



5-A)

DEPARTMENTAL CORRESPONDENCE
WATER AND SEWER DEPARTMENT

To: James R. O'Connor, City Manager

From: Robert J. Bolton, P.E., Director *RJB*

Date: March 8, 2016

**RE: Resolution supporting St. Johns River Water Management District
(SJRWMD) Agency Power Siting Report
Florida Power and Light (FPL)
Okeechobee Clean Energy Center (OCEC) Project**

Recommendation:

Place this item on the City Council's Agenda for March 15, 2016 for approval. The Utility Commission voted 7-0 in favor of this relation at their March 8, 2016 meeting.

Funding:

Funding is not applicable.

Background:

The Utility Commission requested staff prepare a document to address the proposed withdrawals of water from the Floridan Aquifer for the OCEC. Staff prepared the attached resolution that addresses the withdrawals and supports the SJRWMD's Site Report, the Groveland Reservoir and Stormwater Treatment Area, and the commitments that FPL has made for future alternative water supplies.

/RB

Attachments

RESOLUTION NO. 2016 - _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF VERO BEACH, FLORIDA, EXPRESSING SUPPORT FOR THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT AGENCY POWER SITING REPORT ADDRESSING THE OKEECHOBEE CLEAN ENERGY CENTER PROJECT, AND FURTHER EXPRESSING SUPPORT FOR CONSTRUCTION OF THE GROVELAND RESERVOIR AND STORMWATER TREATMENT AREA; PROVIDING FOR CONFLICT AND SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Floridan Aquifer has provided and currently provides a principal supply of public water for the City of Vero Beach as well as many other cities and counties; and

WHEREAS, the St. Johns River Water Management District ("SJRWMD") regulates and permits certain withdrawals from the Floridan Aquifer through its Consumptive Use Permit ("CUP") process; and

WHEREAS, the Florida Power and Light Company ("FPL") has requested to withdraw an estimated 9 million gallons of raw public water per day from the Floridan Aquifer for use in the production of electric power at its proposed Okeechobee Clean Energy Center ("OCEC"); and

WHEREAS, the Groveland Reservoir and Stormwater Treatment Area ("GLRSTA") has received cooperative funding to begin the preliminary design and engineering for the creation of a reservoir that will capture and treat stormwater that normally would discharge to the Indian River Lagoon; and

WHEREAS, the GLRSTA is identified in the Central Florida Water Initiative 2035 Water Resources Protection and Water Supply Strategies Plan (adopted by the SJRWMD, the South Florida Water Management District and the Southwest Florida Water Management District) as having a potential capacity of discharging 122 million gallons per day of surface water into the headwaters of the St. Johns River that could potentially be used as an alternative water supply

source for water users located in the vicinity of the GLRSTA, if feasible ; and

WHEREAS, SJRWDM has prepared a siting report dated March 8, 2016, pursuant to 403.507(2)(a)2, Florida Statutes ("Siting Report") regarding the FPL site certification from the Florida Department of Environmental Protection ("FDEP") for the OCEC addressing such alternative water supply source and setting forth procedures for determining and analyzing the technical, environmental, and economic feasibility of such alternative water supply source, including the development of an implementation schedule by FPL based upon SRJWMD findings; and

WHEREAS, the City Council of the City of Vero Beach, Florida ("City Council") desires to express its support for the Siting Report, its support for the construction of the GLRSTA, and its concerns to the SJRWMD that alternative sources of water be used in lieu of groundwater from the Floridan Aquifer if economically, technically and environmentally feasible pursuant to the findings in its Siting Report.

NOW, THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF THE CITY OF VERO BEACH, FLORIDA, AS FOLLOWS:

Section 1 – Adoption of “Whereas” clauses.

The foregoing “Whereas” clauses are hereby adopted and incorporated herein.

Section 2 – Support For SJRWMD Agency Power Plant Siting Report and Construction of the GLRSTA.

The City Council hereby expresses its support for the St. Johns River Water Management District Agency Power Plant Siting Report dated March 8, 2016, which is attached hereto and incorporated herein as part of this Resolution along with all findings and restrictions imposed on the FPL Okeechobee Clean Energy Center for the withdrawal of water from the Floridan Aquifer.

The City Council hereby expresses its support for construction of the GLRSTA to provide

future water supply where feasible to users in both the SJRWMD and SFWMD, and to help eliminate discharges destructive to the Indian River Lagoon, thereby protecting and preserving the Indian River Lagoon both now and for future generations.

Section 3 - Conflict and severability.

The provisions of this Resolution shall control over those provisions of previously adopted resolutions in conflict herewith. If any provision of this Resolution is held to be invalid, unconstitutional, or unenforceable for any reason by a court of competent jurisdiction, such invalidity shall not affect the validity of the remaining portions.

Section 4 – Effective Date.

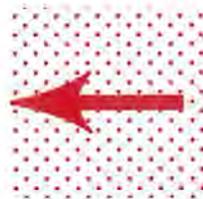
This resolution shall become effective upon adoption by the City Council.

This Resolution was heard at a public hearing on the ____ day of _____ 2016, after which hearing it was moved for adoption by Councilmember _____, seconded by Councilmember _____, and adopted by the following vote of the City Council:

Mayor Jay Kramer _____
Vice-Mayor Randy Old _____
Councilmember Pilar E. Turner _____
Councilmember Richard T. Winger _____
Councilmember Harry Howle, III _____

ATTEST:

**CITY COUNCIL
CITY OF VERO BEACH, FLORIDA**



Tammy K. Vock
City Clerk

Jay Kramer
Mayor

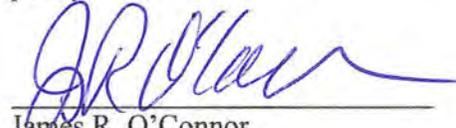
[SEAL]

Approved as to form and legal
sufficiency:



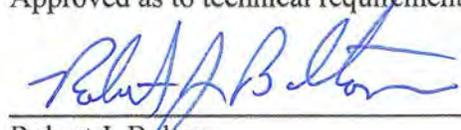
Wayne R. Coment
City Attorney

Approved as conforming to municipal
policy



James R. O'Connor
City Manager

Approved as to technical requirements:



Robert J. Bolton
Water & Sewer Director

**AGENDA REQUEST FOR
GOVERNING BOARD MEETING
March 8, 2016**

MEMORANDUM

TO: Governing Board

THROUGH: Ann B. Shortelle, Ph.D.
Executive Director

FROM: Rich Burklew, Bureau Chief
Bureau of Water Use Regulation

SUBJECT: Power Plant Siting Florida Power and Light

RECOMMENDATION

Approval of the Agency Report and conditions regarding the site certification application (SCA) for the Florida Power and Light (FPL) Okeechobee Clean Energy Center (OCEC).

BACKGROUND

FPL is seeking site certification from the Florida Department of Environmental Protection (FDEP) for the OCEC, pursuant to the Florida Electrical Power Plant Siting Act, for construction and operation of a new combined cycle natural gas fired generating unit, providing approximately 1,600 megawatts of electric generation in 2019. The site is comprised of approximately 2,341 acres in Okeechobee County located approximately 24 miles west of Vero Beach and 27 miles north-northeast of Okeechobee just south of the border with Indian River County.

The proposed power facility's water use will consist of 9.0 million gallons per day (mgd) of groundwater from the Upper Floridan Aquifer (UFA) and 0.04 mgd of groundwater from the surficial aquifer. In addition, during construction of the existing plant and associated linear facilities, dewatering activities will occur for an approximate two-year period. The estimated average dewatering rate will be up to 1.33 mgd of groundwater from the surficial aquifer.

DISCUSSION

Pursuant to the Florida Electrical Power Plant Siting Act, Sections 403.501 through 503.518, Florida Statutes (F.S.), applications for electrical power plant certifications are coordinated by the DEP, with all other reviewing agencies applying only their nonprocedural requirements. When the statute was enacted, the Legislature found "that the efficiency of the permit application and review process at both the state and local level would be improved with the implementation of a process whereby a permit application would be centrally coordinated and all permit decisions could be reviewed on the basis of standards and recommendations of the deciding agencies." See, Section 403.502, F.S.

Pursuant to subparagraph 403.507(2)(a)2, Florida Statutes (F.S.), the District is required to prepare a report as to matters within its jurisdiction. The District regulations relevant to this proposed project include Chapter 40C-2 (Consumptive Uses of Water), Florida Administrative Code (F.A.C.). The power plant siting report attached hereto contains District staff's assessment

of the application's compliance with the District's substantive consumptive use permitting rules and its recommendation for specific conditions to be placed on the certification by the siting board.

Review:

Ann B. Shortelle Ph.D.

Completed

02/26/2016 4:34 PM

**ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
AGENCY POWER PLANT SITING REPORT**

March 8, 2016

Applicant: Florida Power and Light (FPL) Company
700 Universe Boulevard
Juno Beach, Florida 33408

Project: Okeechobee Clean Energy Center

Subject: Site Certification Application for the Okeechobee Clean Energy Center
DOAH Case No. 15-5540
FDEP OGC Case No. 15-0607
PPSA No. PA15-58

Background

Florida Power and Light (FPL or Licensee) is seeking site certification for the Okeechobee Clean Energy Center (OCEC) pursuant to the Florida Electrical Power Plant Siting Act for construction and operation of a new combined cycle natural gas fired generating unit, providing approximately 1,600 megawatts (MW) of electric generation in 2019. The site is comprised of approximately 2,341 acres of FPL's 2,942 acre property in Okeechobee County located approximately 24 miles west of Vero Beach and 27 miles north-northeast of Okeechobee on the border with Indian River County. Within the site proposed for certification, approximately 1,629 acres are designated for potential 200 MW of future solar generation. A supplemental site certification application (SCA) describing the solar facility layout, engineering design, drainage system, and construction specifications will be submitted prior to development of the future solar generation area of the Site.

The proposed power facility's water use will consist of 9.0 million gallons per day (mgd) of groundwater from the Upper Floridan Aquifer (UFA) and 0.04 mgd of groundwater from the surficial aquifer. In addition, during construction of the existing plant and associated linear facilities, dewatering activities will occur for an approximate two-year period. The estimated average dewatering rate will be up to 1.33 mgd of groundwater from the surficial aquifer.

Pursuant to subparagraph 403.507(2)(a)2, Florida Statutes (F.S.), the St. Johns River Water Management District (SJRWMD or District) is required to prepare a report as to matters within its jurisdiction. The District regulations relevant to this proposed project include Chapter 40C-2 (Consumptive Uses of Water), Florida Administrative Code (F.A.C.).

Attachment: FPL Report [Revision 3] (2126 : Power Plant)

REVIEW OF CONSUMPTIVE USES OF WATER

Statutory Requirements

The consumptive use of water for this application is regulated by Part II of Chapter 373, Florida Statutes (F.S.). Two of the key statutory requirements are set forth in sections 373.219 and 373.223, F.S. Subsection 373.219(1), F.S., provides:

The governing board or the department may require such permits for consumptive use of water and may impose such reasonable conditions as are necessary to assure that such use is consistent with the overall objectives of the District or department and is not harmful to the water resources of the area.

Subsection 373.223(1), F.S., and Section 40C-2.301, F.A.C. require an applicant to establish that the proposed use of water:

- (a) is a reasonable-beneficial use;
- (b) will not interfere with any presently existing legal use of water; and
- (c) is consistent with the public interest.

In addition, the above-requirements are detailed further in the District's Applicant's Handbook: Consumptive Uses of Water, November 3, 2015 (A.H.).

The District has reviewed the SCA for the OCEC pursuant to the above-described requirements for a new 1,600 MW natural gas power plant and is recommending approval of the SCA with a number of conditions. A summary of the District review is presented below.

Summary of Proposed Use

The OCEC combined cycle generating unit (Unit 1) will include three advanced combustion turbines (CT) and three heat recovery steam generators (HRSG) which will use the waste heat energy from the CTs to produce steam for the steam turbine generator. The exhaust heat from the CTs will be routed through the HRSG. Natural gas will be the primary fuel with ultra low-sulfur distillate (ULSD) as the backup fuel. Each CT will utilize inlet air cooling that will consist of evaporative cooling. Evaporative cooling systems achieve cooling using water evaporated from a treated media. The evaporated water extracts the latent heat of vaporization from the inlet air stream when the water droplet is converted to water vapor. Primary water uses for OCEC Unit 1 will be for cooling water and process water. Other minor uses will include service water, potable water for employee use and water for landscape irrigation. Groundwater from the UFA will be used for all process and cooling water needs. Groundwater from the surficial aquifer will be used for landscape irrigation and potable use at the site.

The primary water source will be the UFA, with potable water coming from the surficial aquifer depending upon water quality. The annual average withdrawal from the UFA will be 9 mgd (3,287 mg) and the maximum daily withdrawal will be 11 mgd. The annual average withdrawal from the surficial aquifer will be 0.046 mgd (16.8 mg) and the maximum daily withdrawal will be 0.0806 mgd. Condenser cooling for the steam cycle portion of OCEC Unit 1 and auxiliary cooling will be accomplished using a mechanical draft cooling tower. Water will be stored in a 2 million gallon (mg) raw water storage tank, a 4 mg service water/fire water storage tank, and a 6.6 mg demineralized water storage tank.

Water will be utilized in the following processes at the proposed facility:

- Cooling water is required for condenser cooling, auxiliary cooling, and cooling pump seal water.
- Process water is required for CT inlet air cooling, wet compression, NOx injection water when firing ULSD, steam cycle makeup and fire protection.
- Other water uses will include service water for internal plant uses such as equipment washing and fire protection, landscape irrigation, potable and domestic water for employee use.
- Dewatering and construction water use.

Filtration or other necessary treatment and demineralizer systems for process water treatment using water from the UFA will be installed. The heat dissipation design is based on five cycles of concentration using UFA water with an expected average total dissolved solids (TDS) of 1,740 parts per million by weight (ppmw). The cycles of concentration is the number of times water is recycled through the system and is a key factor influencing required process water use. Poorer water quality may result in a decrease in cycling and, thus, an increase in required water use. Any reject water will be mixed with the cooling tower blowdown for disposal in the Florida Department of Environmental Protection (FDEP)-permitted Underground Injection Control (UIC) well system, while any required regeneration of ion exchanger systems will be performed offsite. The HRSG and evaporative cooler blowdown (average flow of approximately 65 gpm) will be reused to the greatest extent practicable as makeup water for the cooling tower.

Dewatering Activities and Construction Water Use

Dewatering will be necessary since the construction of the new plant requires excavation to depths below the water table. FPL must ensure that all dewatering activities will result in no anticipated offsite impacts and flood damage. The applicant provided mapped locations and a schedule for the dewatering activities. The dewatering activities include:

1. Storm ponds/ sedimentation basin construction

2. Power block dewatering
3. Oil water separator dewatering
4. Cooling tower sump/pump pit, and
5. Underground utility trenches.

Dewatering will be necessary over an approximate two-year period at a rate of up to approximately 1.33 mgd. Prior to commencement of construction of those portions of the project that involve dewatering activities, FPL's construction contractor will be required to submit a final dewatering plan to the District for review and approval. Appropriate measures will be required to ensure that onsite groundwater recharge is maximized and that all water discharged from the site meets appropriate water quality standards and does not contribute to off-site flooding.

In addition to dewatering activities, groundwater use will occur prior to operation of the plant during construction for activities, which may include:

1. Well testing
2. Equipment cleaning
3. Service water (cleaning and flushing and fire protection)
4. Potable water
5. Irrigation water.

Groundwater Resources

Groundwater resources at the site include the unconfined surficial aquifer system, the confined Floridan aquifer system (FAS), and the nearly impermeable sediments of the Hawthorn Group, which separate the two aquifer units. The surficial aquifer system is the uppermost water-bearing unit and groundwater occurs under unconfined conditions in pore spaces of sandy sediment. Groundwater from the surficial aquifer system is potable and considered a high quality water source in this area. The surficial aquifer system is recharged primarily from rainfall and the downward percolation of irrigation water. The base of the surficial aquifer system occurs at the contact with the intermediate confining layer, which is a lower permeability unit that restricts the vertical movement of groundwater between the surficial aquifer system and the UFA. The intermediate confining layer consists of clay-rich, fine grained deposits of the Hawthorn Group which provides good confinement for the underlying FAS and results in artesian flow from the UFA locally.

The FAS in the vicinity of the site consists of the UFA, the Avon Park Permeable Zone (APPZ), and the Lower Floridan Aquifer (LFA). In Okeechobee County, the FAS is generally between 2,700 and 3,000 ft thick (Bradner 1994). The Avon Park Formation, except for the APPZ, is generally less permeable than the UFA and LFA and is often referred to as the middle confining unit separating the UFA and LFA. Most wells installed in the Floridan Aquifer in Okeechobee County

range between depths of 750 ft to 1,200 ft below land surface (bls). In the northeastern portion of Okeechobee County, the wells are typically installed to more shallow depths between 600 and 700 ft bls to avoid brackish water (Bradner 1994).

The confined Floridan aquifer in this area includes the upper portion of the APPZ. The top of the UFA in most of the county is encountered at a depth of approximately 400 ft. The potentiometric surface in the vicinity of the site typically ranges from approximately 40 to 50 ft above mean sea level (msl) and slightly fluctuates between the dry and wet seasons (Bradner, 1994).

The Middle Confining Unit underlies the UFA at a depth of approximately 750 ft bls and overall thickness of approximately 800 ft at the site. The MCU separates the UFA and LFA and is divided into two parts by the APPZ. The APPZ is considered part of the lower portion of the UFA and is considered a lower quality source of water since chlorides are higher than in the shallower portion of the UFA.

In this report and the associated conditions of certification, UFA wells refer to those wells in the upper portion of the UFA, and APPZ wells refer to wells extending into the lower portion of the UFA (the APPZ). FPL will initially conduct an Aquifer Performance Test (APT) of the UFA and step-drawdown test of the APPZ. The goal of the APT and step-drawdown test is to determine local hydrogeologic conditions, and given those conditions, optimize use of the APPZ. The results of this testing will be used to either corroborate the regional data used or, if needed, to update the groundwater modeling and impacts assessment supporting this SCA review. During the first two years of operation, if demonstrated that sustained withdrawal from the APPZ over a long period has acceptable water quality for the proposed need, UFA wells will be converted to APPZ wells thereby ensuring the long-term sustainability of using the lower water quality source.

Surface Water Sources

There are two large surface water bodies in the vicinity of the OCEC site, Ft. Drum Marsh Conservation Area and Blue Cypress Lake. In addition, there is a proposed water storage and water resource development project to be located in northern Okeechobee and southern Indian River Counties, known as the Grove Land Reservoir and Stormwater Treatment Area (GLRSTA), located approximately 8.5 miles southeast of OCEC Unit 1 on land owned by Evans Properties.

Ft. Drum and Blue Cypress are regulated water bodies requiring operational flowrates and criterion to meet environmental needs. Neither source is capable of

providing a reliable or adequate quantity of water for the operations of the OCEC and are therefore considered not environmentally feasible for use.

The GLRSTA is currently in the conceptual evaluation phase and there are a number of environmental, financial, technical, and regulatory issues requiring resolution before the GLRSTA project would become available to potential users. FPL's investigation indicated that if all of the foregoing issues are resolved, the design and construction of the GLRSTA would occur in five to six years, after which water may be available for use at OCEC. As a condition of certification, and upon notification by the District of a potential alternative source, FPL will be required to evaluate and report to the District regarding the potential use of any identified source. If deemed feasible, the Licensee will be required to propose a plan to maximize use of these alternative source(s). It is anticipated that the District will request investigation of the use of GLRSTA within the first six years after licensing.

Reclaimed Water Source

The use of reclaimed water was investigated, but is not currently available or anticipated at the OCEC site in the future. The site location is approximately 20 miles from any significant population center capable of providing even a small amount of the required water. Based on the 2014 Reuse Inventory Report (FDEP 2014) and conversations with representatives from the City of Vero Beach and Indian River County Utilities, no single reuse facility or system within approximately 20 miles could supply more than a small amount of the process and cooling water required for OCEC Unit 1. As a condition of certification, the District may require FPL to investigate the feasibility of using reclaimed water should it become available in the future. If deemed feasible, the Licensee will be required to propose a plan to maximize use of this alternative source.

Lowest Quality Source

Based on an evaluation of all available water sources as described above, and considering SJRWMD rule criteria that the lowest quality source be utilized, if technically, economically, and environmentally feasible, FPL is proposing a phased optimization plan to maximize the lowest quality water source available at this time, the APPZ. Starting with one initial APPZ well and as additional APPZ wells are constructed, FPL shall use the greatest quantity of water from the APPZ that, when combined with water from the UFA, produces a water quality sufficient to allow operation at five cycles of concentration. If water quality of the APPZ or UFA is lower than anticipated, or degrades quickly, the number of cycles of concentration could decrease and the volume of water required for cooling would increase substantially. Thus, this operational criterion was selected in order to optimize both the use of lowest quality source and water use

efficiency. A phased, annual approach is appropriate since it will allow water quality in the APPZ and UFA to stabilize and trends to be recognized, as increasing amounts of lower quality water are utilized.

As discussed above, FPL will initially conduct an APT of the UFA and step-drawdown test of the APPZ. Based on the results of this testing, FPL shall: (a) determine the maximum extent to which they can use this APPZ well to supply water for cooling and other plant purposes; and (b) update the groundwater modeling if there is a significant difference between the APT results and the values used for leakance or transmissivity in FPL's modeling submitted with the SCA. If FPL is using the APPZ well for cooling water and other plant purposes, then not later than two years after initiating groundwater withdrawals for cooling and other plant purposes, and annually thereafter, FPL shall either modify one upper UFA well to extend it into the lower quality APPZ or construct and use one additional APPZ well to replace an UFA well. FPL may cease annual well modification or additional APPZ well construction and use when either APPZ water withdrawals reach 100% of total non-surficial aquifer withdrawals or the water quality produced from blending the UFA and APPZ well exceeds operating water quality constraints described above and in the conditions of certification. This multi-year, phased approach ensures the lowest quality source will ultimately be maximized while limiting the potential for harmful saline water intrusion.

Saline Water Intrusion

The potential for saline water intrusion was evaluated using the modeled water balance for the site and an analytical upconing model. The simulation assumed all withdrawals were from the UFA and evaluated water quality impacts resulting from the induced upward flow from the APPZ and LFA. The results indicate that FPL's withdrawals induce lateral flow within the UFA and an increase in upward flow from the APPZ. Due to the confinement between the APPZ and the LFA, only minimal upward flow from the LFA would be anticipated. The upconing model indicates the proposed 9 mgd will not exceed the steady-state critical pumping rate, or the pumping rate at which the saltwater / fresh water interface becomes unstable resulting in significant degradation of the well water quality.

As a condition of certification, FPL must propose an UFA Monitoring Plan to the District for review and approval post-certification. The purpose of this Plan would be to monitor for ongoing, long-term water quality impacts at the site to ensure detrimental saline water intrusion does not occur. As a condition of certification, the Plan shall include, at a minimum, one UFA monitoring well, quarterly major ion chemical analyses for all production and monitoring wells, and daily water level measurements of UFA monitoring well. In addition, FPL must conduct groundwater quality testing during the proposed APT and during all proposed well construction.

Potential Environmental Impacts

FPL demonstrated the permissibility of withdrawing the stated quantities of water without adversely impacting the water source, the use of groundwater by prior existing legal users, and existing off-site land uses such as lakes, streams, or wetlands. The East Central Florida Steady State (ECFS) model is an adaptation of the U.S. Geological Survey transient model ECFT, which was subsequently modified by the CFWI Hydrologic Analysis Team (2014). The SJRWMD adapted the CFWI model by, among other things, making it steady state, rather than transient. It was determined that the ECFS model was appropriate for impact assessment at the OCEC Site. FPL applied the model according to SJRWMD rule criteria, staff specifications, and prior SJRWMD consumptive use permitting practice, using an average 5-year May water level conditions (lowest) to provide a conservative estimate of impact.

FPL used the ECFS model to simulate surficial aquifer drawdowns due to withdrawals from the UFA (up to the maximum daily average 11 mgd). Due to the artesian conditions present in this area, significant drawdown effects in the surficial aquifer would not be anticipated. The modeled drawdown resulting from the six proposed UFA wells would not cause measurable change in any surface water feature or wetlands.

FPL also used the ECFS model to simulate surficial aquifer drawdowns due to withdrawals from the surficial aquifer (up to the maximum daily average of 0.08 mgd). The modeled surficial aquifer drawdown resulting from the three proposed surficial aquifer wells is less than 0.1 ft at the nearest wetland area and within the mitigated area on the FPL site. District staff conducted an inspection of on-site wetland areas on November 2, 2015. It is not anticipated that existing wetlands or other types of vegetation would be adversely impacted from these drawdowns.

FPL used the ECFS model to simulate drawdown as it relates to established minimum flows and levels (MFLs). Based on the results of the modeling, the proposed use is in accordance with adopted MFLs.

Existing Legal Uses

FPL must demonstrate that the proposed uses of groundwater will not interfere with prior existing legal users which existed at the time of certification application (September 25, 2015), or, if such interference does occur, that Licensee will mitigate for such interference. SJRWMD designates a threshold of 10% reduction in flow in artesian wells as an indicator of potential interference with prior existing legal users.

The groundwater modeling performed as part of the SCA demonstrated that water withdrawals will not interfere with any prior existing legal user of the surficial aquifer. The modeling, however, indicated that a potential exists for OCEC groundwater withdrawals from the UFA to interfere with a limited number of prior existing legal user wells that withdraw from the UFA. The "FPL OCEC Well Interference Monitoring, Avoidance and Mitigation Plan" (Appendix ??) outlines FPL's plan for monitoring for interference, avoiding interference, and then mitigating such interference in the unlikely event it occurs. The Plan includes:

- Monitoring the water quality and water level effects of withdrawals on the UFA;
- Determination of a monitoring drawdown threshold triggering avoidance actions;
- Notification to potentially affected UFA well owners;
- Claim investigation; and
- Mitigation in the case where interference has been experienced. Mitigation shall cover well modifications, pump purchase, installation, maintenance, and fuel/electricity costs until the well use changes or the interference abates.

Water Conservation

FPL's OCEC plant will use combined cycle technology. With this technology, steam electric generation is only about 35 to 40 percent of the total generating capacity. The remaining 60 to 65 percent is produced by combustion turbines, which do not use water for condenser cooling. Consequently, this technology significantly reduces the requirement for cooling water. Because the combined cycle technology reduces the steam electric portion of the generating facility, it also reduces the amount of water required to make steam.

In addition, FPL will implement the following water conservation measures:

1. The required makeup water to the HRSGs will be minimized by using good engineering design and best operating practices that reduce the required blowdown and by the recovery and reprocessing of water for reuse.
2. FPL is proposing water efficient five cycles of concentration in the cooling tower.
3. When feasible, and depending on the water quality from the UFA, wastewater from the water treatment system and other plant blowdown and plant drains will be recycled for use in the cooling towers.
4. When available, excess stormwater in the detention ponds may be used as makeup for the cooling towers.

5. All systems that involve the use of water will be designed and operated to minimize water loss. This will include an in-service leak test, inspection, or hydro-test to ensure the system is leak tight.
6. Other design features include: automatic shutoff valves, flow restrictors, low-volume sanitary facilities with an onsite sewage treatment and disposal system, and an awareness program for both construction and operational employees on water conservation for the project.
7. FPL will implement drought-resistant landscape design.

Water Use Information

The applicant is proposing use of water from three surficial aquifer wells, one existing UFA well, six proposed UFA wells, and six proposed replacement APPZ wells, as listed in the table below. The APPZ replacement wells are intended to replace the UFA wells, to the extent feasible within the water quality constraints described above and in the conditions of certification. All proposed and replacement wells below are industrial type use with additional minor potable, well testing, and landscape irrigation uses authorized.

Wells:

Well No.	SJRWMD ID	Casing Diameter (in.)	Casing Depth (ft.)	Total Depth (ft.)	Status	Source
1	455798	24	400	760	Proposed	UFA
2	455799	24	400	760	Proposed	UFA
3	455800	24	400	760	Proposed	UFA
4	455801	24	400	760	Proposed	UFA
5	455802	24	400	760	Proposed	UFA
6	455803	24	400	760	Proposed	UFA
7	455804	6	25 - 50	100	Proposed	Surficial aquifer
8	455805	6	25 - 50	100	Proposed	Surficial aquifer
9	457087	6	25 - 50	100	Proposed	Surficial aquifer
10	457111	24	900	1000	Proposed	APPZ
11	457112	24	900	1000	Replacement	APPZ
12	457113	24	900	1000	Replacement	APPZ
13	457114	24	900	1000	Replacement	APPZ
14	457115	24	900	1000	Replacement	APPZ

Attachment: FPL Report [Revision 3] (2126 : Power Plant)

15	457116	24	900	1000	Replacement	APPZ
Main pump*	454668	10	400	800	Existing	UFA

*Temporary construction use only

RECOMMENDATION

The District has reviewed the SCA for the OCEC pursuant to the above-described requirements and is recommending approval of the SCA with the conditions listed below.

C. Register, P. Renish, N. Church

Bradner, L. (1994). *Ground-Water Resources of Okeechobee County, Florida U.S. geological Survey; Water-resources Investigations Report 92-4166*. U.S. Geological Survey.

CONDITIONS RECOMMENDED BY THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (Chapters 40C-2 and 40C-3, Florida Administrative Code)

1. Nothing in this certification shall be construed to limit the authority of the SJRWMD to declare a water shortage and issue orders pursuant to Chapter 373, F.S. In the event of a declared water shortage, the Licensee must adhere to the water shortage restrictions, as specified by the SJRWMD. [Paragraph 5.1(b), A.H., Nov 2015]
2. Leaking or inoperative well casings, valves, or controls must be repaired or replaced as required to eliminate the leak or make the system fully operational. [Paragraphs 2.3(a), 5.1(d), A.H., Nov 2015]
3. Licensee's consumptive use of water as authorized by this certification shall not interfere with legal uses of water existing at the time of certification application. If interference occurs, SJRWMD will request that FDEP revoke the certification, in whole or in part, to curtail or abate the interference, unless the interference associated with the Licensee's consumptive use of water is mitigated by Licensee pursuant to the Well Interference Monitoring, Avoidance and Mitigation Plan (included in Appendix ??). [Paragraphs 3.6, 5.1(e), A.H., Nov 2015]

Attachment: FPL Report [Revision 3] (2126 : Power Plant)

4. Licensee shall implement the FPL OCEC Well Interference Monitoring, Avoidance and Mitigation Plan (Appendix ??) as described therein and as modified by Condition 27, if required. [Paragraphs 3.6, 5.1(e) A.H., Nov 2015]
5. Licensee's consumptive use of water as authorized by this certification shall not have significant adverse hydrologic impacts to off-site land uses existing at the time of the certification application. If significant adverse hydrologic impacts occur, the SJRWMD will request that FDEP revoke the certification, in whole or in part, to curtail or abate the adverse impacts, unless the impacts associated with Licensee's consumptive use of water are mitigated by Licensee pursuant to a SJRWMD-approved plan. [Paragraphs 2.3(f), 5.1(f), A.H., Nov 2015]
6. A SJRWMD-issued identification tag shall be prominently displayed at each withdrawal site by permanently affixing such tag to the pump, headgate, valve, or other withdrawal facility as provided by Section 40C-2.401, Florida Administrative Code. Licensee shall notify the SJRWMD in the event that a replacement tag is needed. [Paragraph 5.1(h) A.H., Nov 2015]
7. The Licensee's consumptive use of water as authorized by this license shall not significantly and adversely impact wetlands, lakes, rivers, or springs. If significant adverse impacts occur, the SJRWMD will request that FDEP revoke the license, in whole or in part, to curtail or abate the significant adverse impacts, unless the impacts associated with the Licensee's consumptive use of water are mitigated by the licensee pursuant to a SJRWMD-approved plan. [Paragraphs 2.3(f), 5.1(i) A.H., Nov 2015]
8. The Licensee's consumptive use of water as authorized by this license shall not reduce a flow or level below any minimum flow or level established by the SJRWMD or the FDEP pursuant to Section 373.042 and 373.0421, F.S. If the Licensee's use of water causes or contributes to such a reduction, then the SJRWMD will request that FDEP revoke the license, in whole or in part, unless the Licensee implements all provisions applicable to the Licensee's use in a SJRWMD-approved recovery or prevention strategy. [Paragraphs 2.3(i), 5.1(j) A.H., Nov 2015]
9. The Licensee's consumptive use of water as authorized by the license shall not cause or contribute to significant saline water intrusion. If significant saline water intrusion occurs, the SJRWMD will request that FDEP revoke the license, in whole or in part, to curtail or abate the saline water intrusion, unless the saline water intrusion associated with the Licensee's consumptive use of water is mitigated by the Licensee pursuant to a SJRWMD-approved plan. [Paragraphs 2.3(g), 5.1(k) A.H., Nov 2015]
10. The Licensee's consumptive use of water as authorized by the license shall not cause or contribute to flood damage. If the Licensee's consumptive use

causes or contributes to flood damage, the SJRWMD will request that FDEP revoke the license, in whole or in part, to curtail or abate the flood damage, unless the flood damage associated with the Licensee's consumptive use of water is mitigated by the licensee pursuant to a SJRWMD-approved plan. [Paragraphs 2.3(f), 5.1(l) A.H., Nov 2015]

11. The lowest quality water source, including reclaimed water, surface water and stormwater, must be used for each consumptive use authorized by these conditions of certification when available, except when Licensee demonstrates, as determined by SJRWMD, that the use of the lower quality water source is not economically, environmentally, or technologically feasible, in accordance with the SJRWMD's Consumptive Use Permit Applicant's Handbook, paragraph 2.3(e) A.H., Nov 2015. [Paragraph 2.3(e) A.H., Nov 2015]

12. Well modifications, construction and abandonments shall conform to SJRWMD non-procedural requirements in chapter 40C-3, F.A.C. [Paragraph 5.1(c) A.H., Nov 2015]

13. Prior to well construction, if the final well locations are greater than 200 feet from those originally proposed in the certification application, the Licensee shall submit to the FDEP SCO and SJRWMD for review and approval, in accordance with Condition XX, "Procedures for Post-Certification Submittals", an evaluation of the impacts of the proposed pumpage from the proposed well location(s) on adjacent existing legal users, environmental features, the saline water interface, wetlands, and other water bodies. [Section 373.223. F.S.; Paragraph 2.3(f,g) A.H., Nov 2015]

14. Within 90 days of completion of construction of any Upper Floridan Aquifer (UFA) or Avon Park Producing Zone (APPZ) production wells, Licensee shall submit to the FDEP SCO and SJRWMD:

- a. The specific locations of the wells on a map with a minimum scale of one inch equals 800 feet, or by latitude/longitude.
- b. Detailed well specifications and drawings.
- c. Geophysical logging program conducted during construction of the well(s). The program must include the following: Gamma, Caliper, Electric (sp and electrical resistivity), Fluid Resistivity, Temperature, Flow and Video.
- d. Downhole water quality testing program to include field-testing at 20-foot intervals upon penetration of the top of the upper portion of the UFA for specific conductivity, chlorides, temperature and pH.

[Chapter 40C-3, F.A.C.; Paragraph 2.3(c, d) A.H., Nov 2015]

15. All landscape irrigation shall be conducted in accordance with the times, days, and within the manner set forth in section 40C-2.042, F.A.C. [Rule 40C-2.042, F.A.C., Paragraph 5.2 A.H., Nov 2015]

16. Maximum annual use of water from the UFA for power plant process, cooling, potable, service, irrigation, and well testing water must not exceed 3,285 million gallons (9.0 mgd annual average). If required by Conditions 29 and 30, all or part of this allocation shall be obtained from the Avon Park Producing Zone (APPZ). [Paragraphs 2.3(a,b,c,d,e) 5.2(d) A.H., Nov 2015]

17. Licensee may use water from the existing UFA well (Main Pump Well, SJRWMD ID 454668) for construction of the power plant and associated facilities. Maximum annual water use from this well must not exceed 164.75 million gallons (0.45 mgd annual average) as provided for in SJRWMD Consumptive Use Permit 143225-1. [Paragraphs 2.3(a,b,c,d,e) 5.2(d) A.H., Nov 2015]

18. Maximum annual use of water from the surficial aquifer and/or UFA for landscape irrigation of the site must not exceed 0.744 million gallons (0.002 mgd) per acre, not to exceed a total quantity of 10.51 million gallons (0.029 mgd annual average). [Paragraphs 2.3(a,b,c,d,e), 5.2(d), A.H., Nov 2015]

19. Maximum annual use of water from the surficial aquifer and/or UFA for potable and service water uses at the facility must not exceed 16.82 million gallons (0.046 mgd annual average). [Paragraphs 2.3(a,b,c,d,e), 5.2(d), A.H., Nov 2015]

20. Total withdrawal of groundwater from the UFA wells 1-6 (SJRWMD IDs 455798-455803, respectively), UFA replacement wells 10-15 (SJRWMD IDs 457111-457116) and surficial aquifer wells 7-9 (SJRWMD IDs 455804, 455805, and 457087, respectively) must be recorded continuously, totaled monthly, and reported to the FDEP SCO and the SJRWMD at least every six months from the initiation of the monitoring using Form EN-50. The reporting dates each year will be as follows:

<u>Reporting Period</u>	<u>Report Due Date</u>
January - June	July 31
July - December	January 31

[Paragraph 2.3(a) A.H., Nov 2015]

21. Prior to use, all proposed wells must be equipped with totalizing flow meters. All flow meters must maintain +/- 5% accuracy, be verifiable and be installed according to the manufacturer's specifications. [Paragraphs 4.1, 4.2, A.H., Nov 2015]

22. The Licensee must maintain all flow meters. In case of failure or breakdown of any meter, the FDEP SCO and SJRWMD must be notified in writing within 5 days of its discovery. A defective meter must be repaired or replaced within 30 days of its discovery. [Paragraphs 4.1, 4.2, A.H., Nov 2015]

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23. The Licensee must have the flow meters calibrated once every 10 years within 30 days of the anniversary date of certification issuance, and recalibrated if the difference between the actual flow and the meter reading is greater than 5%. SJRWMD Form No. EN-51 must be submitted to the FDEP SCO and SJRWMD within 10 days of the inspection / calibration. [Paragraph 4.1, 4.2.1, A.H., Nov 2015]

24. The Licensee has indicated that dewatering will be necessary to facilitate construction of the plant. The Licensee has estimated dewatering of the surficial aquifer will occur over an approximate 24-month period at a rate of 487.3 million gallons per year (annual average 1.33 mgd). Prior to commencement of construction of those portions of the project that involve dewatering activities, the Licensee's construction contractor will be required to submit a final dewatering plan to the FDEP SCO and the SJRWMD for review and approval in accordance with Condition XX, "Procedures for Post-Certification Submittals." This plan shall include at a minimum:

- a. a map showing the locations of dewatering activities with associated projected drawdowns. If projected drawdowns initially appear to cause adverse environmental impacts or interference to existing legal uses, mitigation measures must be proposed and included in the Dewatering Plan;
- b. a map delineating the portions of the property where dewatering activities will take place and the extent of the proposed excavations, both vertically and laterally. This map must include the locations and dimensions of any proposed ponds to receive dewatering discharges;
- c. procedures to ensure that dewatering will not cause or contribute to flood damage including the proposed rate and duration of water pumped for dewatering;
- d. a map providing the proposed locations and capacities (gpm) of proposed dewatering pump(s);
- e. detailed description of turbidity treatment and erosion control measures at the discharge point(s);
- f. indicating requested dewatering allocation and schedules;
- g. water quality monitoring plans; and
- h. if necessary, a water treatment system design.

[Paragraphs 2.3(a,b,f,g,h) A.H., Nov 2015]

25. Prior to commencing use of the UFA for cooling tower makeup water, Licensee shall construct one well into the APPZ and perform a step-drawdown test on that APPZ well. In addition, Licensee shall perform an aquifer performance test (APT) on the upper portion of the UFA with APPZ and UFA observation wells. No later than 90 days before conducting the APT, Licensee shall provide an APT Plan to the FDEP SCO and SJRWMD to be reviewed and approved in accordance with Condition XX, "Procedures for Post Certification Submittals" prior to Licensee commencing with the APT. The APT Plan must

follow SJRWMD guidelines, as appropriate, for conducting an APT as set forth in Appendix D of the SJRWMD's Applicant's Handbook: Consumptive Uses of Water incorporated by reference in rule 40C-2.101(1)(a), F.A.C. (effective November 3, 2015). [Paragraphs 2.3(c,d) A.H., Nov 2015]

26. No later than 90 days after the APT is complete, Licensee shall provide an APT final report ("APT Report") documenting well construction, APT procedures, data analysis, and APT results to the FDEP SCO and SJRWMD for review and approval in accordance with Condition XX, "Procedures for Post-Certification Submittals". The APT Report shall be signed and sealed by a Florida Registered Professional Geologist or Professional Engineer. [Paragraphs 2.3(c,d) A.H., Nov 2015]

27. If, after the approval of the APT Report, there is a significant difference between the APT results and the values used in Licensee's groundwater impact modeling evaluations, Licensee shall update its groundwater impact model, as well as the Okeechobee Clean Energy Center Well Interference Monitoring, Avoidance and Mitigation Plan, as necessary, to reflect the updated modeling results. A "significant difference" shall mean the leakance or transmissivity values are thirty (30) percent higher or lower than those included in the Licensee's groundwater flow model data submitted with the SCA. If updated modeling is required, no later than 30 days after approval of the APT report, the Licensee shall provide to the FDEP SCO and the SJRWMD, a proposed modeling plan to update its groundwater impact model ("Modeling Update Plan") for review and approval in accordance with Condition XX, "Procedures for Post-Certification Submittals". The Modeling Update Plan shall incorporate the Licensee's APT results to evaluate impacts of predicted drawdown and utilize all updates available for this region.

No later than 90 days after receiving the SJRWMD's written approval of the Modeling Update Plan, Licensee shall complete the modeling according to the plan, prepare a written report detailing the impacts indicated by the updated modeling, and submit the report to the FDEP SCO and SJRWMD for review and approval in accordance with Condition XX, "Procedures for Post-Certification Submittals".

Within 60 days of SJRWMD approval of the updated modeling report, Licensee shall submit a written evaluation of any needed changes to the Okeechobee Clean Energy Center Well Interference Monitoring, Avoidance and Mitigation Plan to the SCO and SJRWMD for review and approval in accordance with Condition XX, "Procedures for Post-Certification Submittals". Licensee may also include this written evaluation in the updated modeling report.

If the results of the SJRWMD approved, updated modeling indicate that the OCEC Unit 1 proposed groundwater use will result in an additional 10% or greater reduction in flow of any existing legal user's well caused entirely by the OCEC Unit 1 proposed use (determined using the non-drought baseline current

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condition in the updated model), then Licensee shall mitigate those existing user's wells and facilities pursuant to the terms of the Okeechobee Clean Energy Center Well Interference Monitoring, Avoidance and Mitigation Plan (Appendix ??) in advance of commencing commercial operation of OCEC Unit 1. Such existing legal users need not submit an interference claim to Licensee. [Paragraphs 2.3(c,d,e,f,g), 3.6, A.H., Nov 2015]

28. No later than 60 days after the approval of the APT report, Licensee shall provide an Upper Floridan Aquifer Monitoring Plan to the FDEP SCO and the SJRWMD for review and approval in accordance with Condition XX, "Procedures for Post-Certification Submittals". This monitoring plan shall specify the location and construction specifics of the monitoring well(s) and should include, at a minimum:

- a. Monitoring of the UFA between the proposed production well sites and closest adjacent legal users. This monitoring well shall measure water levels and water quality of the same zone of use of the closest adjacent legal user(s). The best available well depth and casing information for the closest adjacent legal user(s) must be used to determine the monitoring zone.
- b. Determine an appropriate monitoring well drawdown threshold (i.e., number of feet of drawdown) that would trigger the actions described in "Avoiding Potential Interference" portion of the Well Interference Monitoring, Avoidance, and Mitigation Plan in Appendix ??.
- c. Quarterly major ion chemical analyses for all production and monitoring wells.
- d. Daily water level measurements of UFA monitoring wells.

[Paragraphs 2.3(c,d,e,f,g) A.H., Nov 2015]

29. Not later than 90 days after approval of the APT report, Licensee shall incorporate the results of the APT and step-drawdown tests into the groundwater model and evaluate APPZ performance and water quality to determine whether the APPZ well can be used to supply water for cooling and other plant purposes. If this APPZ modeling indicates background APPZ water quality, when blended with water produced from UFA wells, is sufficient to allow OCEC Unit 1 operation at 5 cycles of concentration, Licensee shall use the APPZ well to the maximum extent possible for cooling water and other plant purposes as specified below. If this APPZ modeling indicates background water quality, when blended with water produced from UFA wells, is insufficient to allow OCEC Unit 1 operation at 5 cycles of concentration, Licensee is not required to implement withdrawals from the APPZ well and is not required to construct additional APPZ wells as referenced below. [Paragraphs 2.3(c,d,e) A.H., Nov 2015]

30. If Licensee is using the APPZ well for cooling water and other plant purposes pursuant to the provision above, then not later than two years after initiating groundwater withdrawals for cooling and other plant purposes, and annually

Attachment: FPL Report [Revision 3] (2126 : Power Plant)

thereafter, Licensee shall either modify one upper UFA well to the lower quality APPZ or construct and use one additional APPZ well to replace an UFA well. Starting with the initial APPZ well and as additional APPZ wells are constructed, Licensee shall use the greatest quantity of water from the APPZ that, when combined with water from the UFA, produces a water quality sufficient to allow operation at five cycles of concentration. Licensee may cease well modification or additional APPZ well construction and use upon the earlier of (a) the date when APPZ water withdrawals reach 100% of total non-surficial aquifer withdrawals; or (b) the water quality produced from blending the UFA and APPZ well exceeds the constraints identified in Condition 32. [Paragraphs 2.3(c,d,e) A.H., Nov 2015]

31. If Licensee is using APPZ well(s), Licensee shall submit a Lowest Quality Groundwater Source Report annually to the FDEP SCO and SJRWMD beginning no later than one year after initiation of groundwater withdrawals for cooling water and other plant operational purposes. This Lowest Quality Groundwater Source Report shall identify the quantities of water Licensee withdraws from the APPZ, the water quality of that APPZ water, and the water quality of that APPZ water blended with water withdrawn from the UFA. Licensee may cease lowest quality groundwater source reporting upon the earlier of (a) the date when APPZ water withdrawals reach 100% of total non-surficial aquifer withdrawals; or (b) the SCO in consultation with the SJRWMD approves the Licensee's request to do so based on monitored water quality data demonstrating that using APPZ wells is environmentally, technically, or economically infeasible. [Paragraphs 2.3(c,d,e) A.H., Nov 2015]

32. If at any time a trend of the blended water quality of the OCEC Unit 1 cooling water supply reasonably projects that five cycles of concentration cannot be maintained in the plant's circulating water system over the next year of operation using the plant design basis water treatment methodology, Licensee may reduce or discontinue withdrawals from the APPZ well(s) and correspondingly increase withdrawals from UFA wells as necessary to maintain the lowest water quality meeting the above referenced water quality limitation of 5 cycles of concentration. No post certification authorization is required to initiate this change. Within 90 days of such reduction, Licensee shall submit a written report for informational purposes to the FDEP SCO and SJRWMD describing the reduction or elimination of APPZ well withdrawals, including the identification of the well(s) reduced and information on the water quality of the OCEC water supply. [Paragraph 2.3(c,d,e,g) A.H., Nov 2015]

33. Upon notification by the SJRWMD that an alternative water source has potentially become available in the vicinity of OCEC Unit 1, including sources that lie outside of the boundary of the SJRWMD, Licensee shall evaluate the feasibility of connection to and use of the alternative water source. As used herein, the term "alternative water source" means any source not identified as a traditional water supply source in the applicable water supply plan

Appendix ??
FLORIDA POWER & LIGHT
OKEECHOBEE CLEAN ENERGY CENTER
WELL INTERFERENCE MONITORING, AVOIDANCE
AND MITIGATION PLAN

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**FLORIDA POWER & LIGHT
OKEECHOBEE CLEAN ENERGY CENTER
WELL INTERFERENCE MONITORING, AVOIDANCE
AND MITIGATION PLAN (February 2, 2016)**

Background

Florida Power & Light's (FPL) Okeechobee Clean Energy Center (OCEC) will use groundwater from the Upper Floridan Aquifer (UFA) and the surficial aquifer for plant purposes. As part of the St. Johns River Water Management District's (SJRWMD) non-procedural review criteria, FPL (or "Licensee") must demonstrate that these proposed uses of groundwater will not interfere with prior existing legal users or, if such interference does occur, that Licensee will mitigate for such interference. The groundwater modeling performed as part of the OCEC Site Certification Application (SCA) demonstrated that water withdrawals will not interfere with any prior existing legal user of the surficial aquifer. The modeling, however, did indicate that, although unlikely, a potential exists for OCEC groundwater withdrawals from the UFA to interfere with a limited number of prior existing legal user wells that withdraw from the UFA. This document outlines Licensee's plan for monitoring for interference, avoiding interference, and then mitigating such interference in the unlikely event it occurs.

Scope of Applicability

The scope of this well interference monitoring, avoidance and mitigation plan is limited to adverse effects to prior existing legal users caused by OCEC UFA withdrawals. Based upon groundwater modeling accepted by the SJRWMD as part of the SJRWMD's review of the OCEC SCA, the geographic area in which prior existing legal users of the UFA may be potentially interfered with by OCEC UFA withdrawals is shown on Exhibit 1 to this plan.

Additionally, as further described in the OCEC SCA, a small quantity of the OCEC water needs will be withdrawn directly from the surficial aquifer through surficial aquifer wells. The extent of reduction in surficial aquifer potentiometric surface resulting from these withdrawals was modeled and determined not to interfere with any prior existing legal user. Furthermore, groundwater modeling demonstrated that OCEC UFA withdrawals would not cause a drawdown in the potentiometric surface of the surficial aquifer sufficient to interfere with any prior existing legal user of the surficial aquifer. Therefore, this plan does not apply to any prior existing legal user of the surficial aquifer or any prior existing legal user of surface water.

This well interference monitoring, avoidance and mitigation plan applies only to prior existing legal users of the UFA located within the area shown on Exhibit 1 to this plan. A prior existing legal user under this plan is an entity legally entitled to withdraw, and actually withdrawing, groundwater from the UFA as of September 25, 2015, the date of submission of the OCEC SCA.

Entities that first initiated their legal withdrawal of groundwater from the UFA after September 25, 2015, are not prior existing legal users and are not covered by this plan.

Monitoring for Potential Interference

Licensee will install a monitoring well(s) and monitor the potentiometric surface and water quality to determine the effects of OCEC pumping on the UFA. The specific location and nature of the monitoring well(s) and the means of monitoring will be set forth in a monitoring plan submitted post certification as required by the conditions of certification. This monitoring plan shall specify the location and construction specifics of the monitoring well(s) and should include, at a minimum:

1. Monitoring of the UFA between the proposed production well sites and the closest adjacent legal users. This monitoring well shall measure water levels and water quality of the same zone of use of the closest adjacent legal user(s). The best available well depth and casing information for closest adjacent legal users must be used to determine the monitoring zone.
2. Determine an appropriate monitoring well drawdown threshold (i.e., number of feet of drawdown) that would trigger the actions described in "Avoiding Potential Interference" below
3. Quarterly major ion chemical analyses for all production and monitoring wells.
4. Daily water level measurements of the UFA monitoring wells.

The monitoring plan shall be reviewed and approved by SCO and SJRWMD in accordance with Condition XX, "Procedures for Post Certification Submittal." Licensee will use this monitoring information to assist in evaluating claims of interference as further described below.

Avoiding Potential Interference

If the potentiometric surface of the UFA in the monitoring well is below the monitoring well drawdown threshold established in the Monitoring Plan, Licensee will rotate pumping from its OCEC UFA wells to attempt to avoid potential interference so long as the pumping rotation does not impact plant operation or production from the wells.

Notification to Floridan Aquifer Well Owners within Area of Potential Interference

For those existing legal users entitled to interference mitigation prior to commencement of commercial operation of OCEC Unit 1 pursuant to the terms of OCEC Condition of Certification number 27, Licensee will notify in writing those existing legal users of Licensee's offer of well mitigation payment, as specified in this Plan, no later than 90 days after the SJRWMD approves the

updated modeling report referenced in that condition. For all other existing legal users covered by this Plan, Licensee will utilize publicly available Okeechobee and Indian River County well databases, and the SJRWMD consumptive use permitting database and well completion search tool to obtain the mailing address for property owners located within the area depicted on Exhibit 1 that are known to have an UFA well. Licensee will then mail a letter to these property owners informing them that the OCEC's UFA use may have the potential to interfere with the operation of UFA wells, and describe Licensee's willingness to investigate and mitigate for wells that have suffered interference. The letter will give the well owner a Licensee (FPL) contact phone number to call if they experience difficulties with the operation of their well. This notice will be sent 90 days after final issuance of the OCEC Site Certification. The notification letter language is shown on Exhibit 2.

Claim Investigation and Mitigation,

If a well owner notifies Licensee of possible impacts to their well, Licensee will send one or more representatives, investigate the claim. The well owner must allow the Licensee representatives access to their property and well to investigate their well impact claim. If Licensee's analysis of monitoring data, measurement, or modeling determines that pumping of groundwater from the UFA for OCEC operations has resulted in a decline in the potentiometric surface of the Floridan Aquifer at the existing user's well location, and is sufficient to cause a reduction in flow resulting in interference to that well (as defined in Section 3.6 of the SJRWMD Applicant's Handbook; Consumptive Use of Water dated November 3, 2015), Licensee will pay the cost to modify that well to restore the capacity of that well to the condition existing immediately prior to Licensee's initiation of OCEC UFA withdrawals. The analysis of the monitoring data, measurement, or modeling will consider the potentiometric surface elevations of the UFA immediately prior to initiation of OCEC UFA withdrawals accounting for the effects of withdrawals from all other UFA users in the area. The analysis of the monitoring data, measurement or modeling will determine whether the additional reduction in the UFA potentiometric surface elevations resulting solely from OCEC UFA withdrawals has produced the reduction in flow referenced above. Licensee shall not be obligated to pay or otherwise mitigate for impacts to prior existing users of the UFA resulting from groundwater withdrawals other than from OCEC UFA withdrawals. Licensee will pay for one or more of the following to restore the capacity of a well suffering interference, as determined applicable by a licensed engineer or water well contractor retained by Licensee:

- Construction to deepen the well or to lower an existing pump.
- Installation of piping.
- Installation of well pumps powered by fuel (liquid or gas) or by electrical power and wiring and other necessary infrastructure needed to support such pumps.

- Installation of new well casing or screening.

If a legal user of water which existed at the time of application for the site certification experiences interference, and the well previously operated as a free flowing well solely under artesian pressure, and such well must be equipped with a pump to restore the capacity of the well, Licensee will make payment to the well owner to reimburse the well owner for the cost of fuel or electric power to operate the pump for an initial 20-year period of time beginning on the date the well owner notifies Licensee of the impact to their well and subsequent 10-year periods thereafter. After the initial 20-year period, reimbursement will continue in subsequent 10-year increments provided the well use type (e.g., agricultural type use) remains unchanged from the time of initial impact, and only for the amount of water use permitted or determined upon initial reimbursement period. Licensee shall cease the 10-year increments if either (a) the well changes use (e.g., from agricultural to landscape irrigation or other use), or (b) Licensee's withdrawals no longer impact the well (e.g. Licensee decreases or ceases withdrawals; Licensee modifies its wellfield or wells).

If the pump is powered by fuel (liquid or gas) or electric power, the initial 20-year payment and subsequent 10-year periods shall account for the incremental cost of fuel or electric power needed to restore the capacity of the well as described above as long as the well use type remains unchanged. The incremental cost of fuel or electric power will be based on the average unit cost of the fuel or electric power sold in the county for the preceding year times the projected units of fuel or electric power needed to produce the total remaining gallons of water to be pumped from that well over a period of time beginning on the date the well owner notifies Licensee of the impact to their well and ending on the date occurring 20 years after final issuance of the OCEC Site Certification. For the purpose of this payment calculation, the total gallons of water to be pumped from the well shall be the average annual gallons used per year based upon the water use reports for that well from the previous five years times the number of years occurring within a period of time beginning on the date the well owner notifies Licensee of the impact to their well and ending on the day occurring 20 years after final issuance of the OCEC Site Certification and subject to 10-year reimbursement periods thereafter if well use type remains unchanged.

For artesian or free flowing wells used for domestic purposes which did not require a consumptive use permit from the SJRWMD, the fuel or electrical payment shall be based upon the gallons of fuel or kilowatts of electric power needed to produce 280 gallons per day for 365 days given the fuel or electric power needs and production capability of the pump installed times an initial 20 year period and subsequent 10-year increment payment periods if the well use type remains unchanged. The cost of fuel or electric power used for the initial payment will be based on the average unit cost of the fuel or electric power sold in the county for the year preceding the well owner's notification to Licensee, and for subsequent 10-year period payments, the year preceding such subsequent

10-year period. Licensee will also make a payment to the well owner for incremental costs associated with maintaining pumps and power equipment that are required to restore the capacity of the well as described above for a period of time beginning on the date the well owner notifies Licensee of the impact to their well and ending on the date occurring 20 years after final issuance of the OCEC Site Certification and subsequent 10-year reimbursement intervals as described above.

Licensee's obligation to pay costs of fuel, costs of electric power, and the costs to maintain pumps and other well equipment to address interference shall cease upon change of use type or abandonment of the well. Licensee's obligation to pay for any well modification, fuel or electric, or maintenance costs shall also cease if the property and well are sold or transferred to a new owner.

Licensee shall not be responsible to pay for wells, pumps or piping equipment; or fuel, electric power or maintenance costs; in instances in which water flow through the well is reduced or ceases, or the well otherwise fails to adequately perform, due to damage caused by improper well operation or maintenance or due to damage to the well equipment caused by accidental or intentional actions unrelated to OCEC UFA withdrawals. Licensee shall also not be responsible for mitigating well interference or otherwise offsetting loss of well production capability caused by groundwater pumping from other entities in this area, but only for the contribution of impact caused by OCEC UFA withdrawals. Licensee shall also not be responsible to pay for interference to a user's increased allocation after September 25, 2015, but only for the amount of water use permitted as of September 25, 2015.

If Licensee's analysis of monitoring data, measurement, or modeling determines that pumping of groundwater from the UFA for OCEC operations did not result in a potentiometric surface decline sufficient to cause a reduction in flow resulting in interference to that well, Licensee shall provide written notice of the same to the FDEP SCO and the SJRWMD, within 90 days of the completion of the well site investigation, which notice shall briefly explain the basis for Licensee's conclusion and include copies of any information related to the conclusion. If after receiving this notice, SJRWMD disagrees with Licensee's conclusion, disputes shall be resolved in accordance with Condition XI ("Dispute Resolution").

Reporting

No later than 30 days after Licensee receives a claim from a well owner of potential impacts to their well, Licensee will notify the FDEP SCO of the same with a copy to the SJRWMD.

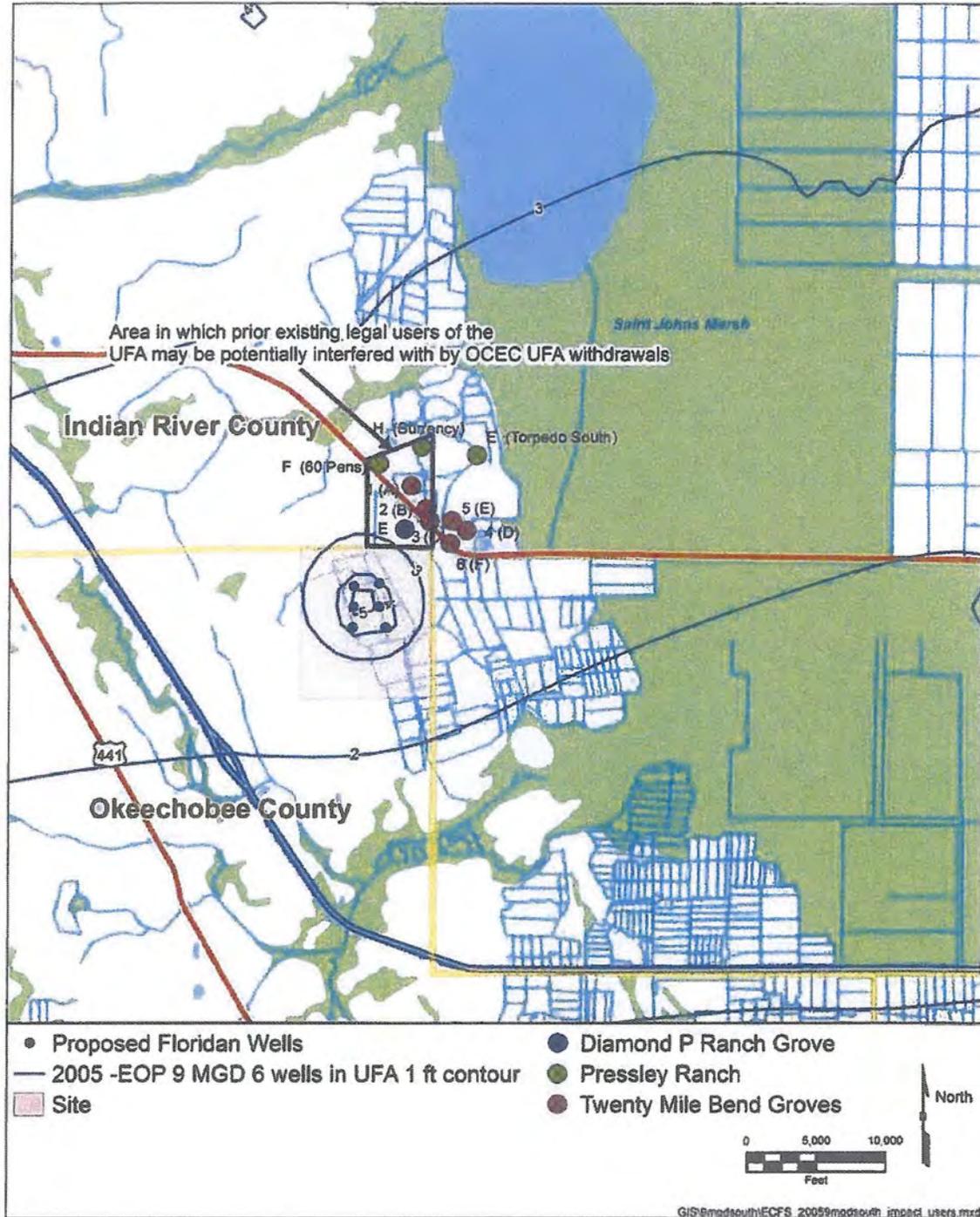
Additionally, on August 1 of each year, Licensee will prepare and submit to the FDEP SCO, with a copy to the SJRWMD, a summary report listing all well

owners who have contacted Licensee about possible well interference and the resolution of all well interference claims, including any mitigation performed by Licensee. This summary report will include the following:

- The name and address of the well owner
- The date and nature of the complaint
- The date the complaint was investigated.
- A summary of the investigation
- Details of any mitigation performed.
- Beginning 20 years after licensing, Licensee must provide written report of 10-year period reimbursement(s) to SJRWMD.

If no well owners have contacted Licensee, Licensee may satisfy this requirement by submitting a brief statement by electronic correspondence that no well interference claims were submitted for the reporting period. Licensee may discontinue this annual reporting beginning on the sixth (6th) year after OCEC initiates operation. Beginning with the sixth (6th) year after initiation of OCEC UFA withdrawals for cooling tower makeup, Licensee shall only submit a report if Licensee receives a notification from a well owner of potential impacts to their well.

EXHIBIT 1



Attachment: FPL Report [Revision 3] (2126 : Power Plant)

EXHIBIT 2

SAMPLE WELL OWNER NOTIFICATION LETTER

John Doe Well
Owner 123
Address
Okeechobee, FL

11111 Dear Mr.

Well Owner,

FPL currently expects to begin operation of its new Okeechobee Clean Energy Center on or about [DATE]. This Energy Center will use groundwater for plant purposes to provide needed electricity to FPL's customers. If you own a well that withdraws water from the Floridan Aquifer and begin to experience low water pressure or other difficulties operating your well, please contact an FPL representative at [telephone number]. FPL will investigate all claims of well impacts and mitigate interferences to Floridan aquifer wells pursuant to a well interference monitoring, avoidance, and mitigation plan approved as part of the Okeechobee Clean Energy Center Site Certification.

Sincerely,

FPL Representative

Attachment: FPL Report [Revision 3] (2126 : Power Plant)