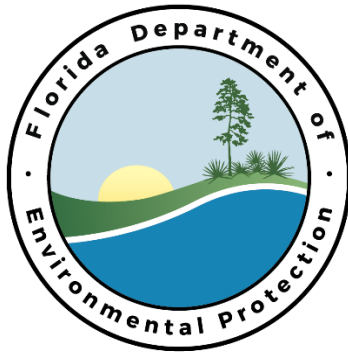


**FLORIDA DEPARTMENT
OF
ENVIRONMENTAL PROTECTION**



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

**Florida Power & Light Company
Okeechobee Clean Energy Center**

**PA 15-58
DEP OGC Case No. 15-0607
DOAH Case No. 15-5540 EPP**

May 6, 2016

Table of Contents

1.0	INTRODUCTION	1
2.0	SITE AND FACILITIES OVERVIEW	1
2.1	Site Location	2
2.2	Site Layout and Description.....	3
2.3	Area Land Uses	4
2.4	Proposed Project Description.....	5
2.5	Combustion Turbine Combined Cycle Operation	7
2.6	Fuel and Fuel Handling.....	9
2.7	Cooling System.....	9
2.8	Stormwater Control.....	9
2.9	Transmission Lines	9
3.0	ENVIRONMENTAL AND SOCIAL IMPACTS	10
3.1	Air Quality Impacts.....	10
3.2	Industrial Wastewater Discharge	11
3.3	Water Use.....	11
3.4	Sanitary Wastewater Disposal	12
3.5	Solid and Hazardous Waste Disposal	12
3.6	Terrestrial Impacts	12
3.6.1	Mitigation.....	13
3.7	Impacts on Aquatic Species	14
3.8	Noise Impacts.....	14
3.9	Transportation Impacts	14
3.10	Socioeconomic Impacts	15
3.11	Impacts on Land Use.....	15
4.0	ARCHAEOLOGICAL AND HISTORIC SITES	16
5.0	PUBLIC LANDS	16
6.0	LEASES AND EASEMENTS.....	16
7.0	PUBLIC NOTICE.....	16
8.0	REVIEWING AGENCY REPORTS.....	16
8.1	Florida Public Service Commission.....	17
8.2	St. Johns River Water Management District.....	18

8.3	Florida Fish and Wildlife Conservation Commission	18
8.4	Florida Department of Transportation	18
8.5	Florida Department of Economic Opportunity	18
8.6	Florida Department of State Division of Historical Resources	19
8.7	Florida Department of Health	19
8.8	Okeechobee County	19
8.9	Indian River County	19
8.10	Florida Department of Environmental Protection.....	20
9.0	PUBLIC COMMENTS.....	20
10.0	VARIANCES.....	20
11.0	CONCLUSIONS AND RECOMMENDATIONS	21
11.1	Construction Impacts	21
11.2	Operational Impacts	21
11.3	Agency Conclusions	21
11.4	Overall Recommendation	22

List of Figures

Figure 1. Location of Okeechobee County, Florida (DEP DARM Technical Evaluation & Preliminary Determination for the FPL OCEC, Figure 1, January, 2016)	2
Figure 2. OCEC General Site Location (FPL OCEC SCA, Figure 1.1-1).....	2
Figure 3. OCEC Plant Site Location (FPL OCEC SCA, Figure 3.1-1).....	3
Figure 4. Proposed OCEC Site Boundary (FPL OCEC SCA, Figure 3.1-2).....	4
Figure 5. Conceptual Illustration of OCEC Unit 1 (FPL OCEC SCA, Figure 1.1-2)	5
Figure 6. OCEC Unit 1 On-Site Facilities (FPL OCEC SCA, Figure 4.1-1)	6
Figure 7. Proposed Transmission Interconnection Corridor (FPL OCEC SCA, Figure 9.1-1).....	7
Figure 8. Natural Gas-Fueled 3x1 Combined Cycle Unit (Provided by FPL).....	8

List of Tables

Table 1. Summary of PSD Applicability Analysis for the FPL OCEC Unit 1 Project (DARM's Technical Evaluation & Preliminary Determination)	10
Table 2. Listed Species Occurring or Potentially Occurring in the Project Area	12
Table 3. FPL OCEC - Wetland Impact Summary	14
Table 4. Agency Recommendations	21

List of Appendices

Appendix I: Proposed Conditions of Certification

Appendix II: Agency Reports

Appendix II-1: Public Service Commission Determination of Need

Appendix II-2: St. Johns River Water Management District Agency Report

Appendix II-3: Florida Fish and Wildlife Conservation Commission Agency Report

Appendix II-4: Department of Transportation Agency Report

Appendix II-5: Department of Economic Opportunity Agency Report

Appendix II-6: Department of State, Division of Historical Resources Letter

Appendix II-7: Department of Health Agency Report

Appendix II-8: Okeechobee County Agency Report and Land Use Consistency Determination

Appendix II-9: Indian River County Agency Report and Land Use Consistency Determination

Appendix III: Public Comments (Indian River Soil & Water Conservation District Board and Resolution from City of Vero Beach)

1.0 INTRODUCTION

Florida Power & Light Company (FPL/Applicant) is proposing to construct a combined cycle natural gas-fired generating unit (OCEC Unit 1) at its site, including on-site and off-site associated facilities, which will be known as the Okeechobee Clean Energy Center (OCEC). The OCEC site is on FPL owned property located in Okeechobee County. The off-site associated linear facilities are located in Indian River County. OCEC Unit 1 will consist of a nominal 1600 megawatt (MW) 3-on-1 combined cycle electrical generating unit and associated facilities. Construction of any new electrical power plant as defined in Section 403.503, Florida Statutes (F.S.), undertaken after October 1, 1973, necessitates certification under the Florida Electrical Power Plant Siting Act (PPSA). FPL submitted a Site Certification Application (SCA) to the Florida Department of Environmental Protection (Department or DEP), Siting Coordination Office (SCO) for the proposed OCEC on September 25, 2015. With this application, FPL is seeking certification of an ultimate site capacity, as defined in 403.503, F.S., of 1800 MW to accommodate a potential future solar facility on the site. Pursuant to 403.517, F.S, FPL will be required to submit a Supplemental Site Certification Application prior to the construction and operation of the solar facility.

The procedures and requirements for granting or denying a certification to construct and operate an electric power generating facility in the state of Florida are set forth in the PPSA, Sections 403.501-518, F.S., and the Electrical Power Plant Siting Rule, Chapter 62-17, Florida Administrative Code (F.A.C.). DEP has been designated as the lead coordinating agency for the review and evaluation of SCAs and is charged with preparing a Project Analysis Report including a recommendation for granting or denying the requested certification. This report addresses the site and associated facilities and has been prepared as a fulfillment of specific PPSA requirements.

Once the SCA has completed the required steps within the site certification process, the DEP Secretary will take final action on the Application if the parties stipulate that there are no disputed issues. If, however, there are disputed issues amongst the parties to the proceeding, a certification hearing will be held before a Division of Administrative Hearings Administrative Law Judge (ALJ). If a hearing is held, the ALJ will issue a recommended order and the final action on certification will be made by the Governor and Cabinet sitting as the Siting Board.

It should be noted that the scope of a certification under this act includes only state, regional, and local requirements. All federal permits are processed separately from the SCA. Federal permits issued by the state under federally approved or delegated permit programs which are being sought, or have been issued in association with this project, include a Prevention of Significant Deterioration (PSD) air construction permit and Underground Injection Control (UIC) Class V and Class I permits. A United States Army Corps of Engineers (USACE) dredge and fill permit will also be required. FPL will be obtaining any necessary permit for construction of the eastbound right turn lane via a separate permit from FDOT pursuant to Section 403.511(3), F.S.

2.0 SITE AND FACILITIES OVERVIEW

The following information was primarily derived from the SCA and additional information submitted by the Applicant.

2.1 Site Location

FPL owns 2,842 acres in Okeechobee County, including 2,341 acres for which FPL is seeking Site Certification. Refer to Figure 1 for the location of Okeechobee County and Figure 2 for the general OCEC site location.

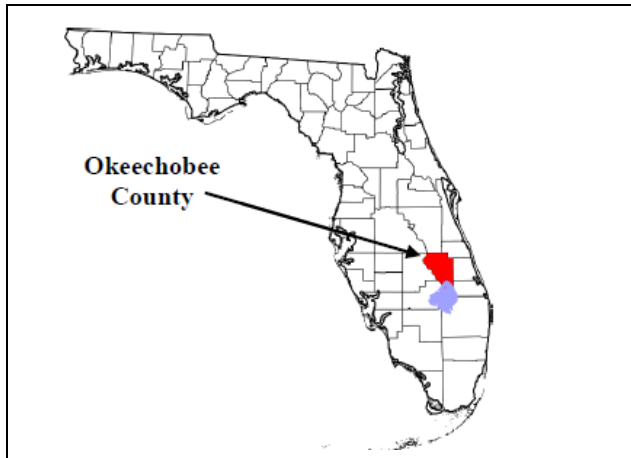


Figure 1. Location of Okeechobee County, Florida (DEP DARM Technical Evaluation & Preliminary Determination for the FPL OCEC, Figure 1, January, 2016)

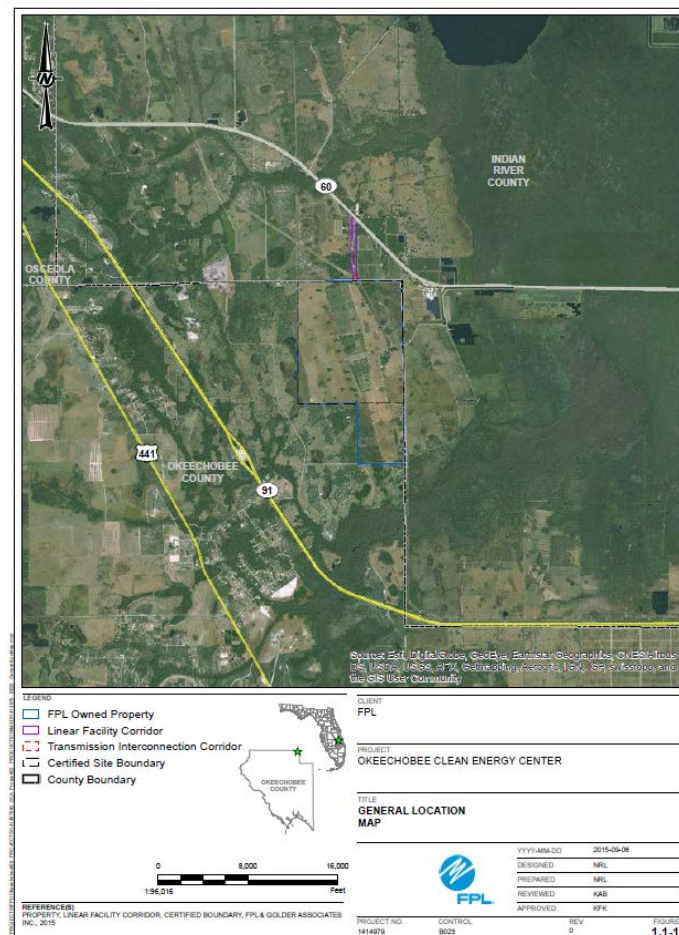


Figure 2. OCEC General Site Location (FPL OCEC SCA, Figure 1.1-1)

The Okeechobee Plant property is located approximately 24 miles west of Vero Beach and at the upper north-northeast corner of Okeechobee County, bordering Indian River County. Refer to Figure 3 for a more detailed map showing the OCEC site location.

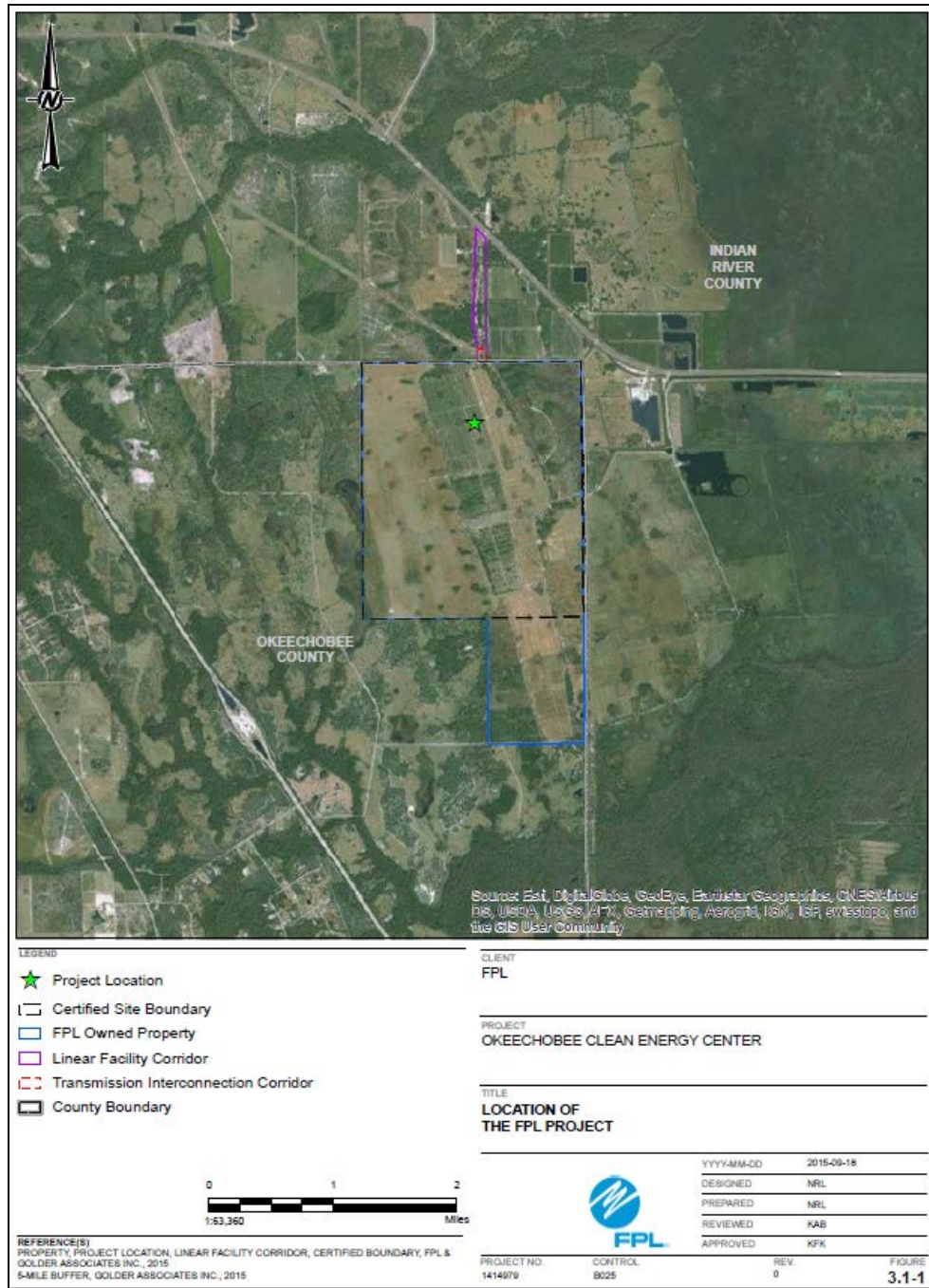


Figure 3. OCEC Plant Site Location (FPL OCEC SCA, Figure 3.1-1)

2.2 Site Layout and Description

The proposed OCEC Unit 1 will occupy approximately 220 acres of the site and will include construction laydown areas, parking areas, stormwater ponds, and associated infrastructure. Approximately 376 acres of the site will be a dedicated mitigation area, 104 acres will remain as

open space, and approximately 1,629 acres will be reserved for a potential future solar generation facility (see Figure 4).

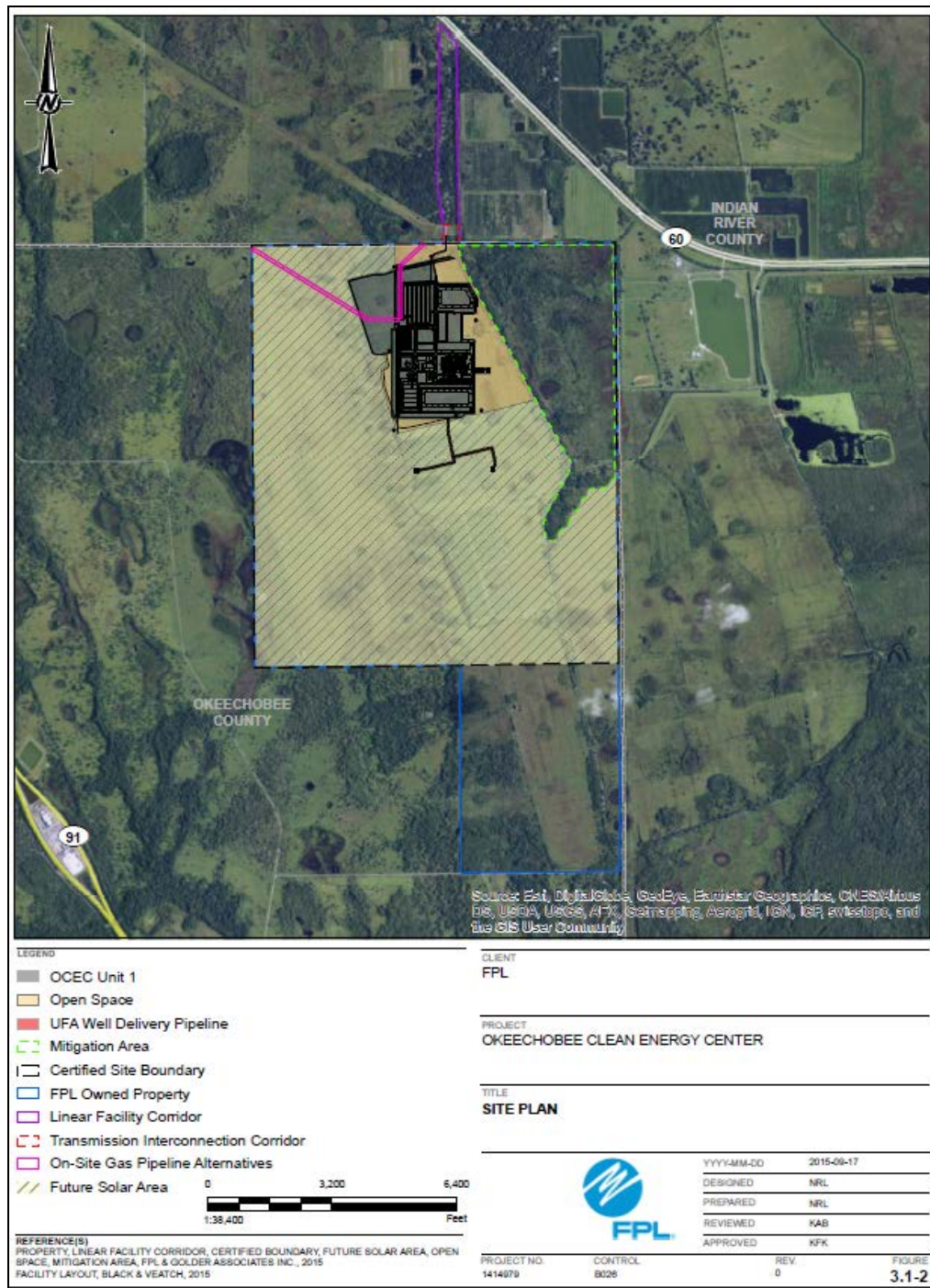


Figure 4. Proposed OCEC Site Boundary (FPL OCEC SCA, Figure 3.1-2)

2.3 Area Land Uses

The proposed OCEC is a greenfield site located in a primarily agricultural area of unincorporated Okeechobee County. Land uses near and adjacent to the site are predominately related to agricultural uses (i.e., farming, cattle, and horses).

Two single-family residences are located within 1 mile of the OCEC Unit 1 site. The St. John's River Water Management District's (SJRWMD's) Fort Drum Marsh Conservation Area, located adjacent to the eastern boundary, is the only significant scenic, cultural, or natural landmark located within 1 mile of the site. The SJRWMD's Blue Cypress Conservation Area is approximately 1.5 miles to the northeast.

2.4 Proposed Project Description

OCEC Unit 1 (described in more detail below) will consist of a nominal 1600 MW 3-on-1 combined cycle electrical generating unit consisting of three gas-fired combustion turbine/electric generators (CTs), three new heat recovery steam generators (HRSGs), and one steam turbine/electric generator. Figure 5 is a conceptual illustration of the proposed plant.



Figure 5. Conceptual Illustration of OCEC Unit 1 (FPL OCEC SCA, Figure 1.1-2)

On-site facilities consist of: OCEC Unit 1; a cooling tower; on-site roadways, parking, and laydown areas; a temporary spoils area; an administration building and warehouse; a stormwater management system; a gas metering station; and ancillary structures (see Figure 6).

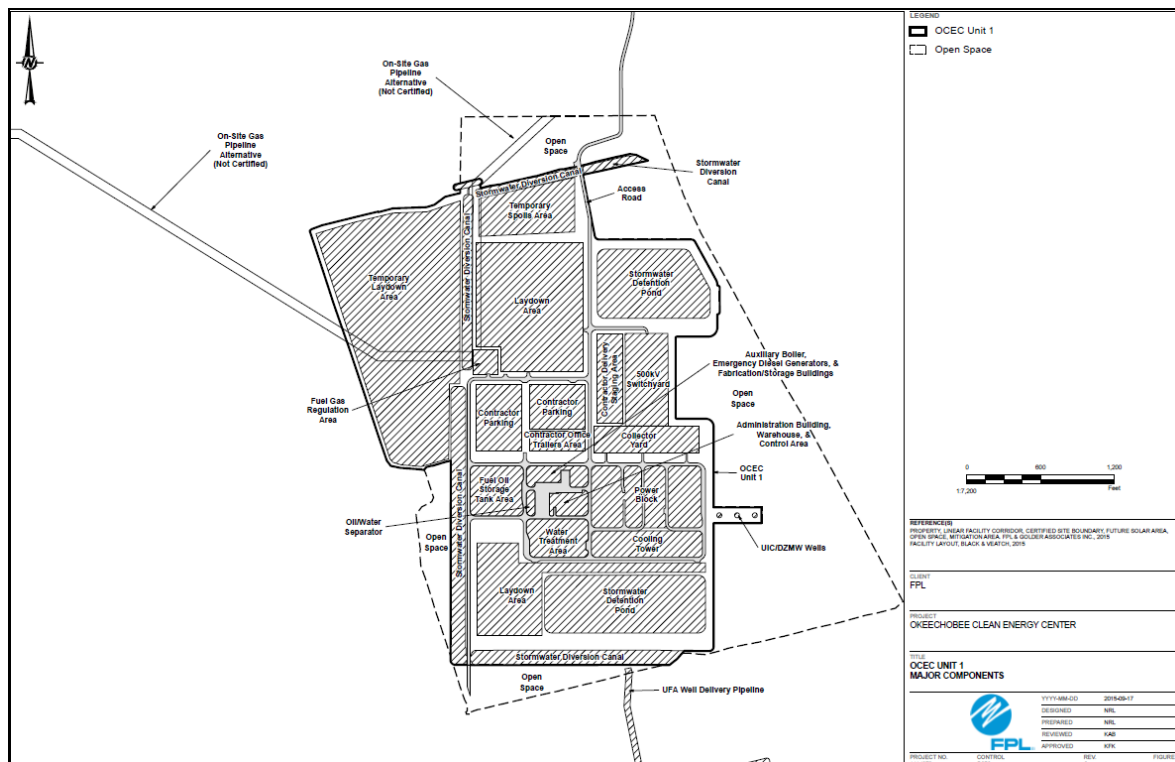


Figure 6. OCEC Unit 1 On-Site Facilities (FPL OCEC SCA, Figure 4.1-1)

The off-site associated facilities consist of a transmission line interconnection corridor which will be used to connect to an existing 500 kV transmission line, and improvements to an existing access road located in Indian River County. The proposed interconnection corridor is approximately 396 feet wide and 535 feet in length (4.86 acres) and located within the roadway improvement easement between the site and the northern edge of the existing Martin-Poinsett right-of-way (ROW). The Martin-Poinsett ROW crosses the existing access road making an easy connection for the two proposed 500 kV transmission lines to be constructed within the proposed interconnection corridor. The new transmission lines will comply with the National Electrical Safety Code (NESC) (Institute of Electrical and Electronics Engineers, Inc., 2012), as required by Section 366.04, Florida Statutes, F.S., and Rule 25-6.0345, F.A.C. Refer to Figure 7 for a view of the proposed interconnection corridor.

An existing access road, located in Indian River County, extends approximately 1 mile from the site to SR 60 (see Figure 7). Road improvements will consist of repaving approximately 300 feet; relocating the existing guardrail at the entrance from SR 60; widening the entrance; extending and upgrading an existing culvert; removal of trees and limbs within six feet of the edge and twenty feet above the existing pavement; and construction of an eastbound right turn lane on SR60.

As stated above, the new facilities proposed to be certified will occupy approximately 220 acres within the proposed 2,341 acre site. Refer to Figure 4 for the proposed OCEC certified site boundary. Construction of the new OCEC Unit 1 is anticipated to begin in 2017, with commercial operation expected by 2019.

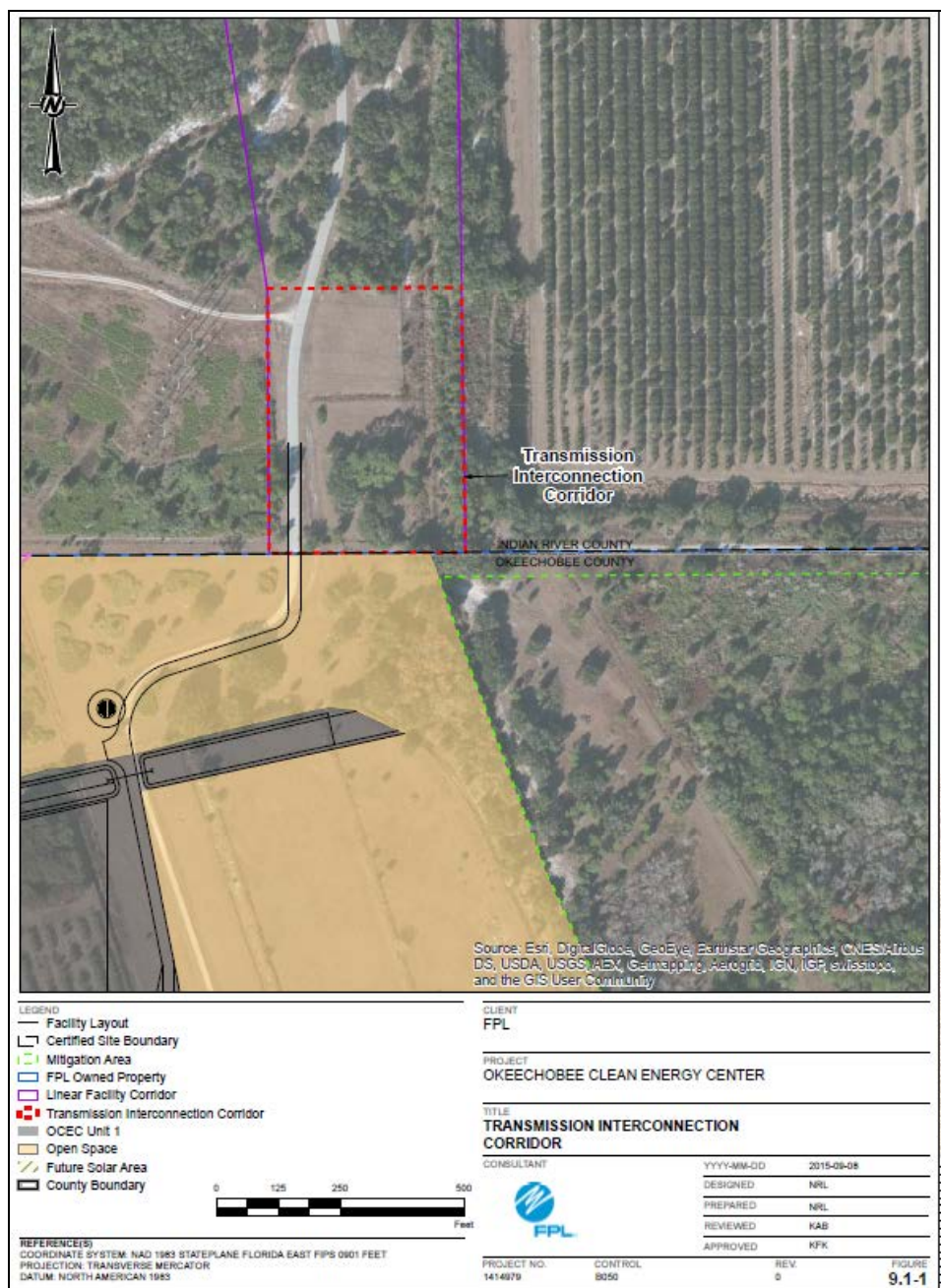


Figure 7. Proposed Transmission Interconnection Corridor (FPL OCEC SCA, Figure 9.1-1)

2.5 Combustion Turbine Combined Cycle Operation¹

The new OCEC Unit 1 natural gas-fired 3-on-1 combined cycle unit (Unit 1) will consist of three combustion turbines (CTs) and one steam turbine. Each CT will have a nominal gross capacity of 350 MW and be equipped with a heat recovery steam generator (HRSG). Each HRSG will generate steam from the hot exhaust gases and this steam will generate additional power in the

¹ Florida Department of Environmental Protection, Division of Air Resource Management, Office of Permitting and Compliance – *Technical Evaluation & Preliminary Determination for the FPL OCEC, January, 2016.*

steam turbine. Figure 8 below depicts the general design of a natural gas-fired 3-on-1 combined cycle unit.

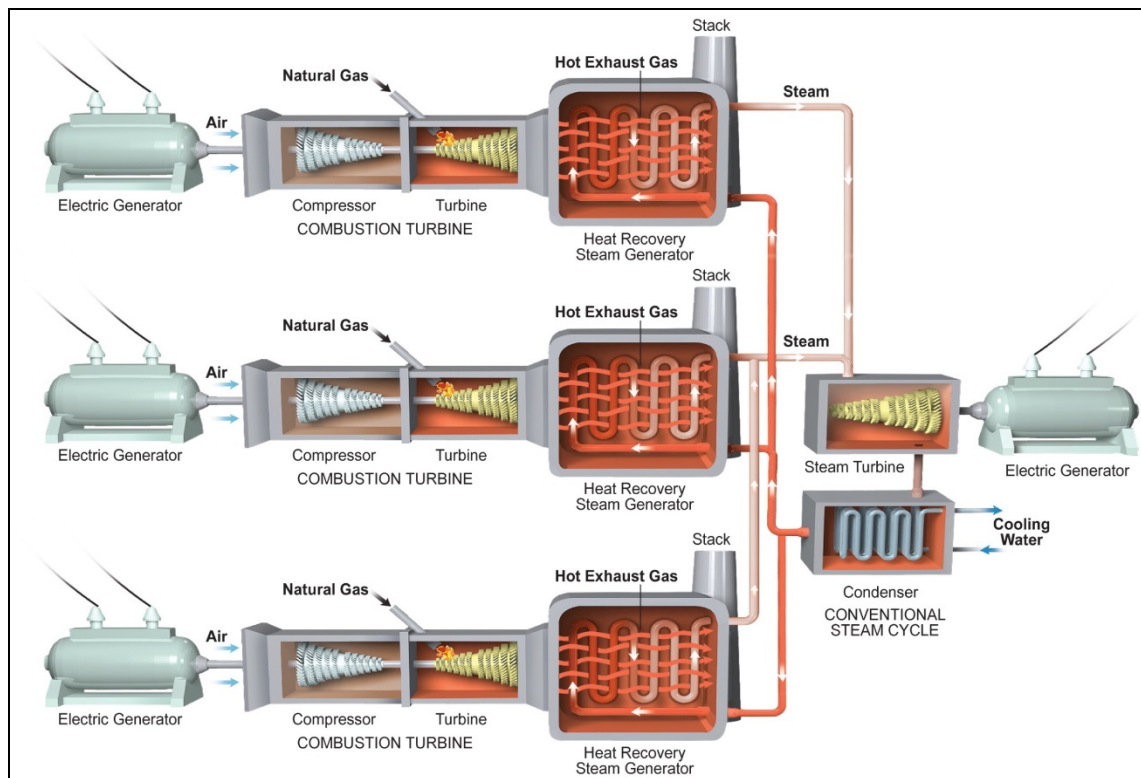


Figure 8. Natural Gas-Fueled 3x1 Combined Cycle Unit (Provided by FPL)

Each CT is connected via a shaft to an electric generator. The combustion of natural gas (or ULSD fuel oil) in the CT causes the shaft to spin and the electric generator converts this motion into electricity. The hot combustion gases are then diluted with additional cool air and directed to the turbine (expansion) section. Energy is recovered in the turbine section in the form of shaft horsepower, of which typically more than 50 percent is required to drive the internal compressor section. The balance of recovered shaft energy is available to drive the external load unit such as an electrical generator. Turbine exhaust gas is discharged at a temperature greater than 1,125°F and contains high excess oxygen, which can be used for additional energy recovery. The hot exhaust gases from each CT pass through a HRSG. The HRSG is essentially a heat exchanger that captures heat from the exhaust and uses it to convert water to steam. The steam then drives a steam turbine which is connected to another electric generator. The HRSGs of OCEC Unit 1 will not be equipped with duct burners.

There are three basic operating cycles for combustion turbines: simple, regenerative, and combined cycles. In the OCEC Unit 1 project, the unit will operate in combined cycle mode, meaning that the combustion turbine drives an electric generator while the exhausted gases are used to generate steam in the supplemental HRSG. The steam from the HRSGs is then fed to a separate steam turbine, which also drives an electrical generator producing additional electrical power.

FPL has indicated that General Electric 7HA.02 turbines² will be used for OCEC Unit 1. These turbines are currently considered one of the most efficient available on the market.

2.6 Fuel and Fuel Handling

OCEC Unit 1 will use natural gas as the primary fuel and ultra low-sulfur distillate (ULSD) “light oil” as backup fuel. As stated in the SCA, natural gas will be transported to the site via a natural gas pipeline owned by an independent supplier (permitted separately from this certification process). FPL is proposing two alternative on-site pipeline routes from OCEC Unit 1 to the site boundary (see previous Figure 6). The location of the natural gas pipeline will determine the final on-site pipeline route. FPL will install an on-site natural gas area that will include the on-site natural gas connection. ULSD will be delivered to the site by truck and stored in a new fuel oil tank with secondary containment. The new tank will have a storage capacity of approximately 7 million gallons.

2.7 Cooling System

OCEC Unit 1 will have a closed-cycle recirculating heat dissipation system. A rectangular wet mechanical draft cooling tower, consisting of 30 cells, will be utilized to dissipate the heat load to the atmosphere. Water from the Upper Floridan Aquifer (UFA) will be used for OCEC Unit 1 cooling system makeup. Stormwater runoff that collects in on-site detention ponds may be recycled by pumping the water to the cooling towers, thus reducing runoff to surface waters and minimizing water demands on other sources. Blowdown from the cooling towers will be discharged to the Boulder Zone of the Lower Floridan Aquifer (LFA) through the Underground Injection Control (UIC) well system. FPL received approval on April 4, 2015 to construct an exploratory Class V well and monitoring well (Permit ID Number 0330373-001-UC/1EX) to determine the feasibility of using an injection well system to dispose of non-hazardous construction-related water. Following completion of the exploratory well, FPL will apply for a UIC Class I construction and operational testing permit. The UIC Class I permit will authorize conversion of the exploratory well to an injection well and construction of a second injection well.

2.8 Stormwater Control

As stated in the SCA, stormwater runoff from the OCEC Unit 1 site will be collected and controlled by a stormwater drainage system consisting of catch basins, pipes, channels, swales, and culverts that will convey runoff to stormwater detention ponds. The stormwater management system will be designed to provide the required water quality and quantity treatment for the volume of stormwater runoff based on a 25-year, 24-hour storm event. Runoff from the power block and equipment areas, and from other potentially oil-contaminated areas, will be routed through an oil/water separator and then routed to the stormwater management system.

2.9 Transmission Lines

The two new proposed 500 kV transmission lines will connect to the existing Martin-Poinsett transmission line from the on-site 500 kV switchyard. The lines will be subject to the State’s electric and magnetic field rule, Chapter 62-814, F.A.C. Reports submitted with the SCA satisfactorily demonstrate that the new lines will comply with the rule. If there are any

² [GE 7HA.02 Turbine Product Fact Sheet](#)

deviations from the proposed transmission line configurations submitted in the application, FPL will be required to submit a revised compliance report 90 days prior to construction of the transmission lines.

3.0 ENVIRONMENTAL AND SOCIAL IMPACTS

3.1 Air Quality Impacts

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

Best Available Control Technology (BACT) review is required under DEP and U.S. Environmental Protection Agency (EPA) regulations pertaining to PSD. BACT is pollutant specific and is applicable to all pollutants for which PSD review is required. It is an emission limitation that is based on the maximum degree of reduction for each regulated pollutant, which is determined to be appropriate after taking into account energy, environmental, economic impacts, and other costs. BACT cannot be any less stringent than the federal New Source Performance Standards (NSPS) applicable to the source under evaluation.

According to the DARM's technical evaluation³, the proposed OCEC Unit 1 will emit the following PSD-pollutants: SO₂, NO_x, CO, PM, PM₁₀, PM_{2.5}, SAM, VOC, and GHG. These pollutants will be subject to a PSD applicability review. Refer to Table 1 below from the DARM's technical evaluation report showing the estimated emissions.

Table 1. Summary of PSD Applicability Analysis for the FPL OCEC Unit 1 Project (DARM's Technical Evaluation & Preliminary Determination)

Pollutant	Project Potential Emissions	PSD Significant Emissions Rate	Subject to PSD Review?
CO	540 tons/year	100 tons/year	Yes
NO _x	398 tons/year	40 tons/year	Yes
PM	425 tons/year	25 tons/year	Yes
PM ₁₀	254 tons/year	15 tons/year	Yes
PM _{2.5}	254 tons/year	10 tons/year	Yes
SAM	49 tons/year	7 tons/year	Yes
SO ₂	254 tons/year	40 tons/year	Yes
VOC	71 tons/year	40 tons/year	Yes
Pb	~0 pounds/year	1200 pounds/year	No
GHG	5.46x10 ⁶ tons/year	75,000 tons/year	Yes

On January 13, 2016 the Department made a preliminary determination that the proposed OCEC project will comply with all applicable state and federal air pollution regulations for the pollutants listed in Table 1 above as conditioned by the draft air construction permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the Applicant, the draft emissions standards determinations, review of the air quality

³ Florida Department of Environmental Protection, Division of Air Resource Management, Office of Permitting and Compliance – *Technical Evaluation & Preliminary Determination for the FPL OCEC, January, 2016.*

impact analysis, and the conditions specified in the air construction permit. FPL provided comments on the draft permit and no comments were received from the public. The final air construction permit was issued on March 9, 2016.⁴ The final air construction permit and subsequently issued Title V operational permit will be incorporated into the Conditions of Certification.

3.2 Industrial Wastewater Discharge

The industrial wastewater produced by the OCEC Unit 1 will be discharged to the Boulder Zone of the Lower Floridan Aquifer through the UIC well system (discussed in Section 2.6). The non-hazardous wastewaters to be injected through the injection well will include cooling tower blowdown, water treatment system effluents, and process and service water effluents. There will be no surface water intake or discharge for cooling water.

3.3 Water Use

As stated in the SCA, the primary water uses for OCEC Unit 1 will include cooling, process, service, irrigation, and potable water. The UFA will be the primary water source with the surficial aquifer providing potable water depending on the water quality.

Cooling water will be required for condenser and auxiliary cooling as well as cooling pump seal water. Process water will be required for CT inlet air cooling, wet compression, NO_x injection water when firing ULSD, steam cycle makeup, and fire protection. Other water uses will include routine maintenance such as equipment washing and landscape irrigation. Potable water will be necessary for employee use.

FPL has calculated that the average annual withdrawal from the UFA will be 9 MGD (3,287 MGY) and the maximum daily withdrawal will be 11 MGD. The annual average withdrawal from the surficial aquifer will be 0.046 MGD (16.8 MGY) with a maximum daily withdrawal of 0.0806 MGD.

Based on discussions with the St. Johns River Water Management District (SJRWMD), FPL has committed to conducting further aquifer performance testing (APT) to determine if the Avon Park Permeable Zone (APPZ), also known as the Middle Floridan Aquifer, would provide adequate water. Depending on the water quality of the APPZ, it may serve as a source of water for OCEC Unit 1 instead of the UFA.

FPL has proposed the use of water from three surficial aquifer wells, one existing UFA well, six proposed UFA wells, and six proposed replacement APPZ wells. Depending on the water quality constraints determined during the APT, to the extent feasible the APPZ replacement wells will replace the UFA wells.

Alternate water sources were considered. The SJRWMD concluded that the nearby Ft. Drum Marsh Conservation Area and Blue Cypress Lake, which are large regulated surface water bodies, would be incapable of providing a consistent or adequate water quantity to support the OCEC Unit 1 operation. The use of reclaimed water was investigated, but is not currently available or anticipated at the OCEC site in the future. A potential future source of water for OCEC Unit 1 is the Groveland Reservoir and Stormwater Treatment Area (GLRSTA) located approximately 9 miles to the southeast. This is a conceptual water storage and water resource

⁴ Permit Number 0930117-001-AC, available on the following website: https://arm-permit2k.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0930117.001.A.C.F.pdf.zip

development project proposed to be located in northern Okeechobee County and southern Indian River County. The GLRSTA has received cooperative funding to begin the preliminary design and engineering for the creation of a reservoir that will capture and treat stormwater normally discharged to the Indian River Lagoon. There are a number of environmental, financial, technical, and regulatory issues requiring resolution before the GLRSTA project reaches the final stages of development.

3.4 Sanitary Wastewater Disposal

OCEC Unit 1 will route its sanitary wastewater to an on-site sewage treatment and disposal system that will consist of septic tanks and a drain field. The Department of Health has submitted Conditions of Certification for regulation of the construction and operation of the septic system.

3.5 Solid and Hazardous Waste Disposal

According to the Applicant, non-hazardous solid wastes generated during construction and operation that cannot be salvaged or recycled will be transported off-site and appropriately disposed of in a licensed landfill. Any hazardous waste generated during operation of OCEC Unit 1 will typically be less than 100kg per month and may include spent solvents and boiler chemical cleaning wastes. All hazardous wastes generated during construction and operation activities will be collected on-site and disposed of by a licensed hazardous waste contractor.

3.6 Terrestrial Impacts

The OCEC Unit 1 Plant property was previously cleared and altered for agricultural uses such as citrus groves and cattle pasture. Several listed animal species were observed at the site during conducted field surveys. There were no listed plant species observed during field surveys but due to suitable habitat on site, there is a moderate chance that four state-endangered species of plants may occur. Table 2 below contains both state and federally listed species either occurring or potentially occurring at the project site.

Table 2. Listed Species Occurring or Potentially Occurring in the Project Area

Common Name	Scientific Name	FL Status	Federal Status
Gopher frog	<i>Rana capito</i>	SSC	
American alligator	<i>Alligator mississippiensis</i>	SAT	SAT
Eastern indigo snake	<i>Drymarchon couperi</i>	T	T
Gopher tortoise	<i>Gopherus polyphemus</i>	T	C
Florida grasshopper sparrow	<i>Ammodramus savannarum floridanus</i>	E	E
Florida scrub jay	<i>Aphelocoma coerulescens</i>	T	T
Limpkin	<i>Aramus guarauna</i>	SSC	
Florida burrowing owl	<i>Athene cunicularia floridana</i>	SSC	
Caracara	<i>Caracara cheriway</i>	T	T
Little blue heron	<i>Egretta caerulea</i>	SSC	

Common Name	Scientific Name	FL Status	Federal Status
Snowy egret	<i>Egretta thula</i>	SSC	
Tricolored heron	<i>Egretta tricolor</i>	SSC	
White ibis	<i>Eudocimus albus</i>	SSC	
Southeastern American kestrel	<i>Falco sparverius paulus</i>	T	
Florida sandhill crane	<i>Grus canadensis pratensis</i>	T	
Wood stork	<i>Mycteria americana</i>	T	T
Snail kite	<i>Rostrhamus sociabilis plumbeus</i>	E	E
Least tern	<i>Sternula antillarum</i>	T	
Florida bonneted bat	<i>Eumops floridanus</i>	E	E
Sherman's fox squirrel	<i>Sciurus niger shermani</i>	SSC	
West Indian manatee	<i>Trichechus manatus</i>	E	E
Many-flowered grass-pink	<i>Calopogon multiflorus</i>	E	
Celestial lily	<i>Nemastylis floridana</i>	E	
Hand fern	<i>Ophioglossum palmatum</i>	E	
Cutthroat grass	<i>Panicum abscissum</i>	E	
Large-flowered rosemary	<i>Conradina grandiflora</i>	T	
Pine pinweed	<i>Lechea divaricata</i>	E	
Florida beargrass	<i>Nolina atoocarpa</i>	T	
Giant orchid	<i>Pteroglossaspis ecristata</i>	E	

E = Endangered

T = Threatened

SSC = Species of Special Concern

SAT = Threatened due to similarity in Appearance

The Fish and Wildlife Conservation Commission (FWCC) indicated in their agency report that the OCEC site and associated linear facilities corridor do not contain significant areas of preferred habitat for nesting, roosting, or foraging for the above listed species.

3.6.1 Mitigation

FPL's property includes a 376 acre mitigation area located in the northeastern portion of the site. This area is adjacent to the Fort Drum Marsh Conservation Area. Approximately 50% of the existing vegetative communities within the mitigation area is considered high-quality wetlands which include mixed wetland hardwoods, mixed hardwood-conifer forested wetlands, wetland shrubs, freshwater marsh, and wet prairie, with ditches along the western and southern perimeter (Florida Land Use, Cover and Forms Classification System).

Wetland impacts incurred through the construction and operation of OCEC Unit 1 and associated linear facilities must be offset through compliance with the nonprocedural requirements of the DEP Environmental Resource Permit (ERP) rules under the PPSA Site Certification process and a USACE Section 404 Permit.

In the March 2016 Mitigation Plan, FPL summarized the wetland impacts in the following table:

Table 3. FPL OCEC - Wetland Impact Summary

Wetland Type (FLUCFCS Code)	Acreage Permanent	Acreage Temporary	UMAM Score	Functional Loss
Citrus and Pasture Ditches	19.52	0.10	.47	9.17
Linear Facilities Corridor Ditches	0.47	0.01	0.50	0.24
Mixed Wetland Hardwoods	4.71		0.67	3.16
TOTAL	24.70	0.11		12.6

FPL focused mitigation on removal of nuisance/exotic species of vegetation within uplands and wetlands, prescribed burning of the upland areas, and preservation of significant acreage of enhanced habitat through a conservation easement. The easement will provide an increase in the functional value of wetland and upland habitats to offset the functional loss associated with construction of the Project. On-site wetland and upland enhancement and preservation will result in an overall net increase in wetland functions compared to the Project's unavoidable adverse wetland impacts. The mitigation area within FPL's property is shown in Figure 4 above.

3.7 Impacts on Aquatic Species

The project site contains excavated irrigation and drainage ditches as well as wetlands that may support aquatic species. Fluctuations in water levels of the wetlands provide limited habitat. The irrigation ditches, used for citrus farming, provide a more stable environment for both common and exotic freshwater species. Impacts to the existing aquatic species appears negligible.

3.8 Noise Impacts

Computerized noise modeling analyses were conducted for OCEC Unit 1 for both construction and operation. Based on the results of the analyses, FPL concluded that the maximum off-site sound levels predicted will not cause adverse impacts.

There are no noise regulations applicable to the operation of OCEC Unit 1. However, Indian River County borders the project site location and county residences are located within two miles of the project. While not applicable to the construction or operation of OCEC Unit 1, the Indian River County noise ordinance is useful for comparison with the potential noise impacts of OCEC Unit 1, for illustrative purposes. The modeling conducted by FPL indicated that normal operation of the OCEC Unit 1 is consistent with the Indian River County noise ordinance.

3.9 Transportation Impacts

A traffic impact analysis from construction and operation of OCEC Unit 1 was provided in the SCA. During the construction period between 2017 and 2019, the project is expected to average approximately 290 workers with a peak workforce of about 650 workers in 2018. During peak construction, approximately 500 vehicles are anticipated to enter and exit the OCEC Unit 1 site

per day, resulting in a daily traffic volume of approximately 1,240 trips. Vehicles associated with construction will access the site primarily via SR 60 from the east and, to a lesser extent, via SR 60 from the west.

The results of the traffic impact analysis demonstrated that the additional traffic created during construction is not expected to degrade the operating conditions of the roadway system, although during peak construction level of service deficiencies may be experienced near the project access point at SR 60. As indicated in the SCA, FPL will develop a traffic management plan to minimize the duration of any level of service deficiencies resulting from construction traffic.

Impacts to traffic from the operation of OCEC Unit 1 are anticipated to be minimal and no adverse impacts to traffic flow are expected to result from operation of OCEC Unit 1.

3.10 Socioeconomic Impacts

The OCEC Unit 1 project is expected to result in positive economic benefits for both Okeechobee County and Indian River County through employment opportunities, increased revenue from direct local property tax payments and sales tax from the purchase of equipment and materials in support of construction activities. FPL estimates that the power generated from OCEC Unit 1 will supply power to approximately 300,000 homes.

The Applicant anticipates the creation of an average of 290 direct jobs and a peak of 650 jobs during the construction period of OCEC Unit 1. Construction of the OCEC Unit 1 is anticipated to have a regional economic benefit of approximately \$500 million inclusive of direct, indirect and induced benefits. The construction period of 2017 through 2019 is estimated to have a construction payroll of \$33 million with a high of \$58 million during the peak year (2018). The expected categories of construction workers included: Laborers, Carpenters, Operators, Ironworkers, Millwrights, Boilermakers, Pipefitters, Insulators, Electricians, and Painters.

Over the plant's 30 year lifetime, it is expected to deliver approximately \$239 million in new tax revenue to the local government, school district, and other taxing authorities as follows:

- approximately \$124 million to Okeechobee County;
- approximately \$104.5 million to the School District; and
- approximately \$10 million to other taxing authorities (SJRWMD, County Bond and Children's Council).

3.11 Impacts on Land Use

The SCA indicates that the area within a 5 mile radius of the OCEC Unit 1 site is mainly agricultural, conservation areas, and some low density residential development. Active citrus groves which are bisected by manmade irrigation ditches dominate the approximate 220 acre site. There are also three small areas of mixed wetland forest wetlands surrounded by drainage ditches. Surrounding the OCEC Unit 1 area are approximately 104 acres which are designated as open space and are dominated by pasture and citrus grove lands similar to the OCEC Unit 1 site.

Pursuant to 403.50665(2), F.S. the affected local government is required to issue a determination of the consistency of the site with existing land use plans and zoning ordinances that are in effect at the time the SCA is filed. Both Okeechobee County and Indian River County determined that the portions of the OCEC project to be located within their respective jurisdictions are consistent with applicable land use plans and zoning ordinances (see Appendices II-8 and II-9).

4.0 ARCHAEOLOGICAL AND HISTORIC SITES

According to a cultural resource assessment of the approximate 2,341 acre FPL property and a desktop cultural resource survey of the OCEC Unit 1 site conducted by Archaeological and Historical Conservancy, Inc. (AHC) in March 2015, no archaeological sites or historic structures that are listed, determined eligible, or considered potentially eligible for listing in the National Register of Historic Places were identified.

5.0 PUBLIC LANDS

The OCEC project will not displace any human populations. As indicated in the SCA, OCEC Unit 1 and its associated construction activities will be contained within the FPL owned property site and will not result in changes to the accessibility or use of nearby landmarks or sensitive areas. Similarly, the off-site associated linear facilities (access roadway improvements and transmission interconnection) will be constructed in a corridor that already contains an access roadway and 500-kV transmission lines. Several SJRWMD Conservation Areas are located near the project site location. The Fort Drum Marsh Conservation Area is located adjacent to the site on the eastern boundary, and the Blue Cypress Conservation Area is located within a mile to the northeast. The Kissimmee-St. Johns River Connector Project and Pine Island Slough Ecosystem Project are located within 5-miles of the OCEC Unit 1. There are also several conservation easement areas within 5-miles of OCEC Unit 1 (i.e., Pressley Ranch Flowage Easement, Twenty Mile Bend Flowage Easement, three parcels under the Grasslands Reserve Program Easements, and Padgett Branch Conservation Easement). There are no Okeechobee County parks or recreational facilities within 5 miles of the OCEC Unit 1. In Indian River County, the Blue Cypress Park is located about 4.5 miles northeast of the OCEC Unit 1.

6.0 LEASES AND EASEMENTS

FPL does not anticipate the need for any public leases, easements, titles or agency works approvals for OCEC Unit 1.

7.0 PUBLIC NOTICE

FPL has met all of the public notice requirements set forth in the PPSA statutes and rules. FPL directly notified approximately 650 residents and business owners within a three mile radius of the site by mail of the proposed OCEC Unit 1 including both Okeechobee County and Indian River County. Notices for the filing of the application, land use determinations, and notices of the scheduled certification hearing before the administrative law judge were timely published in both the Florida Administrative Register, and in the Okeechobee News, Treasure Coast Newspaper, and Vero News/Sebastian River News.

8.0 REVIEWING AGENCY REPORTS

Although DEP is designated as the agency to coordinate the review process, many of the concerns that are to be addressed in the SCA impact assessment are within the jurisdiction of other agencies. Consequently, the PPSA requires several other state agencies to participate in the review process. Each agency is directed to review SCAs with regard to compliance with the statutory and administrative requirements within their jurisdiction. These agencies are further directed to prepare a written report to DEP on matters within their regulatory capacity that are affected by proposed PPSA projects, and provide a recommendation of approval or denial of the

project and any restrictions or requirements that should be included in the Conditions of Certification (attached as Appendix I).

The following are summaries of the submitted agency reports. Agency reports in their entirety have been included in Appendix II. The descriptions herein do not necessarily reflect DEP's views or positions. The actual recommendations of the Department are described in a later section.

8.1 Florida Public Service Commission

On September 3, 2015, FPL filed a Petition to Determine Need for the construction of OCEC Unit 1 with the Florida Public Service Commission (PSC) pursuant to Sections 366.04 and 403.519, F.S. It is required that a formal "Determination of Need" be made by the PSC prior to certification of an electric power generating facility subject to the PPSA. The issues evaluated in the PSC's determination proceedings include 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. Section 403.519(3), F.S., sets guidelines for the PSC in making Determinations of Needs and states:

"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 which 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 need determination issued by the PSC serves as the report required as part of the power plant site certification proceedings. DEP must balance the determination of need with the social and environmental impacts when preparing overall recommendations for final approval or denial of a SCA.

On January 19, 2016, the PSC issued a Final Order Granting Determination of Need for the proposed OCEC. The following summary is an excerpt from the PSC's Final Order:

- "1. FPL's load forecast and use of a 20% reserve margin in this proceeding is reasonable.*
- 2. No cost-effective demand-side management (DSM) or renewable resources have been identified that could mitigate the need for OCEC Unit 1.*
- 3. OCEC Unit 1 is expected to provide adequate electricity at a reasonable cost to FPL's customers.*

4. *Although OCEC Unit 1 will not enhance fuel diversity, FPL has taken steps to ensure supply reliability.*
5. *OCEC Unit 1 is the most cost-effective alternative compared to other self-build alternatives.”*

The PSC’s report is attached and incorporated as Appendix II-1.

8.2 St. Johns River Water Management District

The SJRWMD reviewed the SCA to determine if the proposed water uses associated with the OCEC Unit 1 project would comply with applicable rules in Chapter 40C, F.A.C.

In compiling their Agency Report, the SJRWMD coordinated with FPL to develop a Well Interference Monitoring, Avoidance and Mitigation Plan. This plan, included as Attachment E to the Conditions of Certification, minimizes potential impacts on existing legal user wells that withdraw from the UFA.

The SJRWMD’s agency report is attached and incorporated as Appendix II-2.

8.3 Florida Fish and Wildlife Conservation Commission

As indicated in the Florida Fish and Wildlife Conservation Commission’s (FWCC) agency report, the OCEC site and associated linear facilities corridor do not contain significant areas of preferred habitat for nesting, roosting, or foraging of listed species. A number of state and/or federal listed species were either observed on the site or have a moderate to high likelihood of occurrence. FWCC indicates that FPL must report any evidence of these species being present. FWCC has included proposed Conditions of Certification requiring biological surveys and monitoring, and mitigation for impacts to address such occurrences.

The FWC agency report is attached as Appendix II-3.

8.4 Florida Department of Transportation

The Florida Department of Transportation (FDOT) reviewed the SCA to determine any potential impacts to portions of US 441/SR 15 and SR 60 located near the site. FDOT indicates that these roadways have sufficient capacity to accommodate the anticipated trips resulting from the Project and adverse impacts to existing operation are not anticipated.

The DOT’s agency report is attached as Appendix II-4.

8.5 Florida Department of Economic Opportunity

The Florida Department of Economic Opportunity’s (FDEO) agency report indicated, according to the SCA, economic benefits will be provided to both Okeechobee and Indian River counties, as well as to the state of Florida. Employment and tax revenues are expected to be economic benefits both during construction and operation of the OCEC project.

According to the DEO’s Agency Report, the proposed OCEC Unit 1 is consistent with several policies from the following goals of the State Comprehensive Plan (Section 187.201, F.S.):

- Goal 10 Air Quality
- Goal 11 Energy
- Goal 21 The Economy
- Goal 24 Employment

The DEO’s agency report is attached as Appendix II-5.

8.6 Florida Department of State Division of Historical Resources

The Florida Department of State's Division of Historical Resources (DHR) reviewed the survey conducted by on behalf of FPL and concurred with its conclusions.

DHR stated in their agency report that "all current matters regarding historical resources have been addressed".

The DHR's letter is attached as Appendix II-6.

8.7 Florida Department of Health

The Florida Department of Health (FDOH) reviewed the proposed on-site sewage treatment and disposal system proposed by FPL in the SCA. The FDOH recommended conditions in order for the proposed system to meet the domestic sewage treatment needs of the facility.

The DOH's agency report is attached as Appendix II-7.

8.8 Okeechobee County

In its agency report, Okeechobee County found the proposed project to be consistent with all applicable local ordinances, regulations, standards, or criteria, with the exception of the variances discussed in paragraph two of Section 10.0 below.

Okeechobee County submitted its determination that the OCEC Unit 1 site is consistent with the Okeechobee County land use plans and zoning ordinances, pursuant to 403.50665(2), F.S. on November 5, 2015. This determination is included in Appendix II-8.

Okeechobee County's agency report is attached and incorporated as Appendix II-8.

8.9 Indian River County

The access to the proposed project will be through Indian River County to/from SR 60. The source of potable water for the approximate 110,000 Indian River County residents is the Upper Floridan Aquifer which is also the proposed source of water for the OCEC project. The County expressed its concern in its agency report and supports future conversion of the project's water supply from the UFA to alternative water supply sources. The County recognized that the SJRWMD has authority over the regulation of water use and supported the conditions proposed by the District.

Emergency Services were also an issue of concern for Indian River County, specifically whether its emergency services resources would be called upon on a recurring basis to serve the project, such that Indian River County staff would need training and familiarity with the facility. FPL estimated that approximately six emergency calls will be made per year during construction and approximately three calls per year during the operation of the facility. Proposed conditions addressing this issue are included in the appropriate section of Appendix I.

Indian River County submitted its determination that the OCEC associated facilities proposed to be located in Indian River County are consistent with the Indian River County land use plans and zoning ordinances, pursuant to 403.50665(2), F.S. on November 6, 2015. This determination is included in Appendix II-9.

Indian River County's agency report is attached and incorporated as Appendix II-9.

8.10 Florida Department of Environmental Protection

The current Operating Agreement between DEP and the SJRWMD concerning division of responsibility for management and storage of surface waters regulation and wetland resource regulation and variances under Chapter 373, Part IV, F.S., conveys responsibility for conducting the project's ERP review to DEP. The Department's Southeast District, ERP program staff reviewed the SCA, including the proposed Mitigation Plan, and concluded that FPL has provided reasonable assurance that the project will be able to meet the applicable requirements of that program. FPL has complied with the Department's Uniform Mitigation Assessment Method in identifying expected project-related wetland impacts. Based upon that assessment, FPL's proposed Mitigation Plan is appropriate to offset the expected wetland impacts for the project.

DEP Southeast District staff in all other regulatory programs with jurisdictional authority over other aspects of the project also reviewed the SCA and provided input for Conditions of Certification.

9.0 PUBLIC COMMENTS

DEP received written comments from the Indian River Soil & Water Conservation District Board and a Resolution from the City of Vero Beach regarding OCEC Unit 1 and the potential Floridan Aquifer water use.

Both entities indicated their support of the St. Johns River Water Management District's proposed Conditions of Certification included in their agency reports, and both support the potential construction and use of the GLRSTA.

The above-listed comments are located in Appendix III.

10.0 VARIANCES

FPL is seeking a variance from the specific requirements of Sections 8.8 and 8.9 of the Environmental Resource Permit Applicant's Handbook Volume II for use within the geographic limits of the SJRWMD regarding the 12 foot pond depth and the 2:1 length to width ratio for a wet detention stormwater pond system. The wet detention system pond depths for Pond 4-1 and Pond 4-2 are proposed to have depths greater than 12 feet to obtain fill material needed to level the site. The Department's SED, after discussions with FPL, confirmed that the proposed design basis as outlined in the SCA would appropriately satisfy the stormwater quality treatment requirements in the SJRWMD ERP Applicant's Handbook Vol II in order to maintain compliance with the state water quality standards.

FPL is also seeking a variance from Okeechobee County Land Development Regulation requirements in Article VII, Section 7.06.05(A)(5) and 7.06.05(B)(9). Section 7.06.05(B)(9) includes the following requirement: "For aesthetic reasons and to increase shoreline habitat, the shorelines of detention and retention areas shall be sinuous rather than straight." FPL is requesting a variance to allow the stormwater management ponds to have straight shorelines to increase the effective treatment volume of the pond for the given area, which minimizes the footprint of the pond. OCEC Unit 1 will be located on a site with restricted public access and limited public view of the stormwater management system. Therefore, there is no aesthetic reason for increasing the pond area to allow for sinuous shorelines. Section 7.06.05(A)(5) limits excavation of wet detention ponds to 10 feet. As explained above, the wet detention pond depths will be greater than 10 feet to obtain fill material. The design will still satisfy stormwater quality treatment requirements.

No agency had any objections to the requested variances.

11.0 CONCLUSIONS AND RECOMMENDATIONS

11.1 Construction Impacts

Construction of the proposed facilities necessary to implement OCEC Unit 1 would have the following impacts:

- Construction parking and staging will be located mainly within the boundaries of the plant site with the potential for some off-site parking and laydown areas for the interconnection to existing transmission lines as well as improvements to the access road. Construction of the off-site access roadway improvements and transmission interconnection are minimal and will be of limited duration. Construction activities are not anticipated to adversely impact local or regional services or infrastructure.
- Given the proposed measures and requirements for mitigation, no adverse impacts to terrestrial or aquatic species are expected during construction of OCEC.
- Level of service deficiencies may be experienced near the intersection of eastbound SR 60 during peak construction. As indicated in the SCA, FPL will develop a traffic management plan to minimize the duration of any level of service deficiencies resulting from construction traffic. FPL has also proposed a 50-ft curved approach/exit on 226th Court to assist with traffic volume and agreed to construct an eastbound right turn lane for entrance into the OCEC Unit 1 project site to minimize any traffic impacts.
- Based on the Applicant's analysis, construction of OCEC Unit 1 should result in positive economic benefits for the surrounding area through employment opportunities and associated tax revenues of \$239 million. It is anticipated that OCEC Unit 1 will create an average of 290 and a peak of 650 direct jobs during the construction period.

11.2 Operational Impacts

- Water Usage for OCEC Unit 1 cooling will be optimized by using water from the UFA, and/or alternate sources, and recycling this water 5 times to minimize water consumption.
- Applicant estimates that OCEC Unit 1 will deliver approximately \$239 million in new tax revenue to local governments and school districts over the 30 year lifetime of the facility.
- FPL will dedicate approximately 20% of its property to mitigation/conservation, 70% of the property is proposed for potential future solar energy, and approximately 10% will be utilized by OCEC Unit 1.

11.3 Agency Conclusions

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

Table 4. Agency Recommendations

AGENCY	APPROVAL	DENIAL
PSC	√	
SJRWMD	√	

FWC	√	
FDOH	√	
FDOT	√	
FDEO	√	
DHR	√	
Okeechobee County	√	
Indian River County	√	
DEP	√	

- The PSC determined that the proposed OCEC Unit 1 is needed to meet FPL's reliability criteria, and recommends approval of the project.
- The SJRWMD recommends approval of OCEC Unit 1 contingent upon the Applicant's compliance with SJRWMD specific Conditions of Certification.
- The FWC recommends approval of OCEC Unit 1 contingent upon the Applicant's compliance with FWC specific Conditions of Certification.
- The FDOT recommends approval of OCEC Unit 1 contingent upon the Applicant's compliance with FDOT specific Conditions of Certification.
- The FDEO has no outstanding issues regarding OCEC Unit 1 and recommends approval of the project.
- The FDOH recommends approval of OCEC Unit 1 contingent upon the Applicant's compliance with FDOH specific Conditions of Certification.
- The DHR foresees no adverse impacts to historical resources from the proposed OCEC Unit 1 and recommends approval of the project.
- Okeechobee County recommends approval contingent upon the Applicant's compliance with County specific Conditions of Certification.
- Indian River County recommends approval of OCEC Unit 1 contingent upon the Applicant's compliance with County specific Conditions of Certification.
- Based on the application and subsequent submittals, the Department recommends approval of OCEC Unit 1 subject to the proposed Conditions of Certification.

11.4 Overall Recommendation

DEP's recommendation includes consideration of the information provided 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 is grounds to deny or condition certification. (403.507(6), F.S.)

The Department has reviewed the SCA and recommends approval as to matters within its jurisdiction, and has considered affected agency recommendations. The Department has also proposed Conditions of Certification compliant with the Act to monitor the project's impacts and its compliance with applicable non-procedural requirements of the reviewing agencies. It is the

Department's conclusion that reasonable assurances have been provided demonstrating that the project can be certified considering the factors to be weighed in Section 403.509(3) F.S., PPSA.

DONE AND ISSUED this 6th day of May 2016, at Tallahassee

A handwritten signature in blue ink, appearing to read "Cindy Mulkey", with a large, sweeping flourish at the end.

Cindy Mulkey
Administrator,
Siting Coordination Office