.html](http://epa.gov/climatechange/emissions/state_energyco2inv.html)

<sup>2</sup> U.S. Energy Information Administration. *International Energy Annual 2005* (EIA 2007b)

<sup>3</sup> Sci-Tech Today (2006-06-21)

natural gas. Coal combustion emits almost twice as much CO<sub>2</sub> per unit of energy as does the combustion of natural gas, whereas the amount from crude oil combustion falls between coal and natural gas. Carbon emission factors for different fuel types are shown in Figure 7 below as the amount of CO<sub>2</sub> emitted per heat energy unit (lb/MMBtu). There are negligible CO<sub>2</sub> emissions associated with the use of nuclear fuels.

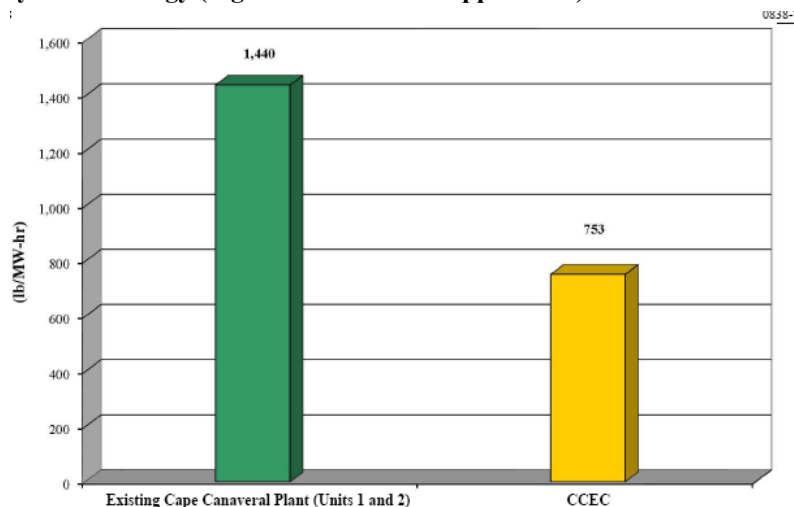
**Figure 7. Carbon Dioxide Emission Factors (Energy Information Administration)**



### Carbon Dioxide Emissions Impacts from Cape Canaveral

The maximum CO<sub>2</sub> emission rate after the conversion of the Cape Canaveral Plant will be about one-half the maximum CO<sub>2</sub> emission rate for the existing plant. The CCEC should also displace generation that would otherwise be produced by less efficient units in FPL's system, thereby reducing system CO<sub>2</sub> emissions. The increased efficiency can be shown by the CO<sub>2</sub> emission rate in pounds of CO<sub>2</sub> emitted per megawatt of energy produced per hour (lb/MW-hr).

**Figure 8. The lb/MW-hr emission rates before and after the conversion of the Cape Canaveral Plant to combined cycle technology (Figure 4.4.2-1 of the Application).**



As shown in Figure 8, the CO<sub>2</sub> emission rate for CCEC will be 753 lb/MW-hr, while the CO<sub>2</sub> emission rates for the existing Cape Canaveral Plant is 1,440 lb/MW-hr, or 190 percent higher than CCEC. Moreover, CCEC will reduce FPL's system emissions of CO<sub>2</sub> by nearly 8 million tons from 2013 through 2040, which should result in a significant reduction in CO<sub>2</sub> emissions FPL's system.

### **1.2.3 Water Usage**

The site is located directly adjacent to the Indian River Lagoon. The Indian River Lagoon system is composed of three interconnected estuarine lagoons, the Mosquito Lagoon, Indian River Lagoon, and Banana River Lagoon. The lagoon system extends southward about 155 miles through six coastal counties from Ponce de Leon Inlet in Volusia County to Jupiter Inlet in Palm Beach County. The system is shallow and narrow with an average depth of about 5 feet and a width that varies from 0.2 to 5.5 miles. Circulation in the lagoon is sluggish except during large storms and near the inlets.

The existing Cape Canaveral Plant has a Consumptive Use Permit from the SJRWMD to withdraw approximately 823 million gallons per day (mgd) from the Indian River Lagoon. With the conversion the CCEC will reduce its withdrawal to approximately 619 mgd, an approximate 25 percent decrease, due to increased water use efficiencies in the power generation process. CCEC will not require additional surface water resources.

The maximum daily groundwater withdrawal of 0.562 million gallons from surficial aquifer system (SAS) wells located west of U.S. Highway 1 on FPL property for use by the existing plant had been permitted by the Consumptive Use Permit as well. Use of reclaimed water from the Brevard County Port St. John Wastewater Facility to reduce groundwater withdrawals was deemed unfeasible by FPL and SJRWMD earlier this year. CCEC will not require additional groundwater resources as withdrawals of ground water from the surficial aquifer system will cease with the converted plant. No adverse impacts to existing wetlands have been documented due to historical withdrawals of groundwater from the surficial aquifer system.

### **1.2.4 Wastewater Disposal**

Sanitary wastewater from the existing Cape Canaveral Plant is routed to a Brevard County publicly owned treatment works (POTW). Restroom facilities will be reconstructed to accommodate the employees of CCEC using the same connection. Sanitary wastewater flows are expected to average approximately 1 to 3 gpm, approximately the same as the existing plant.

### **1.2.5 Solid and Hazardous Waste Disposal**

Solid wastes will be generated by the operation of CCEC, but generally in small quantities. Such solid wastes will be limited to municipal solid waste, infrequent replacement of inlet air filters, and solids from water pretreatment process. An approved solid waste disposal contractor will dispose of all solid wastes. There will be no facilities requiring a permit under FDEP Rule 62-701.300(2), F.A.C., for the converted plant. Any hazardous waste associated with the CCEC will be less than 100 kg per month and may include spent solvents, HRSG chemical cleaning wastes, and other wastes. Hazardous wastes will be collected onsite and disposed of by a licensed hazardous waste contractor.

### **1.2.6 Transportation Impacts**

The site is located at 6000 U.S. Highway 1/North Cocoa Boulevard north of Cottrell Avenue. Access to the site is provided by U.S. Highway 1/North Cocoa Boulevard via three access driveways (Gate 1, the Main Gate, and the Contractor's Gate).

Traffic associated with the project construction will affect area roadways on a temporary basis for the duration of the construction period. The average construction workforce is approximately 290 workers. The length of construction, from dismantlement to conclusion of new units, is expected to be from the spring of 2010 to the summer of 2013. At the peak of construction, mid-2012, there are approximately 650 workers. With the assumption of a 1.3 workers per vehicle trip rate, at peak construction, there will be approximately 500 vehicles on site. FPL indicates in their application that on site roughly 200 vehicles can be accommodated will over 300 vehicles can be accommodated at off-site construction sites with certain potential roadway improvements to U.S. Highway 1 and Clearview Drive.

In addition, the plant contains a functioning barge slip that serves the existing plant. The slip is located south and adjacent to the peninsula. The closest rail system to the site is approximately 0.6 mile to the west (Florida East Coast Railway). The Space Coast Regional Airport and its associated runways lie approximately 3 miles northwest of the site in the City of Titusville. The Melbourne International Airport is located about 26 miles south of the site.

### **1.2.7 Leases and Easements**

The site currently has a lease from the Board of Trustees of the Internal Improvement Trust Fund for a 1.47-acre area used for mooring of barges and tugs/vessels. This lease is Sovereignty Submerged Lands Lease No. 050024374. The Project will require the continuation of this lease to allow shipments of ultra low sulfur light oil to be offloaded to an existing tank that will be converted for this fuel. A perpetual lease will be requested as a condition of certification.

In the 1960s, a peninsula was created by FPL on submerged land using material generated from dredging the barge channel and intake. This peninsula serves to divide the cooling system intake and discharge. FPL has requested a public easement to maintain this peninsula which will also be incorporated as a condition of certification.

FPL provides an easement (approximately 0.18 acre) to FGT, located east of U.S. Highway 1 across from Clearview Drive, for the sole and exclusive use as a metering and regulator site in connection with supplying gas to the Cape Canaveral Plant. Modification of the site could include modification of the existing metering and regulator site. As stated in the easement agreement, modification to the easement requires FPL to notify FGT of the necessary modifications and, upon written request FGT will coordinate efforts to modify the metering and regulator site to accommodate CCEC requirements.

## **2.0 SITE CERTIFICATION PROCESS**

### **2.1 PSC Agency Report - Determination of Need**

Based upon the PSC's Final Order (PSC-08-0591-FOF-EI), issued on September 12, 2008, the conversion of the Cape Canaveral Energy Center with an in-service date of 2013 is the most cost-effective alternative available, as this criterion is used in Section 403.519, F.S. The Commission found that there was a need for the conversion of the Cape Canaveral Energy Center because it will result in a reduction of dependence on natural gas and fuel oil. Building coal or nuclear generation by 2013 is not feasible because of the construction and permitting lead times for those types of generation. The conversion will also lead to an overall increase in system efficiency of 1.1 percent.

According to 403.519(3) "The commission shall be the sole forum for the determination of this matter, which accordingly shall not be raised in any other forum or in the review of proceedings in such other forum. In making its determination, the commission shall take into account the need for electric system reliability and integrity, the need for adequate electricity at a reasonable cost, the need for fuel diversity and supply reliability, whether the proposed plant is the most cost-effective alternative available, and whether renewable energy sources and technologies, as well as conservation measures, are utilized to the extent reasonably available. The commission shall also expressly consider the conservation measures taken by or reasonably available to the applicant or its members that might mitigate the need for the proposed plant and other matters within its jurisdiction which it deems relevant. The commission's determination of need for an electrical power plant shall create a presumption of public need and necessity and shall serve as the commission's report required by s. 403.507(4). An order entered pursuant to this section constitutes final agency action."

The PSC's report is attached as Appendix II-1.

### **2.2 Brevard County Agency Report**

Pursuant to 403.5175(3), F.S. the land use and zoning requirements are not applicable to CCEC. Therefore Brevard County did not conduct a land use determination. The County represents that there are no County nonprocedural requirements not specifically listed in the Application from which a variance, waiver, exemption or other relief is necessary in order for the proposed site and associated facilities to be certified.

The County recommended approval in their July 13, 2009 agency report of the certification of the site and associated facilities proposed, subject to compliance with the Conditions of Certification (attached as Appendix I). Their agency report is attached as Appendix II-2.

### **2.3 Department of Community Affairs Agency Report**

The Department of Community Affairs (DCA) provided their agency report, identifying no issues of concern. In the DCA's preliminary statement, DCA had identified an issue regarding the CCEC's potable irrigation, and process water that would be supplied by the city of Cocoa not being addressed in the City's Water Supply Work Plan.

In its report, DCA has received confirmation from the City of Cocoa that pursuant to Section 163.3177(6)(c), F.S., the water received by the CCEC have been included in their 10 year water supply facilities work plan within their comprehensive plan. These waters have also been included in the Regional Water Supply Plans by the St, Johns River Water Management District. The Department's agency report is attached as Appendix II-3.

#### **2.4 Department of Transportation Agency Report**

In a letter dated July 10, 2009 the Florida Department of Transportation (DOT) recommended approval of the proposed Cape Canaveral Energy Center. This recommendation was made contingent upon the conditions of Section VI of the agency report being addressed. The DOT provided a list of those Conditions within the subject letter (attached as Appendix II-4).

#### **2.5 St. Johns River Water Management District Agency Report**

In a letter dated June 12, 2009, the St. Johns River Water Management District (SJRWMD) issued its final agency report on the subject project, as required by Section 403.526, F.S.

The report (attached as Appendix II-5) was officially approved by the SJRWMD's Governing Board for transmittal to the Florida Department of Environmental Protection (FDEP) at their meeting on Thursday, June 9, 2009.

The SJRWMD is recommending approval of the proposed Cape Canaveral Energy Center, subject to compliance with the SJRWMD's Recommended Certification Conditions which were attached as pages 10 through 15 of the Agency Report.

#### **2.6 Department of State – Division of Historical Resources**

In an email dated July 20, 2009 the Division of Historical Resources (DHR) raised no comments or concerns. The DHR is recommending approval of the application, subject to compliance with the Conditions submitted in the email received July 20, 2009.

#### **2.7 East Central Florida Regional Planning Council Agency Report**

On June 9, 2009 the Department received an email with a letter attached from the East Central Florida Regional Planning Council (ECFRPC) which indicated that they had not identified any “nonprocedural requirements not specifically listed in the application from which a variance, exemption, exception, or other relief is necessary in order for the proposed electrical power plant to be certified.” Additionally, the Council recommended approval of the proposed Cape Canaveral Energy Center application. The Council's report is attached as Appendix II-6.

#### **2.8 Florida Fish and Wildlife Conservation Commission**

The Florida Fish and Wildlife Conservation Commission (FWC) requested and received approval for an extension to file their agency report. On July 27, 2009, the Siting Coordination

Office received FWC's agency report. The FWC is recommending approval of the application, subject to compliance with the Conditions submitted in their agency report (Appendix II-7).

## **2.9 Department of Environmental Protection Agency Report**

On July 9, 2009 the Department of Environmental Protection's Central District Office recommended approval of the Cape Canaveral Energy Center dependent on FPL complying with the recommended Conditions of Certification. The Central District also has a requirement that FPL will submit the proper documentation to receive a public easement for the piece of land (6.02 acres) which juts out into the Indian River. The "spit" was originally created to separate the warm water coming out of the plant from the cool water being pulled in. The land also now serves other functions such as a road that leads to the mooring areas for their fueling barges (which is currently under lease), and piping for the gas lines that bring the fuel into the plant (Appendix II-8).

## **2.10 Public Comments**

Based upon a review of the file, no comments were received from members of the public following the December 30, 2008 application filing.

## **3.0 CONCLUSIONS AND RECOMMENDATIONS**

### **3.1 Construction Impacts**

Construction of the proposed facilities would have the following impacts:

- 1) Proposed site conversions will consist of the conversion of existing nominal 800 MW (2 units) oil/gas steam electric generating facility (net summer) into a nominal 1,250 MW combined cycle unit.
- 2) Dismantlement of the existing plant and construction of the CCEC should have positive incremental socioeconomic impacts in Brevard County through employment and associated tax revenues. During the peak period of construction, approximately 650 jobs will be created by the construction project. CCEC is not anticipated to adversely impact the local or regional services or infrastructure.
- 3) Dismantlement is anticipated to begin in the spring of 2010 and project construction to conclude in the summer of 2013. During the dismantlement of the existing plant, workers will be employed that are specialized in removing recyclable materials and dismantling equipment, removing insulation, preparing structures for demolition and material removal.
- 4) Project construction will last approximately 3 years with a peak period of about 12 months (mid-2012).

### 3.2 Operational Impacts

- 1) This conversion Project will result in increased power generation without using additional and, water sources, or transmission line rights-of-way.
- 2) The CCEC will result in a decrease in system-wide CO2 emissions for FPL .
- 3) FPL will install a 30-MMBtu/hr electric heater to act as a temporary “manatee heating system” to discharge warm water while the plant is offline for conversion to CCEC. Warm water will be discharged from November 15 through March 31 (to coincide with the time of greatest manatee abundance), if the ambient water temperature falls below 65°F.

### 3.3 Agency Conclusions

The following table includes the recommendations of approval or denial from each of the affected agencies.

**Table 2. Agency Recommendations**

| AGENCY                                            | APPROVAL | DENIAL |
|---------------------------------------------------|----------|--------|
| Public Service Commission                         | √        |        |
| Brevard County                                    | √        |        |
| Department Of Community Affairs                   |          |        |
| Department Of Transportation                      | √        |        |
| St. Johns River Water Management District         | √        |        |
| Department Of State Div Of Historical Resources   |          |        |
| East Central Florida Regional Planning Council    | √        |        |
| Florida Fish And Wildlife Conservation Commission | √        |        |
| <b>Department Of Environmental Protection</b>     | √        |        |

### 3.4 Overall Recommendation

The Department’s recommendation is, at least in part, based upon recommendations included in the agencies’ reports required by 403.507(2)(a), F.S. Neither the failure of any agency to submit a report nor the inadequacy of a report, are grounds to deny or condition certification {403.507(6), F.S.}

The Department has reviewed the recommendations of all parties and recommends approval of Cape Canaveral Energy Center if FPL agrees to abide by the conditions of certification, attached and incorporated herein as Appendix I.

DONE AND ISSUED this 10th day of August, 2009, at Tallahassee



Michael P. Halpin, P.E.  
Siting Program Manager

## **Appendix I: Proposed Conditions of Certification**

## **Appendix II-1: Public Service Commission Determination of Need**

## **Appendix II-2: Brevard County Agency Report**

## **Appendix II-3: Department of Community Affairs Agency Report**

## **Appendix II-4: Department of Transportation Affairs Agency Report**

## **Appendix II-5: St. Johns River Water Management District Agency Report**

## **Appendix II-6: East Central Florida Regional Planning Council Agency Report**

## **Appendix II-7: Florida Fish and Wildlife Conservation Commission Recommendation**

## **Appendix II-8: Department of Environmental Protection – Central District Recommendation**