



December 3, 2015

Ms. Ann Seiler  
Office of Siting Coordination  
Department of Environmental Protection  
3900 Commonwealth Blvd., MS #48  
Tallahassee, FL 32399-2400

Re: **Okeechobee Clean Energy Center – PPSA No. PA 15-58**  
**Response to Completeness Questions and Comments**

Dear Ms. Seiler:

Florida Power & Light Company (FPL) is pleased to submit to the Department of Environmental Protection (Department) its response to completeness questions and comments attached to the Department's Determination of Incompleteness dated November 4, 2015, for the Okeechobee Clean Energy Center Site Certification Application. Copies of the FPL completeness responses are being provided as shown on the attached distribution list.

FPL looks forward to working with the Department and other interested agencies in the certification process. If you should have any questions regarding this submittal, please do not hesitate to contact me at 561-691-2808 or Agnes Ramsey at 561-691-2820.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matthew J. Raffenberg', with a long horizontal flourish extending to the right.

Matthew J. Raffenberg  
Environmental Licensing Director

cc: Paul Weirzbicki, , FDEP Southeast District Office  
Brooke E. Lewis, Esq., Hopping Green & Sams  
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OKEECHOBEE CLEAN ENERGY CENTER**

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# Okeechobee

## Clean Energy Center



## SITE CERTIFICATION APPLICATION COMPLETENESS RESPONSES

December 2015



RESPONSES TO COMPLETENESS COMMENTS  
FPL OKEECHOBEE CLEAN ENERGY CENTER SITE CERTIFICATION APPLICATION

**ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD)**

**SJRWMD-1. Please use a minimum 5-year average May head (e.g., May 2003-2007) for calculating interference with existing legal users. May 2005 potentiometric heads were higher than normal and thus would minimize the effect of drawdowns. However, as discussed during our preapplication meetings, you may use an average annual withdrawal rate (9 mgd instead of peak 11 mgd) during this analysis since you have indicated that the peak amount would not be used during this time of year. [Section 1.3.7.2, Section 2.3 (a, f, g, h, i) and Section 3.6, A.H.]**

**RESPONSE:** The revised analysis using the average May potentiometric head for the 5-year period between 2003 and 2007 is attached (Attachment SJRWMD-1). Using water levels from the USGS for the Ft. Drum and Blue Cypress Lake UFA wells, the 5-year average potentiometric head for May (2003 through 2007) is 41 feet. The average in May 2005, the baseline year for the modeling protocol originally requested by the SJRWMD, was 43 feet. This adjustment in protocol lowers the baseline artesian pressure near the OCEC site by 2 feet.

Table 2 from Appendix 10.9 has been updated to reflect the downward adjustment in the artesian pressure. The updated table is provided in Attachment SJRWMD-1. Table 2 shows the currently permitted cumulative drawdown for well locations near the OCEC Site, without the influence of OCEC. The analysis predicts that when the potentiometric water levels are 41 feet, two wells (well "E" and well "60 pens") may experience artesian pressure reductions of 19 percent or more (flow reductions of 10 percent or more) in the unlikely cumulative (EOP) scenario without the effects of OCEC pumping.

Tables 3 and 4 from Appendix 10.9 also have been updated to reflect the 5-year average potentiometric head for May (see Attachment SJRWMD-1), and to reflect the average annual withdrawal rate, as suggested in the comment above. Table 3 shows the drawdown effect of the OCEC Unit 1 proposed average annual withdrawal on prior legal users near the OCEC site. The drawdown is small, ranging from 0.27 to 0.65 feet. The reduction in artesian head due to the OCEC withdrawal is between 1.8 and 5.8 percent. Table 4 shows the cumulative potential drawdown (i.e., FPL and other existing users at end of permit allocations) for wells near the OCEC site. The updated results indicate that with the incremental addition of OCEC withdrawals, 2 additional wells (1A and Surrency) may experience artesian pressure reductions of 19 percent or more (flow reductions of 10 percent or more) in the unlikely cumulative (EOP) scenario. Should this unlikely event occur, FPL has developed a monitoring and mitigation plan to access and mitigate potential impacts from OCEC UFA withdrawals to existing legal users near the OCEC Site (see response to SJRWMD-3). For wells already predicted to experience artesian pressure reductions of 19 percent or more (flow reductions of 10 percent or more) in the unlikely (EOP) scenario prior to OCEC withdrawals, FPL will mitigate only for the contribution of impact caused by OCEC withdrawals.

**SJRWMD-2: Please provide a surficial drawdown map, drawn to a clearly visible scale, showing labeled contour intervals. In addition to the on-site mitigation area, there are wetlands immediately adjacent to the project that are of concern. Please clarify the surficial drawdown within the onsite mitigation area as well as these adjacent wetlands. [Section 2.3 (f, g), Section 3.5, Section 3.7, A.H.]**

**RESPONSE:** A surficial drawdown map and description of modeling results is provided in Attachment SJRWMD-2. As illustrated in the surficial drawdown map, the 0.1 ft contour does not extend beyond the area designated as open space.

RESPONSES TO COMPLETENESS COMMENTS  
FPL OKEECHOBEE CLEAN ENERGY CENTER SITE CERTIFICATION APPLICATION

**SJRWMD-3: Please provide a monitoring and mitigation plan to address potential interference with existing legal uses. Because of limited local information, District staff recommends that an Aquifer Performance Test (APT) analysis(es) be conducted to evaluate / compare assumptions of the submitted modeling and associated impacts evaluations. District guidelines for developing and conducting an APT are provided in Appendix D of the Applicant's Handbook. Modeling assumptions and impacts evaluations should be re-assessed with the additional site specific APT data, if the results are significantly different than the regional values used initially. [Section 1.3.7.2, Section 2.3 (a, f, g, h, i) and Section 3.6, A.H.]**

**RESPONSE:**

The information provided in the SCA, including modeling, is sufficient to provide reasonable assurance of compliance with all applicable SJRWMD non-procedural requirements. To confirm the results and ensure compliance with the certification in accordance with section 403.5113(2), Florida Statutes, and rule 62-17.191, Florida Administrative Code, FPL is willing to conduct a post-certification site-specific Aquifer Performance Test (APT) prior to commencing Upper Florida Aquifer use for cooling tower makeup water.

In accordance with FDEP's first determination of incompleteness suggesting that FPL propose conditions of certification where appropriate, FPL proposes the following condition of certification to address SJRWMD staff recommendations for an Aquifer Performance Test:

*To ensure compliance with the certification, prior to commencing Upper Floridan Aquifer use for cooling tower makeup water, Licensee shall perform an aquifer performance test (APT) and submit a report to SCO and SJRWMD.*

A. *No later than 90 days before conducting the APT, Licensee shall provide an APT Plan to the SCO and SJRWMD for review. The APT Plan will incorporate, as appropriate, SJRWMD guidelines 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 August 14, 2014). The SCO and SJRWMD shall have 30 days to review and comment on the APT Plan. The APT Plan shall be reviewed and approved by SCO and SJRWMD in accordance with Condition XX, "Procedures for Post Certification Submittals."*

B. *No later than 90 days after the APT is complete, Licensee shall provide an APT final report documenting well construction, the APT procedures, the data analysis and the results to the SCO and SJRWMD for review and approval in accordance with Condition XX, "Procedures for Post-Certification Submittals". The APT final report shall be signed and sealed by a Florida Registered Professional Geologist or Professional Engineer.*

C. *If after approval of the APT report, there is a significant difference between the APT results and the values that were 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 results submitted with the SCA.*

D. *No later than 60 days after the approval of the APT report, Licensee shall provide an Upper Floridan Aquifer Monitoring Plan to the SCO and the SJRWMD. This monitoring plan*

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FPL OKEECHOBEE CLEAN ENERGY CENTER SITE CERTIFICATION APPLICATION

*shall specify the location and construction specifics of the monitoring well and the specifics and duration of the monitoring period. The monitoring plan shall be reviewed and approved by SCO and SJRWMD in accordance with Condition XX, "Procedures for Post Certification Submittal."*

A Well Interference Monitoring, Avoidance and Mitigation Plan to address potential interference with existing legal users is provided in Attachment SJRWMD-3.

**SJRWMD-4: Please provide a more detailed, quantitative alternative source feasibility analysis, including an analysis of the use of the LFA or APPZ. The submittal references higher withdrawal rates, increased deposition and higher treatment costs as prohibitive to the use of the APPZ or LFA. The cooling tower makeup water is designed to use water from the UFA with an estimated TDS of 1,740 ppm (page 4-15). As discussed, water quality of the UFA may be significantly better than this assumed amount and the value you have assumed is more indicative of the poorer quality water from the APPZ since the modeled water balance indicates approximately half of the water will originate from the APPZ. As required by District criteria, you must use the lowest quality source, if technically, economically, and environmentally feasible. It appears your analysis supports the potential use of a lower quality source (i.e., the APPZ). Please consider deepening all or some of the proposed UFA wells into the APPZ. In addition, use of the APPZ would likely decrease potential interference to users of the UFA. If it is your position that this lower quality source is infeasible, please provide quantitative information (i.e, calculated treatment costs, number of pounds of increased deposition, how much additional saline water intrusion would result, quantity of additional water required, etc.) supporting your evaluation.**

**Your evaluation of the surface water sources currently available is acceptable. Please note that further evaluation of use of lower quality sources, including the Grove Land Reservoir and Stormwater Treatment Area, may be required in the future as a permit condition. [Section 2.3 (a, e, f, g, h), Section 3.7, A.H.]**

**RESPONSE:** The groundwater model (ECFS) was used to develop a quantitative water balance that was provided in Appendix 10.9 (Figure 9). The modeling shows that while the OCEC production wells are open to the UFA, approximately 58 percent of the water withdrawn comes from the Avon Park Producing Zone (APPZ). Less than 0.5 percent of the flow is from the Lower Floridan Aquifer (LF1). The remaining approximately 42 percent of the flow comes from the UFA. Therefore, the currently proposed well field design, while only penetrating the UFA, withdraws 58% of the water from the APPZ.

FPL investigated the feasibility of increasing APPZ usage from 58% to 100%. As background for this investigation, note that based on available water quality data, including Figure 3 in SCA Appendix 10.9 and data from well IR-1202 (located between 1 and 2 miles east of OCEC Unit 1), the TDS concentration in the UFA is expected to be approximately 700 mg/l +/- 300 mg/l. Based on water quality data from the APPZ well (IR 1163; 1025 feet deep), also located between 1 and 2 miles east of OCEC Unit 1, the TDS concentration in the APPZ is expected to be approximately 1,800 mg/l +/- 300 mg/l. Based on calibrated model results from the USACE (2001) [Figure 4 in SCA Appendix 10.9] the TDS concentration in the LF1 is expected to be 15,000 +/-5,000 mg/l at the OCEC site.

Using the water balance results from the ECFS model and the estimates of aquifer TDS concentrations discussed above, if 9 MGD is pumped from the UFA wells, the anticipated TDS concentration of the OCEC water supply will be 1,740 mg/l (after the system reaches water quality

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equilibrium) as indicated on page 4-15 of the SCA. This TDS concentration and corresponding constituent levels of calcium, magnesium and silica are reasonable and acceptable for use in the power plant cooling tower. The calcium, magnesium and silica levels and their interaction while in the cooling tower basin set the allowable cycles of concentration that can be attained and, in this case, with near maximum pH adjustment using acid addition to the cooling tower, 5 cycles of concentration can be maintained with magnesium silicate being the limiting factor.

Due to limited regional data concerning the APPZ and confining layers below, FPL cannot reliably predict changes in water quality associated with withdrawing from the APPZ (as can be done with UFA withdrawals). However, using the information currently in the ECFS model, if 100% of the water was withdrawn from the APPZ, the TDS concentration of the OCEC water supply would be approximately 2,185 mg/l and the concentrations of the corresponding constituent levels of calcium, magnesium and silica would increase by more than 25%. Assuming no further change in TDS or calcium, magnesium and silica resulting from pumping the APPZ, the cycles of concentration would have to be lowered to 4. The average water withdrawal requirements and the average injection well disposal rate would increase approximately 0.7 mgd.

To evaluate possible outcomes that might result due to uncertainties associated with withdrawing from the APPZ, FPL performed a sensitivity analysis consisting of decreasing the transmissivity of the APPZ by an order of magnitude and increasing the leakance below the APPZ by an order of magnitude. This sensitivity analysis demonstrates the risk to FPL of changes in APPZ water quality. If APPZ water quality changed to the extent demonstrated by the sensitivity analysis the cycles of concentration would have to be lowered to 2. In such case, the average water withdrawal requirements would be 14.4 mgd and the average injection well disposal rate would increase by approximately 5.4 mgd.

Therefore, due to the uncertainty in potential changes in water quality of the APPZ and additional water use requirements, increasing APPZ use from the 58% currently proposed to 100% without the ability to use the UFA provides limited incremental benefit and poses unjustifiable cost and plant operational risks. However, FPL can feasibly undertake limited additional APPZ withdrawal if FPL is authorized to switch this APPZ use to UFA use in the event the APPZ withdrawal results in water quality parameters that pose plant operational risks.

Thus, FPL is willing to accept a condition of certification requiring FPL to open one OCEC production well into the APPZ provided FPL can switch this APPZ use to UFA use in the event the APPZ use produces water supply with unacceptable water quality. FPL proposes the following condition of certification:

*Licensee is authorized to withdraw an annual average of 9 MGD of groundwater (11 MGD maximum daily) from six wells for cooling, process, service and irrigation purposes. Initially, one of these wells must be open to the aquifer known as the Avon Park Producing Zone (APPZ). The remaining five wells may be open to the Upper Floridan Aquifer (UFA). Licensee shall mix withdrawals of groundwater from the APPZ well and the UFA wells on a rotational basis such that the approximate hours of operation of each well is equalized to the extent practicable.*

*If at any time, the water quality of the OCEC water supply exceeds 1,740 mg/L TDS, or the combination of constituents such as calcium, magnesium, and silica form silicates or other molecular structures that exceed values allowing operation at 5 cycles of concentration, Licensee may reduce or discontinue withdrawals from the*

## RESPONSES TO COMPLETENESS COMMENTS

## FPL OKEECHOBEE CLEAN ENERGY CENTER SITE CERTIFICATION APPLICATION

*APPZ well and correspondingly increase withdrawals from the UFA wells as necessary to maintain the above referenced water quality limitations. No post-certification authorization is required to initiate this change in well pumping. Within 90 days of such action, Licensee shall submit a written report for informational purposes to the SCO and SJRWMD describing the reduction or elimination of APPZ well withdrawals including information on the water quality of the OCEC water supply.*

*If Licensee discontinues withdrawals from the APPZ well due to exceedance of the above referenced water quality constraints, Licensee may, at its discretion, either (a) modify the APPZ well to a UFA well, or (b) construct a replacement well of the same production capacity open to the UFA and located within 200 feet of the APPZ well being replaced. If Licensee undertakes either (a) or (b), Licensee shall submit a water well completion report, in accordance with Condition XX, Procedures for Post-Certification Submittals”, demonstrating that the well modification or new well construction complies with the well design and construction criteria of Chapter 40C-3, F.A.C.*

As to the LF1, if the LF1 were used for water supply, the anticipated TDS concentration in the water supply is approximately 20,000 mg/l (as determined through use of the ECFS model water balance results and the estimates of aquifer TDS concentrations discussed above) assuming a 9 MGD withdrawal rate. Even when reducing the cycles of concentration to 1.5 and increasing the annual average withdrawal rate to 22 MGD, this TDS concentration would result in blowdown and drift concentrations of 30,000 mg/l, or 350 percent of the proposed condition. This drift concentration would likely cause salt drift impacts to surrounding freshwater vegetation in the vicinity of OCEC Unit 1 and cause significant operating and maintenance issues for the plant. Additionally, the wastewater disposal rate through the deep injection wells would increase to 15.4 MGD (810 percent more than current design), an injection rate that is not allowed under the Underground Injection Control requirements of Rule 62-528.415(1)(f)2, F.A.C. (peak hourly flow not greater than 10 ft/sec). Thus, use of the LF1 is not environmentally or technically feasible. Alternatively, attempting to use makeup water with these extremely high TDS levels would require extraordinary water treatment which is not financially feasible.

As to the future use of surface waters, FPL is willing to accept a condition of certification requiring FPL to evaluate additional alternative surface water sources should they become available in the vicinity of OCEC Unit 1. In accordance with FDEP's first determination of incompleteness suggesting that FPL propose conditions of certification where appropriate, FPL proposes the following condition of certification:

*Licensee shall evaluate the practicability of connection to and use of an alternative surface water source, should such an alternative surface water source become available in the vicinity of OCEC Unit 1.*

RESPONSES TO COMPLETENESS COMMENTS  
FPL OKEECHOBEE CLEAN ENERGY CENTER SITE CERTIFICATION APPLICATION

**SJRWMD-5. Please provide proposed well casing diameter, cased depth, total depth, pump capacity (gpm) and type, and flow measurement method (i.e, flow meter or alternative method) for all wells proposed. As discussed, we understand this may change during design & construction; however, we will update to final construction specs at that time. [Section 2.3 (a, d), A.H.]**

**RESPONSE:** The final detailed surficial aquifer and Floridan aquifer well designs will be available during the post-certification review process authorized by Section 403.5113(2), Florida Statutes, and Rule 62-17.191, Florida Administrative Code. Nonetheless, FPL is providing the following information to provide the level of information currently available.

|                         | Surficial Aquifer Well     | UFA/APPZ Wells                                     |
|-------------------------|----------------------------|----------------------------------------------------|
| Casing diameter         | 6 inches                   | 24 inches                                          |
| Casing depth            | 25 to 50 feet              | Approx. 400 feet (UFA)<br>Approx. 900 feet (APPZ)  |
| Total depth             | 100 feet                   | Approx. 760 feet (UFA)<br>Approx. 1000 feet (APPZ) |
| Pump Capacity           | 60 gpm                     | 2800 gpm                                           |
| Pump Type               | Centrifugal or submersible | Vertical Turbine                                   |
| Flow measurement method | Meter                      | Meter                                              |

**SJRWMD-6. Please clarify the construction dewatering request including the amounts, location, schedule, duration, and routing for each dewatering activity. [Section 2.3 (a, f, g, h), Section 3.7, A.H.]**

**RESPONSE:** The dewatering calculations were provided in SCA Appendix 10.8, starting on page 508. There are five dewatering activities discussed in this appendix:

1. Storm ponds/sedimentation basin construction (SCA Figures 4.1-1 and 4.2-1 show location).
2. Power Block dewatering,
3. Oil Water Separator (OWS) dewatering,
4. Cooling Tower Sump / Pump Pit, and
5. Underground Utility trenches [see Appendix 10.8, Figure 1 (page 612) for locations].

SCA Figures 4.1-1 and 4.2-1 and Appendix 10.8 Figure 1 (page 612) show the locations of the dewatering activities. The total amount of dewatering, the average dewatering rate, the peak dewatering rate, the location, duration, expected schedule and routing are summarized below for each of the 5 dewatering activities:

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| Dewatering Activity Number | Amount Total Average (Maximum)     | Location                                   | Duration  | Schedule | Routing                                                                                                                                                                                                                                                 |
|----------------------------|------------------------------------|--------------------------------------------|-----------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                          | 67 MG<br>0.745 MGD<br>(0.95 MGD)   | North & South Storm Pond Areas             | 90 Days   | Year 1   | Ponds excavated in wet with draglines. Water retained in sedimentation pond or drained back into excavation from stockpile. Overflow from pond released through control structure to perimeter stormwater channel then eventually to off-site drainage. |
| 2                          | 340 MG<br>1.8 MGD<br>(2.3 MGD)     | Power Block<br>500 ft x 900 ft             | 6 Months  | Year 1   | To sedimentation pond(s). Overflow from pond released through control structure to perimeter stormwater channel then eventually to off-site drainage.                                                                                                   |
| 3                          | 10.3 MG<br>0.368 MGD<br>(0.45 MGD) | Between cooling towers and power block     | 4 Weeks   | Year 1   | Same as above.                                                                                                                                                                                                                                          |
| 4                          | 70 MG<br>0.389 MGD<br>(0.472 MGD)  | Between cooling towers and power block     | 6 Months  | Year 1   | Same as above.                                                                                                                                                                                                                                          |
| 5                          | 200 MG<br>0.764 MGD<br>(0.777 MGD) | See SCA Appendix 10.8, Figure 1 (page 612) | 12 Months | Year 2   | Same as above.                                                                                                                                                                                                                                          |

FPL will agree to a condition of certification requiring the post-certification submittal of additional dewatering details. In accordance with FDEP's first determination of incompleteness suggesting that FPL propose conditions of certification where appropriate, FPL proposes the following condition of certification related to submittal of a dewatering plan:

*All dewatering activities shall be in compliance with the applicable requirements of the SJRWMD Applicant's Handbook: Consumptive Uses of Water (August 14, 2014). Prior to commencement of construction of those portions of the project that involve dewatering activities, the Licensee shall submit a detailed plan for any such activities to the SJRWMD and SCO for review and approval in accordance with Condition XX, "Procedures for Post-Certification Submittals." This plan shall include at a minimum:*

- 1. a map showing the locations of dewatering activities with associated projected drawdowns. If projected drawdowns initially appear to cause adverse environmental impacts*

RESPONSES TO COMPLETENESS COMMENTS  
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*or interference to existing legal uses, mitigation measures must be proposed and included in the Dewatering Plan;*

*2. 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;*

*3. procedures to ensure that dewatering will not cause or contribute to flood damage including the proposed rate and duration of water pumped for dewatering;*

*4. a map providing the proposed locations and capacities (gpm) of proposed dewatering pump(s);*

*5. detailed description of turbidity treatment and erosion control measures at the discharge point(s);*

*6. requested dewatering allocation and schedules;*

*7. water quality monitoring plans; and*

*8. if necessary, a water treatment system design.*

**SJRWMD-7. What is the total irrigated area associated with the power plant (and corresponding to requested 20 gpm irrigation water use)? [Section 2.3 (a), A.H.]**

**RESPONSE:** FPL based the 20 gpm estimate for irrigation water on an estimate that at least 12 acres of the OCEC Site may be landscaped. The average water requirement was calculated using the modified Blaney-Criddle formula with turf grass as the crop and monthly data from Fort Drum and Okeechobee County. The maximum monthly average requirement is estimated to be 30 gpm. FPL will not know how much landscaping is required until the Conditions of Certification are finalized. If the Conditions of Certification do not require as much landscaping, the average irrigation request will be proportionately reduced.

**SJRWMD-8. Please provide more detail on process water use and efficiency and conservation, including:**

**a) What are the operating parameters for the cooling tower, that is, the estimated TDS for makeup water and the TDS threshold for discharge or blowdown.**

**b) Please provide your analysis for determining the five cycles of concentration (water use efficiency in the cooling tower). Please consider the feasibility of increasing the number of cycles. [Section 2.2, 2.3 (a), A.H.].**

**RESPONSE:** Please also refer to the response to SJRWMD-4.

a) The cooling towers are expected to operate at 5 cycles of concentration. The cooling tower makeup water from the UFA is estimated to have a TDS concentration of 1,740 mg/l (page 4-15) when water quality equilibrium is reached. This value is based on available water quality data from

RESPONSES TO COMPLETENESS COMMENTS  
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nearby wells and groundwater modeling of the Floridan Aquifer system. The cooling tower blowdown TDS is estimated to be approximately 8,700 mg/l.

b) Makeup water constituents such as calcium, magnesium and silica and their interaction while in the cooling tower and circulating water system set the allowable cycles of concentration that can be attained. In this case with near maximum pH adjustment using acid addition to the cooling tower, 5 cycles of concentration can be maintained with magnesium silicate formation limiting any additional cycles of concentration. The addition of pre-treatment to increase the cycles of concentration is not economically feasible due to the significantly higher capital and operating cost of the treatment system that would increase the cost of OCEC by over \$200 million on a net present value basis over that currently proposed. Alternatively, the addition of slip stream RO pre-treatment to improve water quality to allow increased cycles of concentration would increase water use as compared to the current plan because of the increasing RO system waste stream.

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**INDIAN RIVER COUNTY (IRC)**

**I. Traffic**

**IRC-1. The applicant and its representatives have coordinated with Indian River County Traffic Engineering and submitted a traffic impact study. Based on that study, Traffic Engineering and the Public Works Director have determined that an eastbound right turn lane on SR 60 at the Main Project Entrance is required. That required improvement needs to be reflected in a revised application section 5.7.2, current page 5-18. Section 6.9.1 (current page 6-20) and possibly other figures and/or sections need to be updated accordingly.**

**RESPONSE:** Based on coordination with FDOT, the proposed geometry and projected peak construction traffic volumes do not require the construction of an eastbound right turn lane on SR 60. As described in SCA Section 5.7.2, Section 6.9.1, and Appendix 10.7.3, the existing level of service B for SR 60 will not be degraded during construction or operation of the Project. Traffic during operation of the Project will comply with all applicable non-procedural requirements, including section 952.06, Indian River County Code and the Transportation Element of the Indian River County Comprehensive Plan.

More specifically as it relates to an eastbound right turn lane on State Road 60, Section 952.10, Indian River County Code, requires a turn lane where a project equals or exceeds 75 vehicles during the peak hour for right turn movements. As stated in Section 6.9.1 of the SCA, estimated traffic volumes during operation of the Project include approximately 60 total daily trips from all directions. Thus, a turn lane is not required during operation. FPL does not believe that an eastbound right hand turn lane is necessary during construction that is temporary; however, based on the request of Indian River County Traffic Engineering and the Public Works Director, FPL will construct an eastbound right hand turn lane. FPL will provide the design details prior to certification or via a post certification submittal. FPL will work with the appropriate reviewing agencies to develop a condition of certification, if necessary.

**II. Emergency Services**

**IRC-2. Section 3.2.8.3 Medical Facilities: The application states "There are nine hospitals within 30 miles of the Site." A MapQuest search for road miles, with a starting point at the Main Project Road/SR 60 entrance, yields the following:**

- Indian River Medical Center is 25.2 miles
- Sebastian River Medical Center is 34.1 miles
- Lawnwood Regional Medical Center is 35.9 miles
- Raulerson Hospital is 42.2 miles
- Florida Hospital Kissimmee is 66.3 miles

**It appears that the section needs to be revised accordingly. With respect to Indian River County Fire Rescue Station 7, the mileage appears accurate.**

**RESPONSE:** The reference utilized to determine the number of hospitals in the vicinity of the Project is US Hospital Finder ([www.ushospitalfinder.com](http://www.ushospitalfinder.com)), not MapQuest. According to the referenced source, nine hospitals occur within 30 miles of the Site. However, based on an apparent error in the source information, one of the nine, St. Lucie Medical Center, is approximately 38 miles from the Site.

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**IRC-3. (Advisory) Staff agrees with FPL attorney Michael Tammaro's email to Indian River County staff dated September 30, 2015 wherein he suggests: 1) a conference call with Indian River County risk management representative and 2) a future ILA (inter-local agreement) for reimbursement related to special emergency services.**

**RESPONSE:** Comment noted. A conference call was held on October 26, 2015. As stated in Mr. Tammaro's 9/30/2015 email, "FPL would agree as a condition of certification to reimburse Indian River County for the reasonable costs associated with special emergency services in the event special emergency services outside those contemplated by a mutual aid agreement between Indian River County and Okeechobee County are performed."

### **III. Utility Services/Water Supply<sup>1</sup>**

**IRC-4. Figure 1 under Appendix 10.9 should identify "Indian River County".**

**RESPONSE:** Comment noted; revised Appendix 10.9, Figure 1 is provided in Attachment IRC-4.

**IRC-5. Figure 4.5-1, it appears the water balance from the cooling tower may be a typographical error (466000).**

**RESPONSE:** The value is correct; it represents the circulating water flow between the power plant and the cooling towers, and does not represent makeup or discharge from the system.

**IRC-6. Wastewater from the water treatment system will be routed to the injection wells. As noted in the water balance on Figure 4.5-1, the peak short duration industrial wastewater sent to injection well from water plant is estimated to be 8.68 MGD when 11 MGD is being pulled from the UFA. This is very close to a single pass through scenario.**

**RESPONSE:** The wastewater sent to the injection wells is collected in sumps with multiple pumps in each sump. When required, multiple pumps operate to empty the sumps. The wastewater flow rate of 8.68 MGD (6,025 gpm) referenced in comment IRC-6 as being sent to the injection well is a peak intermittent short duration flow that occurs when multiple pumps operate simultaneously and does not correspond to 11 MGD (7,638 gpm) being pulled from the UFA. The flow rate to the injection well corresponding to the 11 MGD withdrawal from the UFA is 2.33 MGD (1,617 gpm) and corresponds to 5 cycles of concentration in the cooling tower.

**IRC-7. Sample flows for domestic sanitary uses are shown on 4-16; therefore, the industrial/process WW flows (aka water plant effluent) should also be noted in the body of the text as well (i.e. Average injection 1.92 MGD, max month of 2.33 MGD & 8.68 MGD Peak).**

**RESPONSE:** Although not specifically identified in the text, all quantities of water flows to and from the various plant water systems are shown on the Water Balance for OCEC Unit 1 contained in Figure 4.5-1, as required by Section 4.5 of FDEP's draft *"Application Instruction Guide: Electrical Power Plant Sites and Associated Facilities Electrical Transmission Lines"* dated September 1, 2009.

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<sup>1</sup> With regard to water supply, FPL provides these responses to Indian River County for informational purposes although the requests appear to be outside the scope of a completeness request for additional information, in accordance with Sections 403.5066 and 403.507(2)(a)(3), Florida Statutes. The County does not have authority to regulate consumptive use of water under Section 373.217, Florida Statutes.

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As shown on Figure 4.5-1, the average waste water flow is 1,333 gpm (1.92 MGD), the max month average flow is 1,617 gpm (2.33 MGD) and the peak flow is 6,025 gpm (8.68 MGD).

**IRC-8. Figure 8 under Appendix 10.9 should be extended to show the impacts of the 1- foot drawdown contour.**

**RESPONSE:** The 1-foot contour on Figure 8 illustrates the cumulative impact of all users in the model area, which extends model-wide beyond the area of OCEC Unit 1. Figure 7 shows the drawdown impact due to OCEC withdrawals out to the 0.5-foot contour.

**IRC-9. Also, if the 1-foot drawdown contour is to extend beyond the ECFS groundwater model, is it accurate to only use the subject model or should it be combined with the SEC model (which covers the east portion of Indian River County)?**

**RESPONSE:** The impact of OCEC Unit 1 is well within the boundaries of the ECFS model. There is no need to combine the ECFS and the SEC models to evaluate the impacts of the Project, in accordance with coordination between FPL and SJRWMD.

**IRC-10. When firing ULSD oil, when natural gas is not used, emissions of NO<sub>x</sub> will be controlled using water injection and SCR. How much additional water (process or treated) will be used in this effort?**

**RESPONSE:** The amount of water required for NO<sub>x</sub> control when ultra-low distillate oil (ULSD) is used depends upon the load of the combustion turbine (CT) and ambient temperature. At an ambient temperature of 75° F, which is about equivalent to the annual average, approximately 470 gallons/minute is required for each CT at 100 percent load. ULSD will only be used as a backup fuel, limited to no more than 500 hours/year per CT. The water use when using ULSD for 500 hours per year is included in the water balance shown in Figure 4.5-1.

**IRC-11. "A supplemental SCA describing the solar facility layout, engineering design, drainage system, and construction specifications would be submitted prior to development of the future solar generation area of the Site." How much process/treated water, if any, will be used in the future solar panel array for cooling? If water will be used, will this future additional water be factored into the CUP allocation being requested now?**

**RESPONSE:** FPL is not seeking a separate consumptive use permit for the OCEC Project. Rather, pursuant to Section 403.511(1), Florida Statutes, the certification will constitute "the sole license of the state" for the construction and operation of the plant and associated facilities. Impacts, including potential water use associated with potential future solar generation on the Site, would be addressed in a supplemental site certification application under Section 403.517, Florida Statutes. Please note, however, that solar photovoltaic technology does not require cooling water. No process/treated water will be used in the potential future solar facility for cooling.

**IRC-12. Cooling Towers**

**a) Cooling tower bactericides used in controlling microbial growth in the draft cooling tower should be evaluated to take into account drift that may affect neighbors, cattle, drivers on SR60, and visitors to the Fort Drum conservation area.**

**b) Cooling towers, evaporative condensers, and fluid coolers use a fan to move air through a recirculated water system. This allows a considerable amount of water vapor and sometimes**

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droplets to be introduced into the surroundings, despite the presence of drift eliminators designed to limit droplet release. This water may be in the ideal temperature range for Legionnaires' disease bacteria (LDB) growth, 20°-50°C (68°-122°F). Good maintenance is necessary, both to control LDB growth and for effective operation. Does the report address either of these issues?

c) OCEC Unit 1 will utilize water from the UFA, with the expected water quality resulting in deposition ranging between 2.6 and 6 kg/ha/month within 2,000 meters of the cooling towers. These values are within the range of natural background deposition and are not anticipated to result in any adverse impacts to vegetation in the vicinity. Are these figures based on virgin process water or 5th cycle concentration?

**RESPONSE:** a) As described in SCA Section 4.6.1, intermittent shock chlorination or other oxidizing or non-oxidizing biocides will be used to prevent biofouling of the heat rejection system. These biocides are added based on the water chemistry in the cooling tower to levels that will perform their function while reducing the amount of biocides needed. This reduces the concentrations in the cooling tower circulating water to minimize concentrations in cooling tower drift. The residual concentration of biocides will be at very low concentrations with maximum concentrations after use less than few parts per million. These concentrations decrease with time until the next biocide treatment. In addition, the drift exiting the cooling tower is controlled so that the amount of drift is 20,000 times lower than the quantity water recirculated in the cooling tower. The deposition of drift also is greatly reduced in distance from the cooling tower as shown in Table 6.1.4-3. The combinations of low biocide residual concentrations, drift control and dispersion will result in no adverse impacts to the areas surrounding the FPL property.

b) While the SCA does not specifically address Legionella formation in the OCEC cooling tower, as described in SCA Section 4.6.1 biocides are used to control biofouling. Cooling tower water quality and its operation are critical to the overall efficiency of OCEC. FPL continually measures and maintains water quality to mitigate formation of biofouling agents. Periodic use of biocides, such as that planned for OCEC, ensures control of Legionella growth (Occupational Safety and Health Administration, OSHA Technical Manual, Section III, Chapter 7, Section V Controls; [https://www.osha.gov/dts/osta/otm/otm\\_iii/otm\\_iii\\_7.html#5](https://www.osha.gov/dts/osta/otm/otm_iii/otm_iii_7.html#5)).

c) The deposition analyses are based on 5 cycles of concentration. It is therefore assumed that the concentration in the circulating water is 5 times higher than the makeup water supplied to the cooling tower.

**IRC-13. If a regional WW facility becomes available at the OCEC, should connection of the facility to domestic WW be a condition of the certification/permit?**

**RESPONSE:** As stated in Section 4.5.2 of the SCA, at this time there are no regional sewage collection systems within 10-20 miles of OCEC Unit 1, nor is FPL aware of plans for such a system to be available in the foreseeable future. However, if proposed, FPL is willing to accept a condition of certification requiring FPL to evaluate connection to a regional wastewater facility for domestic wastewater. In accordance with FDEP's first determination of incompleteness suggesting that FPL propose conditions of certification where appropriate, FPL proposes the following condition of certification:

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*If a regional wastewater facility becomes available in the vicinity of OCEC Unit 1, FPL shall evaluate the practicability of using the regional wastewater facility for disposal of domestic wastewater.*

**IRC-14. Have OCEC's engineers looked at the feasibility of going to a "zero liquid discharge" system for the RO/NF concentrate (Water plant wastewater) such as the anion exchange system in use at Palm Coast Utilities?**

**RESPONSE:** The project includes all measures required for wastewater disposal. Zero liquids discharge (ZLD) systems are difficult to maintain resulting in system outages for routine maintenance, major component replacement, and unexpected forced outages. Because of these difficulties in operating a ZLD system, adding a ZLD system to the plant would not eliminate the need for the current wastewater system including the UIC wells. The ZLD system would cost approximately \$20 million to install, operate and maintain on a net present value basis. In addition a ZLD system would impose a significant auxiliary plant load of approximately 5 MW and a resultant heat rate increase of 20 Btu/kWh which would result in an approximately \$15 million net present value impact as compared to the current plan. The overall impact to the project would be \$35 million net present value which cannot be justified by any benefits from the installation of the system.

**IRC-15. Section 5.3: What is the age of existing 10" artesian well? Please confirm the casing is in good shape and that there are no lateral leaks of artesian water.**

**RESPONSE:** The 10" artesian well was in existence when the property was purchased by FPL. No records exist regarding the installation of the well, therefore the age is unknown. FPL is not aware of any surveys or tests performed on the well casing, however, the well is currently permitted and in use for agricultural purposes and there are no indications of problems.

**IRC-16. Section 5.3.1 states "Dewatering of the surficial aquifer will have no adverse impact on water levels or water supplies in the Upper Floridan Aquifer because the two aquifer systems are hydrologically separated by almost 300 feet of a clay-rich confining unit. What effect, if any, will the "dewatering of the SAS" have on the Fort Drum Marsh Conservation Area? As noted, the SJRWMD's Fort Drum Marsh Conservation Area is located adjacent to the Site, on the eastern boundary.**

**RESPONSE:** The impacts of dewatering during construction are discussed in SCA Section 5.2.1 and the detailed calculations supporting the dewatering impact assessment are in SCA Appendix 10.8. The conclusion is that dewatering impacts will be confined to the OCEC Unit 1 area and will not adversely impact off-Site surface waters or wetlands. Dewatering impacts will be temporary and will be in an area already impacted by construction of OCEC Unit 1. Consequently, dewatering impacts will not adversely impact Fort Drum Marsh Conservation Area that is located east of the Site.

**IRC-17. Section 6.8 should list IRC Utilities which has 1 MGD reuse available now. Transmission logistics from IRC to OCEC remain (to be determined).**

**RESPONSE:** FPL evaluated the cost of delivering the IRC Utilities 1 MGD reuse water to OCEC. It was determined that it would cost more than \$56 million to install the pipeline and equipment to allow use of the water at OCEC. This cost does not include any additional treatment required at the existing IRC Utilities facility to meet the OCEC water quality criteria. Currently the reuse water does not meet FPL's quality needs. In addition, due the small quantity of reuse water available, the reuse

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water would not eliminate the need for the number of Floridan aquifer wells. Therefore, reuse of 1 MGD as part of the OCEC Project is not practicable.

**IRC-18. Report states "Additionally, using groundwater with higher chloride concentrations could reduce acceptable cooling tower cycles of concentration which in turn would increase the amount of groundwater withdrawals required for makeup and increase the discharge rate to the injection wells." Agreed, but additional process treatment technologies exist that can lessen chloride concentrations prior to cooling tower use. Has use of such technologies been considered?**

**RESPONSE:** Yes; please see response to comment SJRWMD-8.

#### **IV. Planning**

**IRC-19. (Advisory) Staff acknowledges that FPL is working with the County on an impact fee issue that is subject to the FPL/IRC franchise agreement and on a future ILA regarding special emergency services. It is staffs understanding that these issues will be addressed by mutual agreement prior to commencement of project construction.**

**RESPONSE:** Comment noted, also please see response to comment IRC-3.

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**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION SOUTHEAST  
DISTRICT ERP (FDEP-ERP)**

**FDEP-ERP-1.** Please provide documentation of the applicant's real property interest (e.g. warranty deed) over the land upon which the activities subject to the application will be conducted. Refer to 4.2.3 A.H. Volume I, for a list of acceptable forms of documentation that may be submitted. [62-330.301(1); 62-330.302(1), F.A.C.; 4.2.3 A.H. Volume I]

**RESPONSE:** Please see Attachment FDEP-ERP-1 for a copy of the warranty deed.

**FDEP-ERP-2.** The submitted figures and information suggests that there will be no direct impacts to Wetlands K, J or N for construction of the OCEC Unit 1; however, there is insufficient detail provided on the submitted plans to show that there will be no impacts to these wetlands. Aside from noting that these areas are encompassed in the "Open Space," please provide additional notation on the plans that there will be no disturbance to the soils or vegetation within this area so that the Department has assurance that these wetlands will remain undisturbed. [62-330.301(1); 62-330.302(1), F.A.C.]

**RESPONSE:** Wetlands J, K, and N will remain undisturbed. Areas designated as open space include citrus groves and pasture, which will be graded and managed as grassed open areas following construction. In accordance with best management practices, silt fencing and staked turbidity barriers will be utilized during construction to prevent turbidity or erosion impacts to undisturbed wetlands.

**FDEP-ERP-3.**

**a)** The figures and submitted information do not sufficiently address adverse secondary impacts to onsite and offsite wetlands. The submitted plans show that a 25-ft upland buffer will be provided around Wetland D in the NW section of project site; however, information regarding how this upland buffer will remain undisturbed in perpetuity has not been submitted. Please provide details for how this upland buffer will remain undisturbed in perpetuity. If you decide to record a conservation easement over this buffer, then please contact Monica Sovacool, FDEP Southeast District, at (561) 681-6698 or [Monica.Sovacool@dep.state.fl.us](mailto:Monica.Sovacool@dep.state.fl.us) for a list of required documents to record a conservation easement dedicated to FDEP. If other means are proposed, such as fencing with signage, then please revise the plans to depict this information.

**b)** Additionally, there is no proposed upland buffer surrounding the southern offsite wetland, Wetland O2-South, while the proposed construction activities appear to closely abut this wetland. Due to the nature of the proposed development, is anticipated that adverse secondary impacts (e.g. increased noise, light penetration, human disturbance) could extend a minimum of fifty (50) feet into Wetland O2-South where an undisturbed upland buffer is not proposed. Please provide details regarding whether or not an upland buffer is feasible adjacent to this wetlands, or alternately, please provide mitigation for adverse secondary impacts to this wetland. Please contact Monica Sovacool to discuss the potential Uniform Mitigation Assessment Method (UMAM) scores for adverse secondary impacts. [62-330.301(1); 62-330.302(1), F.A.C., 10.2.7(a), 10.2.7 & 10.3, A.H. Volume I]

**RESPONSE:**

**a)** Potential secondary impacts to wetlands will be reduced through use of erosion control BMPs during construction and maintenance of vegetated buffers around wetlands to the greatest extent practicable. Wetland D is a mixed wetland hardwood system surrounded by a perimeter drainage ditch within a ditched citrus grove. The network of drainage ditches will be removed, improving

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wetland hydrology, and the area surrounding Wetland D will be maintained as a grassed open area following construction. No perimeter fencing is proposed. The wetland is not included in the Project's mitigation plan as a preservation area and no functional lift is proposed for avoidance of the area and removal of drainage ditches. No conservation easement is proposed to be recorded over the 25 foot buffer area around Wetland D as ERP Applicant's Handbook: Volume I Section 10.2.7(a) requires only that the buffer be included in the projects permitted design and does not require the recording of a conservation easement over the buffer (see text below). Here the 25 foot upland buffer will remain undisturbed in the permitted design except for the erosion control BMPs described above and any future impacts to the buffer would require a site certification modification.

b) Wetland 02-South is comprised of a citrus grove perimeter ditch that connects to an approximately 1 acre area of marsh and mixed wetland hardwoods surrounded by berms and additional drainage ditches. The citrus ditch will be removed and the stormwater diversion canal will augment the hydrology within Wetland 02-South from the west, as illustrated in ERP Attachment B – Construction Plans. Erosion control measures will be installed prior to construction to reduce turbidity or erosion within Wetland 02-South. In the post-construction condition, there will be 15' of undisturbed upland grassed buffer between the elevated OCEC Unit 1 and the wetland boundary (see Attachment FDEP-ERP-3), and no disturbance is proposed on the southern edge of Wetland 02-S, therefore the average buffer width far exceeds 25 feet, as required in the Applicant's Handbook, Section 10.2.7(a):

*“Secondary impacts to the habitat functions of wetlands associated with adjacent upland activities will not be considered adverse if buffers, with a minimum width of 15 ft. and an average width of 25 ft., are provided abutting those wetlands that will remain under the permitted design, unless additional measures are needed for protection of wetlands used by bald eagles for nesting, or listed species for nesting, denning, or critically important feeding habitat.” (Emphasis added).*

**FDEP-ERP-4. Pursuant to section 10.2.2.2 A.H. Volume I, alterations in drainage ditches that were constructed in uplands will not be required to comply with the provisions of sections 10.2.2 through 10.2.2.3, 10.2.3 through 10.2.3.7, and 10.2.5 through 10.3.8, unless those ditches provide significant habitat for endangered or threatened species. Please provide details to support or refute that the ditches provide significant habitat for the endangered and threatened species listed in your submittal. If the ditches are determined to not provide significant habitat to the listed species, the please revise your mitigation proposal to exclude the impacts to these ditches. Please note that a site visit may need to be conducted to verify this information. [10.2.2.2 A.H. Volume I]**

**RESPONSE:** Please see SCA Section 3.3.6.4 for a description of listed species utilization of drainage ditches within the Site; mitigation is proposed to offset the loss of wetland functions associated with the proposed filling of drainage and irrigation ditches. Site visits with FDEP representatives were conducted on 4/22/15 (John Renfranz and Cynthia Lott) and 11/23/15 (Monica Sovacool and John Renfranz).

**FDEP-ERP-5. Pursuant to Section 10.2.3.6, A.H. Volume I, in reviewing and balancing the criterion regarding historical and archaeological resources in paragraph 10.2.3(f), the Department will evaluate whether the regulated activity located in, on, or over wetlands or other surface waters will impact significant historical or archaeological resources. Staff acknowledges that a Phase I Archaeological Survey has been completed, as described in the submittal. Please provide written assurance from the State Division of Historical Resources that**

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**the project will not adversely affect any archeological/historical resources. [10.2.3.6 and 10.2.7(c), A.H. Volume I]**

**RESPONSE:** Please see Attachment FDEP-ERP-5, concurrence letter from SHPO.

**FDEP-ERP-6. It appears that the project may significantly reduce onsite and offsite wetland hydroperiods by controlling the surface water management system below the determined seasonal high water elevations of the onsite wetlands and diverting surface water flow that adjacent wetland receive in pre-development. However, the extent is not yet known because sufficient details regarding the proposed surface water management system were not provided. Additionally, the SHWL of the onsite and offsite wetlands that may be affected have not been field-verified. Groundwater depression and diversion of surface water flow from the proposed project may interrupt hydrologic patterns that sustain adjacent wetlands. The effects of your proposed hydrologic disturbance may confound succession patterns in the natural community.**

**Please provide sufficient details for the stormwater management system, including the invert and outfall elevations for all structures, so that staff can determine if the system will cause drawdown in adjacent wetland hydroperiods. Also, provide reasonable assurance that water table depression and surface water diversion will not result in adverse impacts to wetlands. Provide a map of the pre- and post-development contributing basin for each onsite and offsite wetland that receives runoff, or surficial flow (if relevant), from the site of the proposed project. Provide sufficient site-specific data (e.g., seasonal high and low water elevation estimates, water budget, rainfall patterns, ground water flow model, water table contour maps, etc.) to model the effects of the surface water management system on wetland hydroperiods and existing plant communities. If you cannot avoid hydroperiod impacts, then estimate and plot the impact area and propose suitable mitigation. [62-330.301(1)(a) & 62-330.302(1)(a), F.A.C.; 10.3 A.H. Volume I]**

**RESPONSE:** Please see SCA Appendix 10.8 – Stormwater Management System Design, Dewatering Plans, and Calculations. The control elevation of the stormwater management system ponds is set above the seasonal high groundwater elevation, not below, and the system is not designed to divert surface water flow from adjacent wetlands. Seasonal high groundwater elevations were determined based on a review and interpretation of the geotechnical boring logs (see Appendix 10.8, Calculation 58.5406.1105.02), topographic survey, soil classification, groundwater elevations, and subsurface conditions.

According to ERP regulations (Chapter 62-330, F.A.C.), the rules of the local water management district are adopted by reference. The Project is located within the St Johns River Water Management District (SJRWMD), therefore the SWMS for this Project is designed to meet or exceed the criteria set forth in the Applicant's Handbook, Volume II: For use Within the Geographic Limits of the St. Johns River Water Management District. The stormwater runoff from the proposed development area is designed to be routed through two stormwater wet detention ponds, identified as Pond 4-1 and Pond 4-2 on the design plans and within the design calculations. The existing diversion canals in conjunction with new stormwater diversion canals will be used to route the stormwater around the development area back to the existing outfalls. The new stormwater wet detention ponds and the diversion canals will contribute runoff to adjacent wetlands through the existing outfalls CP-1 and NN4B1 in accordance with SJRWMD requirements to provide discharges to the existing outfalls at a rate not greater than the pre-development condition. The proposed stormwater management system will not result in adverse impacts upon wetland hydroperiods or plant communities.

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**FDEP-ERP-7.** Pursuant to 10.2.7(d), A.H. Volume I, please provide reasonable assurance that the future construction on the FPL site will not result in adverse impacts to wetlands and other surface waters. Specifically, how will these adverse impacts be offset if the proposed onsite mitigation area will not sufficiently offset all current and future proposed impacts? Please provide details for offsite mitigation areas or mitigation banks within the same drainage basin that may be considered for these future phases. [62-330.301(1); 62-330.302(1), F.A.C., 10.2.7(d) & 10.3, A.H. Volume I]

**RESPONSE:** As described in SCA Section 5.1, areas of land disturbance associated with the potential future solar generation will be identified upon preparation of the solar facility layout and engineering design. Conceptually, future development of solar generation at the Site would maximize utilization of upland pasture and citrus grove areas, reducing and eliminating impacts to wetlands and areas of natural habitat in accordance with applicable state and federal regulations. Given the low quality of these wetland areas and the excess wetland functional units generated at the mitigation area over OCEC Unit 1 needs (as described in the Wetland Mitigation Plan contained in SCA Appendix 10.4), any future unavoidable wetland impacts associated with the future solar generation facility would be mitigated at the OCEC mitigation area using the excess wetland functional units. If these excess wetland functional units are insufficient to fully offset the wetland impacts, FPL would obtain credits from the Mary A Mitigation Bank, as the OCEC is located within that bank's service area. Impacts associated with potential future solar generation on the Site would be addressed in a supplemental site certification application under section 403.517, Florida Statutes.

**FDEP-ERP-8.**

a) The submitted mitigation plan describes enhancement of wetlands and preservation of uplands within the 376-acre mitigation site; however, it is not yet known if enhancement of the wetlands is appropriate given the existing high quality of these system that is described in the submittal and the proposed limited treatment (e.g. once a year for two years) of nuisance and invasive exotic vegetation. Please contact Monica Sovacool, FDEP Southeast District, at (561) 681-6698 or [Monica.Sovacool@dep.state.fl.us](mailto:Monica.Sovacool@dep.state.fl.us), to coordinate a site visit to the mitigation area.

Depending on the degree to which nuisance and invasive exotic vegetation is present within the various systems in the mitigation area, it may be more appropriate to propose preservation of the entire mitigation area instead of enhancement. Once the site visit has been conducted, this can be further explored. Please note that preservation of a mitigation area, and specifically this proposed 376-acre area, should be accompanied by a thorough and detailed comprehensive management plan that includes management of nuisance and invasive exotic vegetation as part of the plan. The management plan should provide details for how nuisance/exotics will be managed in perpetuity, not just the first five years, and appropriate management activities, above and beyond nuisance/exotics control, should be identified up front. If enhancement is determined to be appropriate, then the submitted enhancement plan will likely not be sufficient and revisions to the plan will be necessary, including a cost estimate for the appropriate enhancement activities. If the cost estimate exceeds \$25,000, then proof of financial responsibility will be necessary, pursuant to 10.3.7 A.H., Volume I.

b) Additionally, it does not appear to be appropriate to assign mitigation credit to the preservation/enhancement of the perimeter ditches located on the west and south sides of the mitigation area as the function of these ditches is such that they adversely impact or alter the connected and adjacent wetland systems. The Department advises these ditches be omitted from the submitted UMAM analysis; however, they may still be included in the conservation easement area if the applicant wishes.

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c) Furthermore, staff cannot determine if the submitted UMAM scores are sufficient until a site visit to the mitigation and impact areas has been conducted. From an initial review, it appears the Location and Landscape scores for at least part of the mitigation area will be lower in the “With Preservation” condition due to the barriers created by the proposed construction and future construction as well as decreased wildlife corridors that this construction will cause. It also appears that the “without Preservation” condition score for Community Structure may be too high. The UMAM scores can be further reviewed once the site visit has been completed. Please note that a conservation easement over the mitigation will be required as assurance the area will remain preserved in perpetuity. A list of required documents for this conservation easement will be provided once the full scope of the mitigation plan is realized.  
[62-330.301(1); 62-330.302(1), F.A.C., 10.2.7(a); 10.3, A.H. Volume I]

**RESPONSE:**

a) As described in the Mitigation Plan (SCA Appendix 10.4, Attachment E), FPL proposes a combination of preservation and enhancement of wetlands and uplands in perpetuity within the mitigation area. A very conservative amount of lift per acre (0.03 to 0.05 UMAM units) is proposed for enhancement and preservation of wetlands within the Mitigation Area. The amount of functional lift proposed reflects the existing quality of wetlands within the Mitigation Area and relative occurrence of nuisance/exotic species, consistent with the UMAM rule and precedent of previous FDEP ERP permits.

Site visits were conducted with FDEP staff on 4/22/15 (John Renfranz and Cynthia Lott) and 11/23/15 (Monica Sovacool and John Renfranz) to review wetland impact and mitigation areas and corresponding UMAM scores. Following the 4/22/15 field review, FDEP provided concurrence with the proposed UMAM scores for the mitigation area (see Attachment FDEP-ERP-8). The proposed amount of functional lift resulting from enhancement and preservation was further reviewed with FDEP during the pre-application meeting with the SE District on 7/20/2015.

Discussion with FWC (Tim Towles) on 11/10/15 and review of the Fort Drum Marsh Conservation Area Land Management Plan indicates that the adjacent Fort Drum Marsh Conservation Area requires significant effort to control old world climbing fern (*Lygodium microphyllum*) and Brazilian pepper (*Schinus terebinthifolius*). The presence of these highly invasive exotic species in lands adjacent to the Mitigation Area increases the probability of future habitat degradation through increased exotic species colonization.

During the 11/23/15 site visit, an additional Category I invasive exotic species, Wright’s nutrush (*Scleria lacustris*) was identified within the mitigation area by Tim Towles. As described in Jacono et al (<https://edis.ifas.ufl.edu/pdf/AG/AG35200.pdf>), Wright’s nutrush is classified as a Category I species due to its ability to alter the composition and structure of native wetland communities. Introduced populations of Wright’s nutrush remained small and localized in Florida until 2001 when hundreds of acres were reported in the Blue Cypress Water Management and Conservation Areas in the Upper Basin of the St. Johns River, adjacent to the proposed OCEC Mitigation Area. Therefore, incorporating exotic vegetation control as part of the long-term management of the Mitigation Area is appropriate. As described in Section 4.0 of the Mitigation Plan, control of all Category I and II species is proposed.

The Plan does not propose “limited” treatment; rather Section 5.0 of the Mitigation Plan presents a conceptual five-year schedule of mitigation activities and monitoring “in accordance with typical conditions of FDEP and US Army Corps of Engineers (USACE) permits relative to applicant-sponsored mitigation”. Section 4.0 describes the proposed enhancement activities, and Section 6.0

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provides assurance of adaptive management based on results of monitoring, as well as commitment to long-term management. Maintenance and monitoring will continue until success criteria are met, and long-term management will encourage self-sustaining vegetative communities. Additional details regarding the revision of the Mitigation Plan to incorporate use of prescribed fire as a management tool are provided below.

Proposed mitigation activities include enhancement of native vegetative communities through prescribed fire, removal of nuisance/exotic species of vegetation, and preservation of the 376-acre Site through a conservation easement. Enhancement of the native vegetative community through prescribed burns and control of the nuisance/exotic species Brazilian pepper and old world climbing fern will be conducted throughout the mitigation Site, improving wildlife habitat conditions and preventing further spread of exotic vegetation within the region. In addition to exotic vegetation control and prescribed burns, all wetland and upland areas within the mitigation Site will be preserved through a conservation easement to provide habitat for threatened species as well as to increase the extent and quality of upland buffers for adjacent wetlands.

Eradication of Brazilian pepper will be achieved through manual removal and a combination of basal-bark and cut-stump application of EPA-approved herbicides by qualified personnel skilled in the identification and control of nuisance species, while old world climbing fern and other herbaceous invasive species will be treated through foliar application of glyphosate herbicide (Roundup, Rodeo). Brazilian pepper will be cut utilizing chainsaws and removed by hand, and followed with cut stump application of an approved herbicide such as triclopyr (Garlon). Basal-bark treatment will be utilized for the remaining individuals, which allows for minimal disturbance of desirable vegetation through selective application upon target plants utilizing backpack and hand-held equipment. The cut Brazilian pepper will be placed in an upland staging area within the unimproved pasture portion of the Mitigation Area, and subsequently burned or ground into mulch utilizing a chipper. As necessary, herbicide re-treatments will be conducted at 6-month intervals for a period of two years to discourage regeneration of invasive plants.

The proposed conceptual schedule of mitigation activities and monitoring is provided below, revised to incorporate prescribed burning as a habitat management tool:

Conceptual schedule of mitigation activities and monitoring

| YEAR | MONTH     | ACTIVITY                                                                                                                                                             |
|------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | March     | Baseline monitoring event                                                                                                                                            |
|      | April/May | Herbicide treatment; mechanical/hand removal of exotic species; controlled burn of shrub and brushland and pine flatwoods                                            |
|      | May       | Time Zero monitoring of herbaceous and forested wetland vegetative community                                                                                         |
|      | June      | Semiannual monitoring of herbaceous and forested wetland vegetative community                                                                                        |
|      | October   | Semiannual monitoring of herbaceous and forested wetland vegetative community; spot herbicide treatment/mechanical or hand removal of exotic vegetation as necessary |
| 2    | May       | Spot herbicide treatment/mechanical or hand removal of exotic vegetation as necessary                                                                                |
|      | October   | Annual monitoring of herbaceous and forested wetland vegetative community; spot herbicide treatment/mechanical or hand removal of exotic vegetation as necessary     |

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Conceptual schedule of mitigation activities and monitoring

| YEAR | MONTH    | ACTIVITY                                                                    |
|------|----------|-----------------------------------------------------------------------------|
| 3    | October  | Annual monitoring of herbaceous and forested wetland vegetative community   |
| 4    | October  | Annual monitoring of herbaceous and forested wetland vegetative community   |
| 5    | May/June | Controlled burn of shrub and brushland and pine flatwoods (4 year rotation) |
|      | October  | Annual monitoring of herbaceous and forested wetland vegetative community   |

Results of the annual monitoring events will be used to identify those mitigation activities that are to be adapted to address any unforeseen changes in site conditions. In the case of nuisance/exotic species of vegetation, the adaptive management plan will focus on altering treatment locations depending upon the reduction in extent or encroachment into additional areas of the mitigation Site. A similar facet of the adaptive management plan may arise in the unforeseen instance of failure of natural recruitment of native species. In this case, FPL would evaluate the installation of native species of vegetation to supplement natural recruitment, with the goal of achieving the performance standard. Similarly, the efficacy of prescribed burns will be evaluated, and the frequency or extent of burning will be modified as necessary to promote long-term productivity and habitat diversity.

FDEP and USACE release from mitigation monitoring may be achieved upon fulfilling the proposed restoration activities and demonstrating compliance with success criteria. However, following FDEP and USACE release, it is FPL's intention to manage the mitigation site in perpetuity under a conservation easement. Long-term management will include use of prescribed fire on an approximately two to four-year rotation, based on fuel loading.

The cost estimate for maintenance and monitoring exceeds \$25,000; however proof of financial responsibility for a utility is not necessary, pursuant to 10.3.7.1(c):

*10.3.7.1 Applicants not subject to financial responsibility requirements.*

*The following applicants shall not be subject to the financial responsibility requirements in Sections 10.3.7 through 10.3.7.9: (c) Federal, state, county and municipal governments, state political subdivisions, investor-owned utilities regulated by the Florida Public Service Commission and rural electric cooperative. (Emphasis added.)*

FPL is an investor-owned utility regulated by the Public Service Commission and, as such, is exempt from the need to provide financial responsibility pursuant to 10.3.7.1(c). Additionally, as stated in Section 6.0 of the Mitigation Plan, FPL has sufficient financial assurances to successfully complete the proposed mitigation activities and provide long-term management. FPL has a proven track record of large, successful mitigation and conservation projects, such as the Northwest Mitigation Parcel associated with the FPL Martin Plant (Martin County), the Everglades Mitigation Bank (Miami-Dade County), the Barley Barber Swamp (Martin County), the Scout Lagoon on the Turkey Point Plant property, and mangrove restoration areas on the Turkey Point Plant property associated with Turkey Point Unit 5 and stack laydown projects.

b) A conservative functional lift of 0.03/acre was assigned to ditches on the perimeter of the mitigation area. The perimeter ditch system does not connect to wetlands within the mitigation area;

RESPONSES TO COMPLETENESS COMMENTS  
FPL OKEECHOBEE CLEAN ENERGY CENTER SITE CERTIFICATION APPLICATION

rather it conveys flow from the western pasture and citrus areas. Removal of exotic vegetation and preservation of ditches that provide habitat for listed species surrounded by a native upland canopy will benefit adjacent wetlands and is reasonably expected to provide the calculated functional lift to contribute to offsetting the functional loss associated with filling of similar ditches within the OCEC Unit 1 area.

c) Site visits with FDEP staff were conducted on 4/22/15 and 11/23/15 within both the impact and mitigation areas, and further reviewed during the 7/20/2015 pre-application meeting.

In the case of the proposed Location and Landscape Support variable scores, the smallest increase allowable (1 unit) was assigned in the “With Preservation” condition due to the benefits to wildlife resulting from preservation of mitigation site and improved land management practices. The OCEC Unit 1 is located within a citrus grove west of the mitigation area, which does not provide any wildlife corridors. Rather, the preservation and enhancement of 376 acres located immediately adjacent to the Fort Drum Marsh Conservation Area ensures long-term preservation and management of wildlife habitat which benefits regional conservation efforts, warranting a minor increase in the Location and Landscape Support variable. The Mitigation Area provides a significant opportunity to contribute to the regional watershed restoration goals of the SJRWMD and USACE Upper St Johns River Basin Project.

The “Without Preservation” score for the Community Structure variable is reflective of the existing vegetative community composition within the Mitigation Area, as reviewed in the field with FDEP representatives. The area is comprised of high-quality wetland and upland habitats dominated by native species. The relatively small amount of exotic vegetation and disturbance is reflected in the Community Structure score, and a correspondingly extremely conservative amount of functional lift (1 unit) was assigned for enhancement of vegetative communities, as described previously.

As stated in Section 6.0 of the Mitigation Plan, it is FPL’s intention to preserve the Mitigation Area under a conservation easement and manage the site to enhance habitat quality in perpetuity upon fulfilling the proposed restoration activities and demonstrating compliance with success criteria. The documents required to record the conservation easement will be provided as a post-certification submittal.

**FDEP-ERP-9. Please indicate the depth of the proposed wet detention ponds. Section 8.8 Pond Depth - per Applicant Handbook indicate that detention systems shall provide for a maximum pond depth of 12 feet and a mean depth (pond volume divided by the pond area at the control elevation) between 2 and 8 feet. Provide assurance the pond depth will not penetrate into a zone of poorer water quality in terms of chlorides.**

**RESPONSE:** Please see SCA Section 4.8.1 (pages 4-20 and 4-21) and SCA Appendix 10.8 – Stormwater Management System Design, Dewatering Plans, and Calculations. The ponds will be approximately 30 feet deep. The surficial aquifer is approximately 95 feet thick in the area of OCEC. Soil borings in the area of the stormwater ponds are provided in Appendix 10.8. The soil borings show no significant confining layer in the top 30 feet. Available water quality data for the surficial aquifer does not indicate the presence of high chloride zones within the surficial aquifer.

As noted in Section 4.8 of the SCA, FPL is seeking a variance from the requirement in Section 8.8 of the SJRWMD ERP Applicant’s Handbook Vol. II regarding maximum pond depth. Since the filing of the SCA, it has come to FPL’s attention that the Okeechobee County Land Development Regulations likewise limit stormwater pond depth. Article VII, Section 7.06.05(A)(5)

RESPONSES TO COMPLETENESS COMMENTS  
FPL OKEECHOBEE CLEAN ENERGY CENTER SITE CERTIFICATION APPLICATION

provides: "Wet detention systems shall have water depths no more than ten feet, unless specifically accepted by the county engineer, and side slopes of 4:1 from proposed finished grade to two feet below the control elevation."

The wet detention system pond depths for Pond 4-1 and Pond 4-2 are proposed to have depths greater than 10 feet to obtain fill material needed to level the Site. While the maximum depth of Ponds 4-1 and 4-2 is greater than 10 feet, overall the proposed OCEC wet detention stormwater system satisfies the stormwater quality treatment requirements of SJRWMD ERP Applicant' Handbook Vol. II. Ponds are commonly dug deeper to obtain fill material. Extensive unnecessary cost would be added to the construction of OCEC and, in turn, to FPL's customers to import fill from off-Site to attain the necessary final level elevation for plant construction rather than increase the size of the stormwater detention pond. As stated above, soil borings in the vicinity of Ponds 4-1 and 4-2 indicate that no confining layer will be breached when the ponds are excavated to the proposed design depths. This justifies a variance from Article VII, Section 7.06.05(A)(5).

FPL's stormwater management system complies with Okeechobee County's requirement of side slopes of 4:1 from proposed finished grade to two feet below the control elevation, and FPL is not seeking a variance from this portion of Article VII, Section 7.06.05(A)(5). Please note, however, that the Calculations Table in the "Stormwater Management System Design, Dewatering Plans, and Calculations" in Appendix 10.8 of the SCA has a typographical error - Pond side slopes for Pond 4-1 and Pond 4-2 will be 4:1 rather than 3:1. A revised table is attached hereto as Attachment FDEP-ERP-9.

Article VI, Section 7.06.05(B)(9) of Okeechobee County's Land Development Regulations also 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." While it is unclear precisely what "sinuous" shorelines means in this context, FPL requests a variance from this requirement to allow the stormwater management ponds to have straight shorelines. There are several reasons justifying this variance. First, straight shorelines will increase the effective treatment volume of the pond for the given area, which minimizes the footprint of the pond. Minimizing the area of the ponds reduces the overall plant footprint resulting in fewer overall environmental impacts (such as wetland impacts). The proposed OCEC facility will be located on a site with restricted public access. Any potential public view of the stormwater management system will be extremely limited. Therefore, there is no aesthetic justification for increasing the pond area to allow for sinuous shorelines. With regard to shoreline habitat, increasing potential habitat immediately adjacent to an operating electrical power plant should not be encouraged. For these reasons, a variance from the requirement for "sinuous" shorelines is justified.

Pursuant to Rule 62-17.051(3)(a), F.A.C., in addition to the variance identified in Section 1.1 of the SCA and discussed in Section 4.8 of the SCA, FPL requests a variance from the Okeechobee County Land Development Code Regulation requirements in Article VII, Section 7.06.05(A)(5) and 7.06.05(B)(9), and that the following condition of certification, or such other similar condition as may be deemed appropriate, be included as part of any final certification for the Project: *"FPL is granted a variance from Okeechobee Land Development Regulations, Article VII, Sections 7.06.05(A)(5) (pond depth) and 7.06.05(B)(9)."*

RESPONSES TO COMPLETENESS COMMENTS  
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**FLORIDA DEPARTMENT OF HEALTH (FDOH)**

**FDOH-1. Additional information is required to determine the specifications for the onsite sewage system design or to determine whether the engineer's design for the system (not included in the Site Certification Application) meets the requirements of chapter 64E-6, FAC, and Section 381.0065, FS. This additional information and/or design specifications to demonstrate compliance with 64E-6, F.A.C. and 381.0065, F.S. will be requested in DOH's agency report as Conditions of Certification.**

**RESPONSE:** The detailed design of the domestic wastewater system will be completed during the detailed design phase of the Project and is most appropriately addressed in post-certification submittals, as authorized by Section 403.5113(2), Florida Statutes, and Rule 62-17.191, Florida Administrative Code. FPL will agree to a condition of certification requiring the post-certification submittal of the design detail in accordance with applicable nonprocedural requirements. In accordance with FDEP's first determination of incompleteness suggesting that FPL propose conditions of certification where appropriate, FPL proposes the following condition of certification related to the onsite sewage treatment and disposal system:

*The onsite sewage treatment and disposal system shall be designed in accordance with the applicable provisions of Section 381.0065, Florida Statutes, and 64E-6, Florida Administrative Code. At least 180 days prior to commencing construction of the onsite sewage treatment and disposal system, FPL shall submit final plans for the onsite sewage treatment and disposal system to DOH and SCO for review in accordance with Condition XX, "Procedures for Post-Certification Submittals."*

**ATTACHMENT SJRWMD-1**

**ATTACHMENT SJRWMD-1**

Table 2.

| Data or Computation                                                                        | Permitted wells |       |       |       |       |       |       |               |         |          |
|--------------------------------------------------------------------------------------------|-----------------|-------|-------|-------|-------|-------|-------|---------------|---------|----------|
|                                                                                            | 1A              | 2B    | 3C    | 4D    | 5E    | 6F    | E     | Torpedo South | 60 pens | Surrency |
| 5-year minimum average head in May                                                         | 41              | 41    | 41    | 41    | 41    | 41    | 41    | 41            | 41      | 41       |
| Land Surface (ft)                                                                          | 27.59           | 26.57 | 26.59 | 24.57 | 24.57 | 24.58 | 29.42 | 24.58         | 29.52   | 26.57    |
| Artesian head (ft) for all permitted users at 2005 actual rates (Scenario A)               | 13.41           | 14.43 | 14.41 | 16.43 | 16.43 | 16.42 | 11.58 | 16.42         | 11.48   | 14.43    |
| Current percent reduction in artesian head (permitted cumulative drawdown / artesian head) | 17.5%           | 15.9% | 15.7% | 13.3% | 13.5% | 13.4% | 19.3% | 14.6%         | 20.9%   | 17.0%    |

Table 3.

| Data or Computation                                                                          | Permitted wells |       |       |       |       |       |       |               |         |          |
|----------------------------------------------------------------------------------------------|-----------------|-------|-------|-------|-------|-------|-------|---------------|---------|----------|
|                                                                                              | 1A              | 2B    | 3C    | 4D    | 5E    | 6F    | E     | Torpedo South | 60 pens | Surrency |
| Heads (ft) for permitted users at current end-of-permit allocation (Scenario B)              | 38.97           | 39.01 | 39.08 | 39.1  | 39.04 | 39.13 | 39.19 | 38.65         | 38.98   | 38.73    |
| Applicant at requested allocation and all other users at current EOP allocation (Scenario D) | 38.58           | 38.6  | 38.61 | 38.68 | 38.65 | 38.65 | 38.54 | 38.38         | 38.62   | 38.43    |
| Drawdown for applicant only requested allocation (Scenario B- Scenario D)                    | 0.39            | 0.41  | 0.47  | 0.42  | 0.39  | 0.48  | 0.65  | 0.27          | 0.36    | 0.3      |
| Artesian head (ft) for all permitted users at 2005 actual rates (Scenario A)                 | 13.41           | 14.43 | 14.41 | 16.43 | 16.43 | 16.42 | 11.58 | 16.42         | 11.48   | 14.43    |
| Percent reduction in artesian head (drawdown for applicant only / artesian head)             | 2.9%            | 2.8%  | 3.3%  | 2.6%  | 2.4%  | 2.9%  | 5.6%  | 1.6%          | 3.1%    | 2.1%     |

Table 4.

| Data or Computation                                                                          | Permitted wells |       |       |       |       |       |       |               |         |          |
|----------------------------------------------------------------------------------------------|-----------------|-------|-------|-------|-------|-------|-------|---------------|---------|----------|
|                                                                                              | 1A              | 2B    | 3C    | 4D    | 5E    | 6F    | E     | Torpedo South | 60 pens | Surrency |
| Heads (ft) for all permitted users at 2005 actual rates (Scenario A)                         | 41.32           | 41.31 | 41.34 | 41.29 | 41.26 | 41.33 | 41.42 | 41.05         | 41.38   | 41.18    |
| Applicant at requested allocation and all other users at current EOP allocation (Scenario D) | 38.58           | 38.6  | 38.61 | 38.68 | 38.65 | 38.65 | 38.54 | 38.38         | 38.62   | 38.43    |
| New cumulative drawdown (ft) (Scenario A- Scenario D)                                        | 2.74            | 2.71  | 2.73  | 2.61  | 2.61  | 2.68  | 2.88  | 2.67          | 2.76    | 2.75     |
| Artesian head (ft) for all permitted users at 2005 actual rates (Scenario A)                 | 13.41           | 14.43 | 14.41 | 16.43 | 16.43 | 16.42 | 11.58 | 16.42         | 11.48   | 14.43    |
| Percent reduction in artesian head (new cumulative drawdown / artesian head)                 | 20.4%           | 18.8% | 18.9% | 15.9% | 15.9% | 16.3% | 24.9% | 16.3%         | 24.0%   | 19.1%    |

**ATTACHMENT SJRWMD-2**

G:\PROJECTS\FLOkeeshobee\09\_PROJECT\B144679B\_SCA\_Project\02\_PRODUCTION\MXD\B144679\_B022\_Rev1\_SurficialAquiferDrawdownAreaWetlands.mxd



LEGEND

- Preliminary Certified Site Boundary
- FPL Owned Property
- Linear Facility Corridor
- Transmission Interconnection Corridor
- OCEC Unit 1
- Open Space
- UFA Well Delivery Pipeline
- Wetlands
- Fill

**Surficial Aquifer Drawdown Contours (Predicted)**

- 0.1ft
- 0.2ft
- 0.3ft

| Wetlands Between 0.1ft and 0.2 ft Contour |                         |         |
|-------------------------------------------|-------------------------|---------|
| FLUCFCS                                   | Habitat Description     | Acreage |
| 511                                       | Ditches                 | 0.21    |
| 617                                       | Mixed Wetland Hardwoods | 1.68    |
| 641                                       | Freshwater Marshes      | 0.65    |
| Total                                     |                         | 2.54    |

0 500 1,000 2,000  
1:12,000 Feet

**REFERENCE(S)**  
PROPERTY BOUNDARY, ROADWAY IMPROVEMENT CORRIDOR, PRELIMINARY CERTIFIED SITE BOUNDARY, AREA OF DISTURBANCE, FPL, 2015  
WETLANDS, GOLDER ASSOCIATES INC., 2015  
SURFICIAL AQUIFER DRAWDOWN CONTOURS (PREDICTED), TETRATECH, 2015

COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET  
PROJECTION: TRANSVERSE MERCATOR  
DATUM: NORTH AMERICAN 1983

CLIENT  
FPL

PROJECT OKEECHOBEE CLEAN ENERGY CENTER

TITLE  
**SURFICIAL AQUIFER DRAWDOWN CONTOURS AND WETLANDS**

|            |            |            |
|------------|------------|------------|
| CONSULTANT | YYYY-MM-DD | 2015-10-30 |
|            | DESIGNED   | NRL        |
|            | PREPARED   | NRL        |
|            | REVIEWED   | NRL        |
|            | APPROVED   | KAB        |



PROJECT NO.  
1414979

CONTROL  
B022

REV.  
1

FIGURE  
**1**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B 11

## Attachment SJRWMD-2: Model Description

Drawdown is limited due to the small amount of withdrawal (80,000 gpd). The ECFS model conservatively predicts the drawdown amount in wetlands by shifting the influence of Wells 1 and 2 north and east of that which would actually occur. In addition, the model conservatively predicts drawdown in wetlands to the west by shifting the influence of Well 3 to the west of where it would actually occur. Both of these non-intuitive results are artifacts of the model.

The ECFS model uses the Unsaturated-Zone Flow (UZF1) Package to compute the evapotranspiration and recharge that enters the model. This package simulates the water flow and storage in the unsaturated zone and calculates how much recharge, evapotranspiration and overland flow occurs based on the groundwater surface elevation and unsaturated zone characteristics.

When wells are added to layer 1 the UZF1 package tries to supply the demand by increasing the amount of recharge that reaches the water table and is not rejected and sent to overland flow. If there is not enough potential recharge water, the demand is met from the storage in the cell, causing the elevation of the water table to decrease. If there is enough potential recharge water to meet the well demand, the elevation of the water table stays constant. Both of these scenarios cause less water to go to the overland flow component and onto the lakes and streams.

In the modeled scenario (water table drawdown shown below) the pumping demand for well 3 (the southernmost well) was less than the potential recharge for that cell and nearly all of the water required by the well (3654 ft<sup>3</sup>/d from Table 3) was met by increased recharge (3289 ft<sup>3</sup>/d from Table 3). For well 1, very little water was available in additional recharge (805 ft<sup>3</sup>/d from Table 3) to meet the pumping demand (3654 ft<sup>3</sup>/d from Table 3). The well needed to create a hydraulic gradient (drawdown) in that cell to meet the demand, as shown in the figure below. The drawdown induced lateral flow and evapotranspiration, which are all higher for well 1 than well 3. The availability of potential recharge water was intermediate to wells 1 and 3, resulting in an intermediate drawdown. A water balance for the three cells containing wells is shown below in Table 1 (pre-pumping), Table 2 (pumping), and Table 3 (net). As discussed above, available recharge is greatest for well 3 and decreases for wells 2 and 1. Similarly evapotranspiration is greatest for well 1, indicating highest drawdown, and decreases for wells 2 and 3, indicating progressively less drawdown.

The eastward displacement of drawdown results from a difference in the actual location of the well (shown on the map) and where the model places the well (center of a 1250 ft grid cell). For well 1, it is apparent that the modeled drawdown shown by the contours is greatest at the cell center, whereas the actual location of the well is in the southwestern corner of the cell.

Table 1. Water balance for pre-pumping conditions.

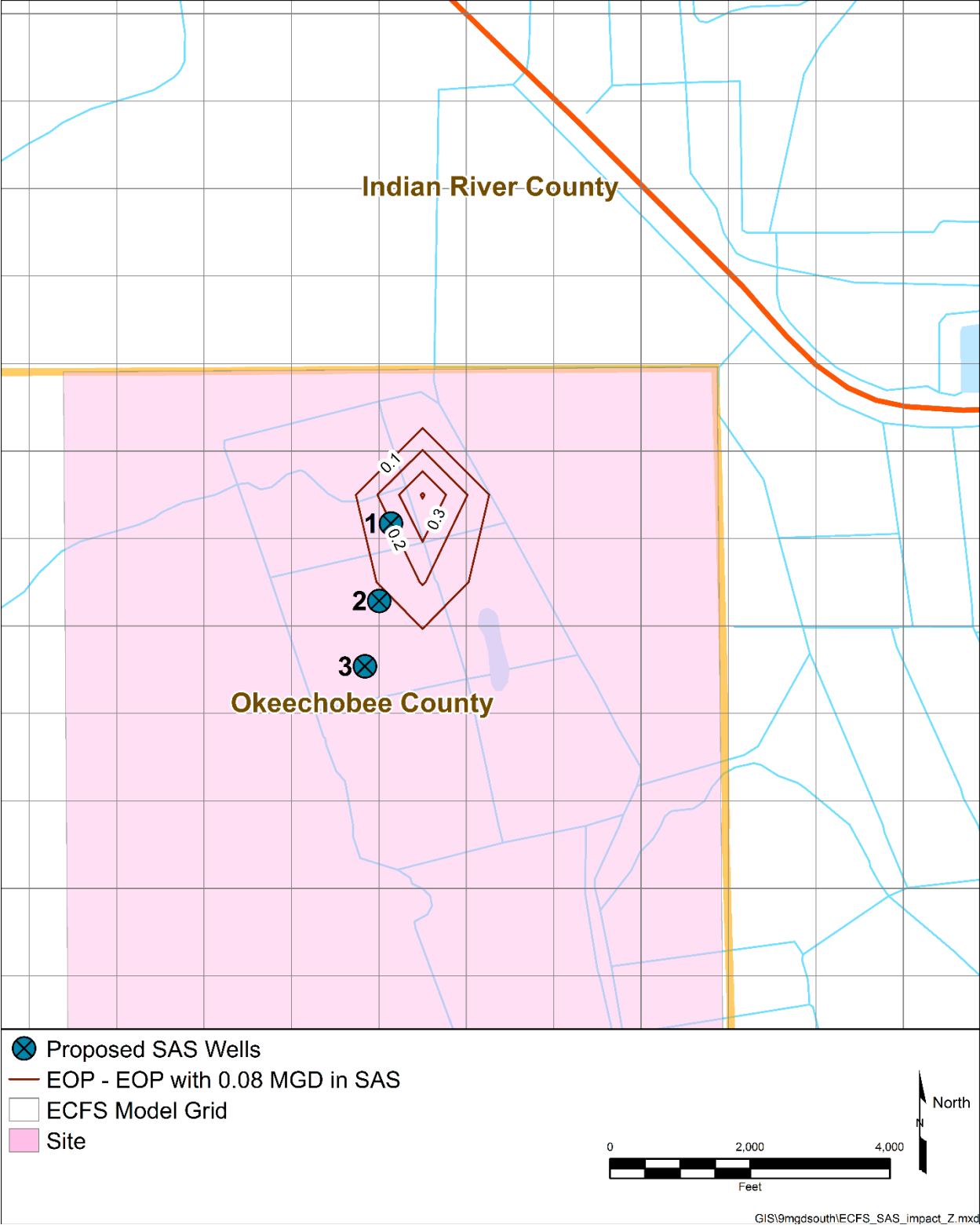
| Well       | 1       | 2       | 3       |
|------------|---------|---------|---------|
| Cell (R,C) | 429,315 | 430,315 | 431,314 |
| Recharge   | 17570   | 15649   | 14711   |
| ET         | -15766  | -15641  | -14866  |
| In         | 3547    | 3379    | 3421    |
| Out        | -5351   | -3387   | -3266   |
| Well       | 0       | 0       | 0       |

Table 2. Water balance for pumping conditions.

| Well       | 1       | 2       | 3       |
|------------|---------|---------|---------|
| Cell (R,C) | 429,315 | 430,315 | 431,314 |
| Recharge   | 18375   | 18375   | 18000   |
| ET         | -14502  | -15164  | -14835  |
| In         | 4216    | 3821    | 3591    |
| Out        | -4434   | -3378   | -3102   |
| Well       | -3654   | -3654   | -3654   |

Table 3. Net water balance (Table 2- Table 1).

| Well       | 1       | 2       | 3       |
|------------|---------|---------|---------|
| Cell (R,C) | 429,315 | 430,315 | 431,314 |
| Recharge   | 805     | 2726    | 3289    |
| ET         | 1264    | 477     | 31      |
| In         | 669     | 442     | 170     |
| Out        | 917     | 9       | 164     |
| Well       | -3654   | -3654   | -3654   |



**ATTACHMENT SJRWMD-3**

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

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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 must demonstrate that these proposed uses of groundwater will not interfere with prior existing legal users or, if such interference does occur, that FPL 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 FPL'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

FPL will install a monitoring well and monitor the potentiometric surface to determine the effects of OCEC pumping on the UFA. The specific location and nature of the monitoring well and the means of monitoring will be set forth in a monitoring plan provided post certification according to the OCEC site certification. FPL 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 declines to the point of raising a potential for interference, FPL 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

Utilizing publically available Okeechobee and Indian River County well databases, and the SJRWMD consumptive use permitting database and well completion search tool, FPL will obtain the mailing address for property owners located within the area depicted on Exhibit 1 that are known to have an UFA well. FPL 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 FPL's willingness to investigate and mitigate for wells that have suffered interference. The letter will give the well owner a 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 FPL of possible impacts to their well, FPL will send one or more representatives to investigate the claim. The well owner must allow the FPL representatives access to their property and well to investigate their well impact claim. If FPL'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 August 14, 2014), FPL will pay the cost to modify that well to restore the capacity of that well to the condition existing immediately prior to FPL'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. FPL 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.

FPL 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 FPL:

- 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 an interfered with well's use was authorized by a consumptive use permit 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, FPL will make a one-time payment to the well owner to reimburse the well owner for the cost of fuel or electric power to operate the pump for a period of time beginning on the date the well owner notifies FPL of the impact to their well and ending on the date occurring 20 years after final issuance of the OCEC Site Certification . If the pump is powered by fuel (liquid or gas) or electric power, the one-time payment shall account for the incremental cost of fuel or electric power needed to restore the capacity of the well as described above. The incremental cost of fuel or electric power will be based on the 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 FPL 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 remaining 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 FPL of the impact to their well and ending on the day occurring 20 years after final issuance of the OCEC Site Certification.

For artesian or free flowing wells used for domestic purposes which did not require a consumptive use permit from the SJRWMD, the one-time fuel or electrical payment shall be based upon the gallons of fuel or kilowatts of electric power needed to produce 130 gallons per day for 365 days given the fuel or electric power needs and production capability of the pump installed times the remaining years of estimated useful life of that well as determined by FPL's engineer or water well contractor. The cost of fuel or electric power used for this one time payment will be based on the unit cost of the fuel or electric power sold in the county for the year preceding the well owner's notification to FPL.

FPL will also make a one-time 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 FPL of the impact to their well and ending on the date occurring 20 years after final issuance of the OCEC Site Certification for wells with a water use authorized by a consumptive use permit, or for domestic wells exempt from the need to obtain a consumptive use permit, for the remaining estimated useful life of the well, as determined by FPL's engineer or water well contractor.

FPL'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 delivery of the one-time payment to the existing well owner.

FPL'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, or if the existing consumptive use permit for the well is modified and permitted quantities are increased before the existing well owner notifies FPL of any interference.

FPL 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. FPL 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.

### Reporting

No later than 30 days after FPL receives a claim from a well owner of potential impacts to their well, FPL will notify the Florida Department of Environmental Protection Siting Office of the same with a copy to the SJRWMD.

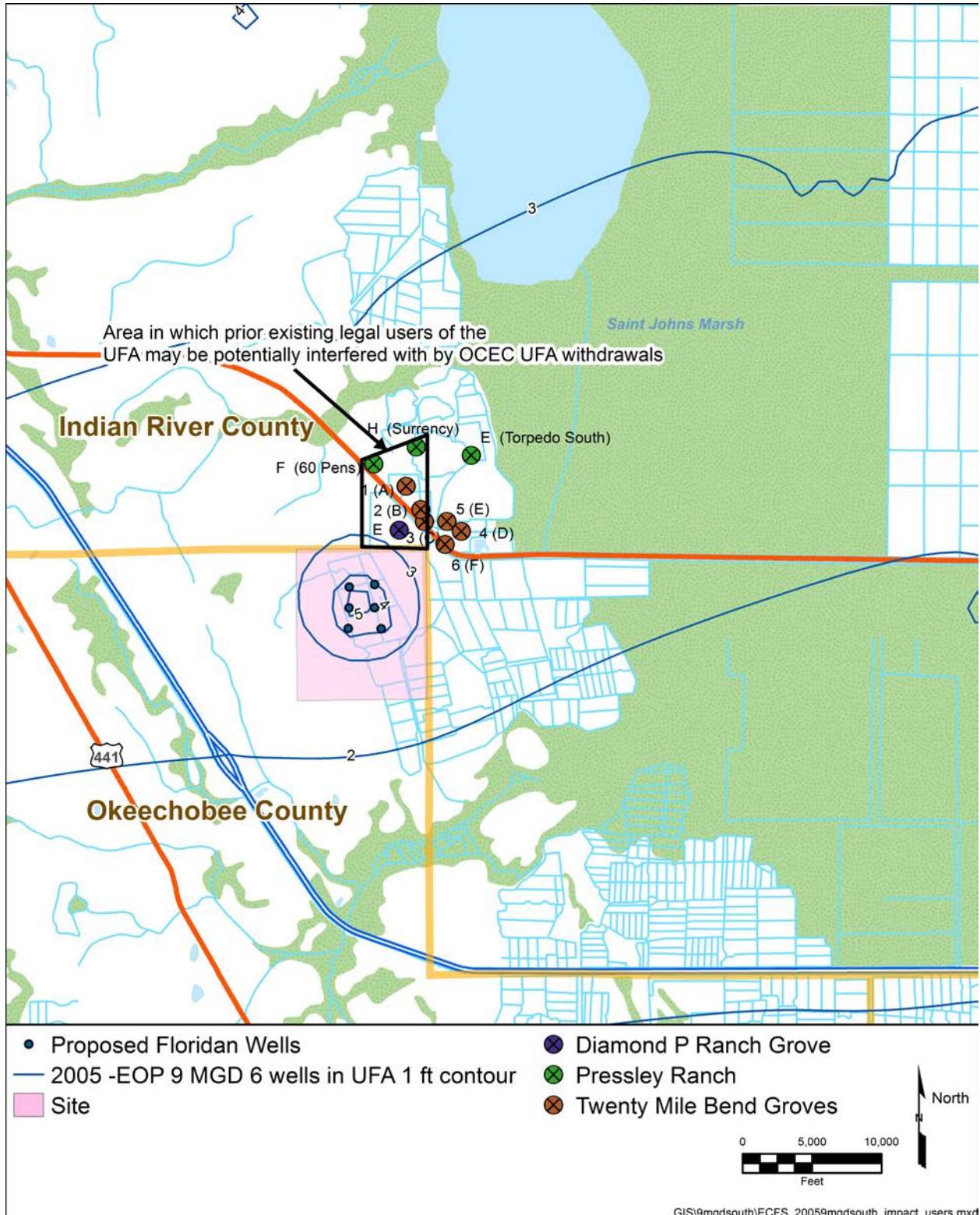
Additionally, on August 1 of each year, FPL will prepare and submit to the Florida Department of Environmental Protection Siting Office, with a copy to the SJRWMD, a summary report

listing all well owners who have contacted FPL about possible well interference and the resolution of all well interference claims, including any mitigation performed by FPL. 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.

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

# EXHIBIT 1



## 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 IRC-4**



Figure 1. Location of the OCEC Site (red square) within the domain of the ECFS groundwater model.

**ATTACHMENT FDEP-ERP-1**

**WARRANTY DEED**

**RETURN TO:**

**Name:** CHICAGO TITLE  
INSURANCE AGENCY, INC.  
**Address:** 3067 E. Commercial Boulevard  
Fort Lauderdale, FL 33308

**File Number:** 37962

**This Instrument Prepared by:**

Dennis F. Peters, CLS  
President  
CHICAGO TITLE  
INSURANCE AGENCY, INC.  
3067 E. Commercial Boulevard  
Fort Lauderdale, FL 33308

**Property Appraisers Parcel Identification**

**Folio Number(s):** 1-01-33-35-0A00-00001-0000 (Section 1)  
1-02-33-35-0A00-00001-0000 (Section 2)  
1-11-33-35-0A00-00001-0000 (Section 11)  
1-12-33-35-0A00-00001-0000 (Section 12)  
1-13-33-35-0A00-00001-0000 (Section 13)

FILE NUM 2011006554  
OR BK 00702 PG 1678  
SHARON ROBERTSON, CLERK OF CIRCUIT COURT  
OKEECHOBEE COUNTY, FLORIDA  
RECORDED 07/01/2011 02:48:33 PM  
AMT 17,700,000.00  
RECORDING FEES \$52.50  
DEED DOC \$123,900.00  
RECORDED BY M Pinon  
Pas 1678 - 1683; (6pas)

2151584  
THIS DOCUMENT HAS BEEN  
RECORDED IN THE PUBLIC RECORDS  
OF INDIAN RIVER COUNTY FL  
BK: 2511 PG:1524, Page1 of 6  
07/13/2011 at 01:39 PM, D DOCTAX PD  
\$0 70

JEFFREY K BARTON, CLERK OF  
COURT

SPACE ABOVE THIS LINE FOR PROCESSING DATA

SPACE ABOVE THIS LINE FOR RECORDING DATA

**This Warranty Deed**, Made and executed the 30<sup>th</sup> day of June, 2011, by **FORT DRUM VENTURE, LLC**, a Florida limited liability company, whose mailing address is 6020 5th Street SW, Vero Beach FL 32968-9661, hereinafter called the Grantor, to **FLORIDA POWER & LIGHT COMPANY**, a Florida corporation, whose post office address is P.O. Box 14000, Juno Beach, Florida 33408-0420, ATTN: Property Tax Department, hereinafter called the Grantee.

(Wherever used herein the terms "Grantor" and "Grantee" include all the parties to this instrument and the heirs, legal representatives, and assigns of individuals, and the successors and assigns of corporations, wherever the context so admits or requires)

**Witnesseth**, That the Grantor, for and in consideration of the sum of Ten and 00/100 Dollars (\$10.00) and other valuable considerations, receipt whereof is hereby acknowledged, by these presents does grant, bargain, sell, alien, remise, release, convey and confirm unto the Grantee, all that certain land, situate in Okeechobee County, State of Florida, viz:

**SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF.**

SUBJECT TO easements, restrictions, reservations, conditions, covenants, limitations and dedications of record, if any, but this reference thereto shall not act to reimpose the same; and taxes for the year 2011 and subsequent years.

**Together**, with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

**To Have and to Hold**, the same in fee simple forever.

**And**, subject to the limitations set forth above, the Grantor hereby covenants with said Grantee that it is lawfully seized of said land in fee simple; that it has good right and lawful authority to sell and convey said land; that it hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to December 31, 2010.

CHICAGO TITLE INSURANCE AGENCY, INC.

WARRANTY DEED

SPACE ABOVE THIS LINE FOR RECORDING DATA

In Witness Whereof, the said Grantor has caused these presents to be executed in its name, by its appropriate Managers thereunto duly authorized, the day and year first above written.

Signed, sealed and delivered in the presence of:

Nola C. Warnecke  
Witness Signature

Nola C. Warnecke  
Printed Name

Jody Murphy  
Witness Signature

Jody Murphy  
Printed Name

STATE OF Colorado  
COUNTY OF Eagle

This foregoing instrument was acknowledged before me this 29th day of June, 2011 by GEORGE A. KAHLE, as Manager of FORT DRUM VENTURE, LLC, a Florida limited liability company, on behalf of the company. Said persons are personally known to me.

NOTARY RUBBER STAMP SEAL



Brandi Jepson  
Notary Signature  
Brandi Jepson  
Print Name

Commission expires  
8/6/2013

FORT DRUM VENTURE, LLC,  
a Florida limited liability company

George A. Kahle

Signature  
GEORGE A. KAHLE

Printed Name

Manager

Title

WARRANTY DEED

SPACE ABOVE THIS LINE FOR RECORDING DATA

In Witness Whereof, the said Grantor has caused these presents to be executed in its name, by its appropriate Managers thereunto duly authorized, the day and year first above written.

FORT DRUM VENTURE, LLC,  
a Florida limited liability company

Signed, sealed and delivered in the presence of:

[Signature]  
Witness Signature  
SHERI M. SWANSON  
Printed Name

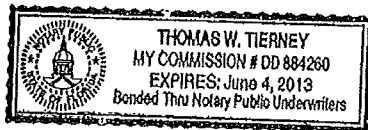
[Signature]  
Witness Signature  
THOMAS W. TIERNEY  
Printed Name

[Signature]  
Signature  
ELSON SMITH, JR.  
Printed Name  
Manager  
Title

STATE OF FLORIDA  
COUNTY OF INDIAN RIVER

This foregoing instrument was acknowledged before me this 28<sup>th</sup> day of June, 2011 by ELSON SMITH, JR., as Manager of FORT DRUM VENTURE, LLC, a Florida limited liability company, on behalf of the company. Said persons are personally known to me.

NOTARY RUBBER STAMP SEAL



[Signature]  
Notary Signature  
THOMAS W. TIERNEY  
Print Name

## **EXHIBIT "A"**

### **PARCEL 1:**

All of Sections 1, 2, 11, 12 and 13, Township 33 South, Range 35 East, Okeechobee County, Florida.

### **PARCEL 2:**

A non-exclusive easement and right of way for the benefit of Parcel 1 as created by Grant Of Easement by Fort Drum Venture, LLC, a Florida limited liability company, in favor of Kahle Family Investments III, LLC, a Florida limited liability company, Samuel A. Block, as Trustee of Land Trust Number 00740-00-1 dated August 3, 1992, and any other subsequent owner or owners of the Indian River Parcel and the Okeechobee Parcel (as such terms are defined in said easement), dated February 12, 2007, recorded February 20, 2007, in Official Records Book 2135, Page 2097, of the Public Records of Indian River County, Florida, and recorded February 22, 2007, in Official Records Book 624, Page 391, of the Public Records of Okeechobee County, Florida, for the purpose of installing, replacing, repairing, maintaining, servicing, constructing, reconstructing, removing, relocating, improving, expanding, tying into, and inspecting, potable water, reclaimed water, wastewater lines, drainage lines, stormwater retention areas, and appurtenant utility facilities and equipment, which may include without limitation, water, sewer, drainage and stormwater related utility services, under, beneath and through the Easement Property, over, under and across the land described in EXHIBIT "B" attached hereto and made a part hereof. Subject to the terms, provisions and conditions set forth in said Grant Of Easement.

### **PARCEL 3:**

Non-exclusive easements and right of way for the benefit of Parcel 1 as created by Grant Of Easements by Fort Drum Venture, LLC, a Florida limited liability company, in favor of any subsequent owner or owners of the Okeechobee Parcel (as defined in said easement), dated February 12, 2007, recorded February 20, 2007, in Official Records Book 2135, Page 2107, of the Public Records of Indian River County, Florida, and recorded February 22, 2007, in Official Records Book 624, Page 401, of the Public Records of Okeechobee County, Florida, for the purpose of ingress, egress and regress and for the purpose of pedestrian and vehicular traffic thereon, and for the additional purposes described in said easements, over, under and across the land described in EXHIBIT "C" attached hereto and made a part hereof. Subject to the terms, provisions and conditions set forth in said Grant Of Easements.

**EXHIBIT "B"**

**PARCEL 2 - EASEMENT PROPERTY**

The South 120.00 feet of the following described parcel:

All that part of the Northwest 1/4 of the Northwest 1/4 of Section 36, Township 32 South, Range 35 East, lying Southwesterly of State Road 60, Indian River County, Florida, less and except those portions taken for right-of-way described as Parcel Number 100 in Stipulated Order Of Taking recorded in Official Records Book 1340, Page 355, of the Public Records of Indian River County, Florida.

**EXHIBIT "C"**

**PARCEL 3 - EASEMENT PROPERTY**

A portion of the South one-half (1/2) of Section 26, Township 32 South, Range 35 East, lying Southwesterly of State Road 60, and a portion of Section 35, Township 32 South, Range 35 East, less and except those portions taken for right-of-way in Stipulated Order Of Taking recorded in Official Records Book 1340, Page 355, of the Public Records of Indian River County, Florida, being more particularly described as follows:

Commencing at the Northwest corner of Section 35, Township 32 South, Range 35 East, Indian River County, Florida, run North 89° 03' 04" East, along the North line of said Section 35, a distance of 5228.89 feet to a point on the current West right-of-way of State Road 60, said right-of-way as shown on the Florida Department Of Transportation Right-Of-Way Map for Section 88060-2529 (described in Stipulated Order Of Taking recorded in Official Records Book 1340, Page 355, of the Public Records of Indian River County, Florida) and the POINT OF BEGINNING; from said POINT OF BEGINNING run South 45° 04' 54" East along said West right-of-way of State Road 60, a distance of 125.87 feet to a point on the East line of aforementioned Section 35; thence run South 00° 50' 39" East, along said East line of Section 35, a distance of 5260.07 feet to the Southeast corner of said Section 35; from said Southeast corner run South 89° 34' 00" West, along the South line of said Section 35, a distance of 396.81 feet; thence departing said South line, run North 00° 26' 00" West, a distance of 535.05 feet; thence run North 08° 54' 13" West, a distance of 1067.67 feet; thence run North 01° 06' 32" East, a distance of 4081.85 feet to the aforementioned West right-of-way of State Road 60; thence run South 45° 04' 54" East along said West right-of-way a distance of 452.56 feet to the POINT OF BEGINNING.

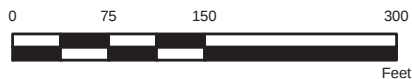
All of the above described parcel lying and being in Indian River County, Florida.

**ATTACHMENT FDEP-ERP-3**



#### LEGEND

- OCEC Unit 1
- Open Space
- UFA Well Delivery Pipeline
- Stormwater Diversion Canal Rip Rap
- Wetlands
- 15ft Buffer
- 25ft Buffer
- Wetland Fill



#### REFERENCE(S)

WETLANDS, WETLAND BUFFERS, WETLAND FILL, GOLDER ASSOCIATES INC., 2015  
PROJECT FEATURES, FPL, 2015

CLIENT  
FPL

PROJECT  
OKEECHOBEE CLEAN ENERGY CENTER

TITLE  
**WETLAND 02-S  
SETBACKS**

CONSULTANT



YYYY-MM-DD 2015-11-11

DESIGNED NRL

PREPARED NRL

REVIEWED KAB

APPROVED KAB

PROJECT NO.  
1414979

CONTROL  
B078

REV.  
0

FIGURE  
**FDEP-ERP-3**

**ATTACHMENT FDEP-ERP-5**



## FLORIDA DEPARTMENT of STATE

**RICK SCOTT**  
Governor

**KEN DETZNER**  
Secretary of State

Mr. Robert Carr  
Archaeological and Historical Conservancy, Inc.  
4800 S.W. 64<sup>th</sup> Ave., Suite 107  
Davie, Florida 33314

November 18, 2015

Re: DHR Project File No.: 2015-5609 / Received by DHR: October 28, 2015  
*A Cultural Resource Assessment of the FPL Natural Gas Combined Cycle Power Block Parcel,  
Okeechobee County, Florida*

Dear Mr. Carr:

Our office received and reviewed the above referenced survey report in accordance with Chapters 267 and 373 of the *Florida Statutes*, and the applicable Alachua County ordinances, for possible adverse impact to cultural resources (any prehistoric or historic district, site, building, structure, or object) listed, or eligible for listing, in the National Register of Historic Places (NRHP).

In March 2015, Archaeological and Historical Conservancy, Inc. (AHC) conducted an archaeological and historical Phase I survey of the FPL Natural Gas Combined Cycle (NGCC) Power Block parcel on behalf of Florida Power and Light. This parcel lies within the FPL Okeechobee County Energy Center (OCEC) property. AHC identified no cultural resources within the project tract during this investigation.

AHC determined that the NGCC parcel contains no cultural resources eligible for or listed in the NRHP. AHC recommends Phase I testing within the larger OCEC parcel if plans are implemented for using the potential solar field or mitigation rea.

Based on the information provided, our office concurs with these determinations and recommendations. We find the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code*.

If I can be of any further help, or if you have any questions about this letter, please feel free to contact me at Sarah.Liko@DOS.MyFlorida.com, or by phone at 850.245.6333.

Sincerely,

Robert F. Bendus, Director  
Division of Historical Resources  
and State Historic Preservation Officer



Division of Historical Resources  
R.A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399  
850.245.6333 • 850.245.6436 (Fax) <http://dos.myflorida.com/historical>  
*Promoting Florida's History and Culture* VivaFlorida.org



**ATTACHMENT FDEP-ERP-8**

4-22-15

Date: Staff Name: Lott-FDEP

Renfranz

SR600 Keeschobee Energy Center

Site #: PCN #:

Property Owner's Name: FPL

Location ID:

**VEGETATION INDICATORS:**

Mitigation Site 641/434/617

| OBL                                  | Strata | FACW                                        | Strata | Additional vegetation                     | Strata |
|--------------------------------------|--------|---------------------------------------------|--------|-------------------------------------------|--------|
| Acrostichum spp. Leather Fern        |        | Acer rubrum Red Maple                       | C      | Lacnathes Red Root                        | g      |
| Annona glabra Pond apple             |        | Amphicarpum muhlenbergianum Blue Maidencane |        | wax myrtle                                | sc     |
| Bacopa spp. Lemon Water-hyssops      | g      | Andropogon glomeratus Bushy Broom Grass     | sc     | slash pine                                | c      |
| Boehmeria cylindrica False-nettle    | g      | Blechnum serrulatum Swamp fern              | g      | saw palmetto                              | sc     |
| Cephalanthus occidentalis Buttonbush | sc     | Centella asiatica Pennywort                 | g      | Black Root                                | g      |
| Cladium jamaicense Sawgrass          | g      | Coreopsis spp. Tickseed                     |        | Beauty Berry                              | sc     |
| Eleocharis spp. Spikerush            | g      | Dichromena colorata White-top Sedge         |        | Exotic vegetation                         | Strata |
| Eriocaulon spp. Pipewort             | g      | Diodia virginiana Buttonweed                |        | Australian pine                           |        |
| Fraxinus caroliniana Pop Ash         | g      | Ludwigia spp. Water-pimrose                 |        | Cogon grass                               |        |
| Fuirena scirpoidea Umbrella-grass    | g      | Pluchea spp. Stinkweed                      |        | Earleaf acacia                            |        |
| Hyptis alata Musky Mint              | g      | Quercus laurifolia Laurel Oak               |        | Java plum                                 |        |
| Ilex cassine Dahoon Holly            | c      | Rhexia spp. Meadow Beauty                   | g      | Lygodium microphyllum Climbing Fern       |        |
| Ludwigia peruviana Water-primrose    |        | Scleria spp. Nut-rush                       | g      | Melaleuca quinquenervia                   |        |
| Lythrum spp. Loosestrifes            |        | Teucrium canadense American germander       |        | Panicum repens Torpedo grass              |        |
| Muhlenbergia capillaris Muhly grass  |        | Woodwardia virginica Virginia Chain Fern    |        | Schinus terebinthifolius Brazilian pepper | c      |
| Panicum hemitomon Maidencane         | g      | DRSERA cap. Sanderling                      | g      | Urena lobata Caesarweed                   |        |
| Persea palustris Swamp Bay           | g      | muskymint Hyptis                            | g      |                                           |        |
| Polygonum spp. Smartweed             | g      |                                             |        |                                           |        |

**HYDROLOGIC INDICATORS:**

Active cypress knees \_\_\_ Adventitious roots \_\_\_ Algal mats \_\_\_ Aquatic fauna \_\_\_  
 Aquatic plants \_\_\_ Aufwuchs \_\_\_ Buttressing ☒ Drift lines \_\_\_  
 Elevated lichen lines ☒ Flow channels \_\_\_ Hydrologic data \_\_\_ Hypertrophied  
 lenticels \_\_\_ Vegetated tussocks/hummocks ☒ Water marks ☒ None \_\_\_

**SOIL INDICATORS:**

none assessed

Historic Soil Classification: \_\_\_\_\_

Dark surface \_\_\_ Thick dark surface \_\_\_ Thin dark surface \_\_\_ Depleted matrix \_\_\_  
 Loamy gleyed matrix \_\_\_ Marl \_\_\_ Mucky mineral \_\_\_ Muck presence \_\_\_ Organic  
 bodies >.5" \_\_\_ Oxidized rhizospheres \_\_\_ Sandy gleyed matrix \_\_\_ Sandy  
 redox \_\_\_ Stratification \_\_\_ Stripped matrix \_\_\_ Sulfidic odor \_\_\_ None \_\_\_

**DETERMINATION:**

A-test: \_\_\_ OBL veg > UPL veg \_\_\_ Soils \_\_\_ Hydrologic indicator \_\_\_  
 B-test: \_\_\_ FACW & OBL VEG > 80% \_\_\_ Soils \_\_\_ Hydrologic indicator \_\_\_  
 C-test: \_\_\_ Support: \_\_\_  
 D-test: \_\_\_ Soils \_\_\_ Hydrologic indicator \_\_\_

| OBL / FACW                        | Strata |
|-----------------------------------|--------|
| Fimbristylis spp. Hurricane grass |        |
| Hydrocotyle spp. Water Pennywort  |        |
| Lachnocaulon spp. Bog Buttons     |        |
| Sabatia spp. Rose-gentians        | g      |
| Solidago spp. Goldenrods          | g      |
| Xyris spp. Yellow-eyed grass      | g      |

**Provide spp. for the following:**

|                           |    |
|---------------------------|----|
| Bidens Beggartick         |    |
| Cyperus Flat sedge        |    |
| Hypericum St. John's Wort | sc |
| Juncus Rush               | g  |
| Paspalum                  | g  |
| Rhynchospora Beakrush     |    |

Strata Key: C=canopy, S=subcanopy, G=ground

Community pristine, only edge w/ Schinus Forested ☒ Herbaceous ☒

UMAM: Location Landscape & Support \_\_\_ Hydrology \_\_\_ Community Structure \_\_\_ Total \_\_\_/30= \_\_\_

Evidence for Reasonable Scientific Judgment, if applicable: \_\_\_\_\_

Agreed w/ FPL UMAM scores

**ATTACHMENT FDEP-ERP-9**

St Johns Water Management District Wet Detention Requirements Summary

| Standard                                                                                                                                                                                                                                                                                                                                                                                                             | Pre-Condition                       | Post-Condition                                                                                                         | Post Report Location                    | Pre Report Location                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------|
| 25-year, 24-hour Flow                                                                                                                                                                                                                                                                                                                                                                                                | Q = 541.37 cfs                      | Q = 534.00 cfs                                                                                                         | Calc # 1102<br>Page # 2                 | Calc # 1101<br>Page # 3               |
| Drainage Area                                                                                                                                                                                                                                                                                                                                                                                                        | DA = 2287.58 acres                  | DA = 2284.75 acres                                                                                                     | Calc # 1102 & 1101<br>Page # 6 & 3      | Calc # 1101<br>Page # 3               |
| Pond Volume                                                                                                                                                                                                                                                                                                                                                                                                          | N/A                                 | Pond 4-1 = 35.47 acre-ft<br>Pond 4-2 = 34.84 acre-ft                                                                   | Calc # 1102<br>Page # Att 3 Page 41, 43 | Calc # n/a<br>Page # n/a              |
| Pond Surface Area                                                                                                                                                                                                                                                                                                                                                                                                    | N/A                                 | Pond 4-1 = 10.18 acres<br>Pond 4-2 = 10.57 acres                                                                       | Calc # 1102<br>Page # Att 3 Page 41, 43 | Calc # n/a<br>Page # n/a              |
| Curve Numbers                                                                                                                                                                                                                                                                                                                                                                                                        | BE-3 = 76<br>BE-4 = 74<br>BE-5 = 76 | BE-3 = 76<br>BE-4 = 74<br>BE4-1 = 83<br>BE4-2 = 84<br>BE-5 = 76                                                        | Calc # 1102<br>Page # 5                 | Calc # 1101<br>Page # 5               |
| Treatment Volume: Volume is greater than 1-inch of runoff over drainage area, or 2.5 inches over impervious area (excluding water bodies). Actual treatment volume must be greater than required.                                                                                                                                                                                                                    | N/A                                 | Pond 4-1                                                                                                               | Calc # 1102<br>Page # 15                | Calc # n/a<br>Page # n/a              |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | TV <sub>actual</sub> = 14.57 acre-ft<br>TV <sub>required</sub> = 6.93 acre-ft                                          |                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | Pond 4-2                                                                                                               |                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | TV <sub>actual</sub> = 15.17 acre-ft<br>TV <sub>required</sub> = 5.19 acre-ft                                          |                                         |                                       |
| Recovery Time: Outfall structure should be designed to drawdown half of the treatment volume between 24 and 30 hours.                                                                                                                                                                                                                                                                                                | N/A                                 | Pond 4-1                                                                                                               | Calc # 1102<br>Page # 17                | Calc # n/a<br>Page # n/a              |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | 26.82 hrs                                                                                                              |                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | Pond 4-2                                                                                                               |                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | 28.21 hrs                                                                                                              |                                         |                                       |
| Permanent Pool Volume: 1. PPV should be desinged to provide 14-day + residence time during wet season (June to October) 2. PPV <sub>actual</sub> > PPV <sub>required</sub>                                                                                                                                                                                                                                           | N/A                                 | Pond 4-1                                                                                                               | Calc # 1102<br>Page # 12-14             | Calc # n/a<br>Page # n/a              |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | Residence time, t, equals 21 days.<br>PPV <sub>actual</sub> = 20.82 acre-ft<br>PPV <sub>required</sub> =18.63 acre-ft  |                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | Pond 4-2                                                                                                               |                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | Residence time, t, equals 21 days.<br>PPV <sub>actual</sub> = 19.03 acre-ft<br>PPV <sub>required</sub> = 16.73 acre-ft |                                         |                                       |
| Outlet Structures: 1. Control elevation should be set at or above design tailwater elevation. 2. Drawdown devices smaller than 3 inches width or less than 20 degrees for "V" notches shall include a device to eliminate clogging.                                                                                                                                                                                  | N/A                                 | Control Elevation is set above tailwater elevation and the V-notch opening is 90 degrees and orifice is 7.25 inches.   | Calc # 1102<br>Page # Att 3 Page 41, 43 | Calc # n/a<br>Page # n/a              |
| Littoral Zone: An alternative to designing a littoral zone is: 1. An additional 50% needs to be added to PPV. or 2. Pre-treatment of stormwater required.                                                                                                                                                                                                                                                            | N/A                                 | The 50% was reflected in the increase of residence time from 14 days to 21 days.                                       | Calc # 1102<br>Page # 12-13             | Calc # n/a<br>Page # n/a              |
| Pond Depth: 1. Max pond depth of 12 feet. 2. Mean depth is required to be between 2 and 8 feet.                                                                                                                                                                                                                                                                                                                      | N/A                                 | Pond 4-1                                                                                                               | Calc # 1102<br>Page # 14                | Tab # n/a<br>Calc # n/a<br>Page # n/a |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | Pond depth is 12 feet. Mean depth = 2.18 feet                                                                          |                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | Pond 4-2                                                                                                               |                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | Pond depth is 12 feet. Mean depth = 2.18 feet                                                                          |                                         |                                       |
| Pond Configuration: The average length to width ratio must be at least 2:1.<br><br>NOTE 1. Although the width to length ratio does not meet the 2:1 requirement for Pond 4-1, the pond still exceeds almost twice the minimum treatment volume requirements and the point discharge in to the pond are opposite of the outfall structure to maximize treatment time; therefore the pond has suffient residence time. | N/A                                 | Pond 4-1                                                                                                               | Calc # 1102<br>Page # 20                | Calc # n/a<br>Page # n/a              |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | Due to space constraints the L:W ratio is 1.67.<br><br>***See Note 1                                                   |                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | Pond 4-2                                                                                                               |                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | The L:W ratio is 2.01                                                                                                  |                                         |                                       |
| Groudwater Table: 1. Control elevation should be set at or above normal on-site groundwater table elevation. 2. Design of outfall structure must provide for the discharge of baseflow at the design normal water level in pond.                                                                                                                                                                                     | N/A                                 | Pond 4-1                                                                                                               | Geotechnical Report                     | Calc # n/a<br>Page # n/a              |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | Control elevation is set to 30 feet. This is above the seasonal high groundwater elevation.                            |                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | Pond 4-2                                                                                                               |                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     | Control elevation is set to 31 feet. This is above the seasonal high groundwater elevation.                            |                                         |                                       |
| Pond Side Slope: The side slopes must be no steeper than 3:1.                                                                                                                                                                                                                                                                                                                                                        | N/A                                 | Pond side slopes are 4:1 for Pond 4-1 and Pond 4-2.                                                                    | Calc # n/a<br>Page # n/a                | Calc # n/a<br>Page # n/a              |

## **FDEP FIRST DETERMINATION OF COMPLETENESS**

**STATE OF FLORIDA  
DIVISION OF ADMINISTRATIVE HEARINGS**

IN RE: FLORIDA POWER & LIGHT COMPANY;  
OKEECHOBEE CLEAN ENERGY CENTER      DOAH CASE No. 15-5540EPP  
POWER PLANT SITING APPLICATION      OGC CASE No. 15-0607  
NO. PA15-58

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S FIRST  
DETERMINATION OF INCOMPLETENESS**

Pursuant to the Florida Electrical Power Plant Siting Act (PPSA), Section 403.5066(1)(b), Florida Statutes, the Florida Department of Environmental Protection (Department) hereby finds the site certification application (Application) filed by Florida Power & Light Company (FPL or the Applicant) for the Okeechobee Clean Energy Center, incomplete. A memo from the Siting Coordination Office with all accompanying completeness questions included, is attached and incorporated by reference herein as Exhibit A, and is also available on the Department's FTP server link listed below:

[http://publicfiles.dep.state.fl.us/Siting/Outgoing/FPL\\_OCEC/Completeness/2015\\_11\\_4\\_DEP\\_Completeness\\_Determination\\_RAI\\_1.pdf](http://publicfiles.dep.state.fl.us/Siting/Outgoing/FPL_OCEC/Completeness/2015_11_4_DEP_Completeness_Determination_RAI_1.pdf)

As a result of the Department's determination that the Application is incomplete, the Applicant, within 15 days after the filing of this determination by the Department, is required to file with the Division of Administrative Hearings (DOAH), the Department, and all parties:

- (a) A withdrawal of the application; [or]
- (b) A statement agreeing to supply the additional information necessary to make the application complete. Such additional information shall be provided within 30 days after the issuance of the department's statement on completeness of the application. The time schedules under this act shall not be tolled if the applicant makes the application complete within 30 days after the issuance of the department's statement on completeness of the application. A subsequent finding by the department that the application remains incomplete, based upon the additional information submitted by the applicant or upon the failure of the

applicant to timely submit the additional information, tolls the time schedules under this act until the application is determined complete; [or]

(c) A statement contesting the department's determination of incompleteness; or

(d) A statement agreeing with the department and requesting additional time beyond 30 days to provide the information necessary to make the application complete. If the applicant exercises this option, the time schedules under this act are tolled until the application is determined complete.

For the purposes of the completeness determination of the Application, "[c]ompleteness" is defined in Section 403.503(10), Florida Statutes, to mean:

. . . that the application has addressed all applicable sections of the prescribed application format, and that those sections are sufficient in comprehensiveness of data or in quality of information provided to allow the department to determine whether the application provides the reviewing agencies adequate information to prepare the reports required by s. 403.507.

Pursuant to Section 403.5066(4), Florida Statutes, should the Applicant respond to this determination of incompleteness by providing additional information to address the issues identified in this determination, "each affected agency may submit to the [D]epartment, no later than 15 days after the applicant files the additional information, a recommendation on whether the agency believes the application is complete."

It is inappropriate for an agency to ask completeness questions in subsequent rounds of completeness that range into topics that were not addressed in previous rounds of questioning but could have been addressed. The Department respectfully requests any further questions submitted by affected agencies include direct citation to demonstrate authority for the agency to ask the question.

Although the Department determines the Application to be incomplete at this time, this determination of incompleteness does not require the Applicant to respond to those questions attached, if any, that FPL deems to be beyond the statutory purpose for completeness review, as

defined above. The Applicant shall identify such questions, and (where applicable) indicate why no response was provided. The Department in no way intends to preclude the Applicant from responding to such questions, where responses are readily available or apparent, and the Applicant chooses to make such responses.

Respectfully submitted, this 4th day of November, 2015.

STATE OF FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION

/s/ Jeffrey Brown

JEFFREY BROWN

Deputy General Counsel

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For Service: [DEP.Defense@dep.state.fl.us](mailto:DEP.Defense@dep.state.fl.us)

## **CERTIFICATE OF SERVICE**

I certify that I have served a true and correct copy of the foregoing via electronic mail on this 4th day of November 2015, to the following:

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### **St. Johns River Water Management District**

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**Department of State**

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**Central Florida Regional Planning Council**

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**Treasure Coast Regional Planning Council**

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/s/Jeffrey Brown

JEFFREY BROWN  
Deputy General Counsel



# Florida Department of Environmental Protection

Bob Martinez Center  
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Rick Scott  
Governor

Carlos Lopez-Cantera  
Lt. Governor

Jonathan P. Steverson  
Secretary

## MEMORANDUM

TO: Jeffrey Brown, Deputy General Counsel  
THROUGH: Cindy Mulkey, Program Administrator  
FROM: Ann Seiler, Case Manager *AS*  
DATE: November 4, 2015  
SUBJECT: FPL Okeechobee Clean Energy Center First Completeness Determination

Pursuant to §403.5066, Florida Statutes, the Department of Environmental Protection (DEP), after consulting with the affected agencies, has determined that the Florida Power & Light Company (FPL) Okeechobee Clean Energy Center Site Certification Application is not complete.

Below are requests for additional or clarifying information from:

1. DEP Southeast District (SED) Office;
2. St. Johns River Water Management District; and,
3. Indian River County.

The following agencies found the application complete and/or did not provide comments:

1. Department of Economic Opportunity;
2. Florida Fish and Wildlife Commission;
3. Department of Transportation;
4. Department of State – Division of Historical and Cultural Resources
5. Department of Agriculture and Consumer Services
6. Okeechobee County; and
7. Department of Health.

Agency comments/questions are listed below “*as received*” by the Department. It should be noted that some questions proposed are those for which answers may not be available until the post-certification phase of the certification process, should the project be approved. FPL should identify those items it believes may be more suitably handled through post-certification submittals and propose related conditions of certification.

**1. DEP SOUTHEAST DISTRICT - Submerged Lands and Environmental Resource Program (ERP)**

A. Please provide documentation of the applicant's real property interest (e.g. warranty deed) over the land upon which the activities subject to the application will be conducted. Refer to 4.2.3 A.H. Volume I, for a list of acceptable forms of documentation that may be submitted. [62-330.301(1); 62-330.302(1), F.A.C.; 4.2.3 A.H. Volume I]

B. The submitted figures and information suggests that there will be no direct impacts to Wetlands K, J or N for construction of the OCEC Unit 1; however, there is insufficient detail provided on the submitted plans to show that there will be no impacts to these wetlands. Aside from noting that these areas are encompassed in the "Open Space," please provide additional notation on the plans that there will be no disturbance to the soils or vegetation within this area so that the Department has assurance that these wetlands will remain undisturbed. [62-330.301(1); 62-330.302(1), F.A.C.]

C. The figures and submitted information do not sufficiently address adverse secondary impacts to onsite and offsite wetlands. The submitted plans show that a 25-ft upland buffer will be provided around Wetland D in the NW section of project site; however, information regarding how this upland buffer will remain undisturbed in perpetuity has not been submitted. Please provide details for how this upland buffer will remain undisturbed in perpetuity. If you decide to record a conservation easement over this buffer, then please contact Monica Sovacool, FDEP Southeast District, at (561) 681-6698 or [Monica.Sovacool@dep.state.fl.us](mailto:Monica.Sovacool@dep.state.fl.us) for a list of required documents to record a conservation easement dedicated to FDEP. If other means are proposed, such as fencing with signage, then please revise the plans to depict this information.

Additionally, there is no proposed upland buffer surrounding the southern offsite wetland, Wetland O2-South, while the proposed construction activities appear to closely abut this wetland. Due to the nature of the proposed development, is anticipated that adverse secondary impacts (e.g. increased noise, light penetration, human disturbance) could extend a minimum of fifty (50) feet into Wetland O2-South where an undisturbed upland buffer is not proposed. Please provide details regarding whether or not an upland buffer is feasible adjacent to this wetlands, or alternately, please provide mitigation for adverse secondary impacts to this wetland. Please contact Monica Sovacool to discuss the potential Uniform Mitigation Assessment Method (UMAM) scores for adverse secondary impacts. [62-330.301(1); 62-330.302(1), F.A.C., 10.2.7(a), 10.2.7 & 10.3, A.H. Volume I]

D. Pursuant to section 10.2.2.2 A.H. Volume I, alterations in drainage ditches that were constructed in uplands will not be required to comply with the provisions of sections 10.2.2 through 10.2.2.3, 10.2.3 through 10.2.3.7, and 10.2.5 through 10.3.8, unless those ditches provide significant habitat for endangered or threatened species. Please provide details to support or refute that the ditches provide significant habitat for

the endangered and threatened species listed in your submittal. If the ditches are determined to not provide significant habitat to the listed species, the please revise your mitigation proposal to exclude the impacts to these ditches. Please note that a site visit may need to be conducted to verify this information. [10.2.2.2 A.H. Volume I]

E. Pursuant to Section 10.2.3.6, A.H. Volume I, in reviewing and balancing the criterion regarding historical and archaeological resources in paragraph 10.2.3(f), the Department will evaluate whether the regulated activity located in, on, or over wetlands or other surface waters will impact significant historical or archaeological resources. Staff acknowledges that a Phase I Archaeological Survey has been completed, as described in the submittal. Please provide written assurance from the State Division of Historical Resources that the project will not adversely affect any archeological/historical resources. [10.2.3.6 and 10.2.7(c), A.H. Volume I]

F. It appears that the project may significantly reduce onsite and offsite wetland hydroperiods by controlling the surface water management system below the determined seasonal high water elevations of the onsite wetlands and diverting surface water flow that adjacent wetland receive in pre-development. However, the extent is not yet known because sufficient details regarding the proposed surface water management system were not provided. Additionally, the SHWL of the onsite and offsite wetlands that may be affected have not been field-verified. Groundwater depression and diversion of surface water flow from the proposed project may interrupt hydrologic patterns that sustain adjacent wetlands. The effects of your proposed hydrologic disturbance may confound succession patterns in the natural community.

Please provide sufficient details for the stormwater management system, including the invert and outfall elevations for all structures, so that staff can determine if the system will cause drawdown in adjacent wetland hydroperiods. Also, provide reasonable assurance that water table depression and surface water diversion will not result in adverse impacts to wetlands. Provide a map of the pre- and post-development contributing basin for each onsite and offsite wetland that receives runoff, or surficial flow (if relevant), from the site of the proposed project. Provide sufficient site-specific data (e.g., seasonal high and low water elevation estimates, water budget, rainfall patterns, ground water flow model, water table contour maps, etc.) to model the effects of the surface water management system on wetland hydroperiods and existing plant communities. If you cannot avoid hydroperiod impacts, then estimate and plot the impact area and propose suitable mitigation.

[62-330.301(1)(a) & 62-330.302(1)(a), F.A.C.; 10.3 A.H. Volume I]

G. Pursuant to 10.2.7(d), A.H. Volume I, please provide reasonable assurance that the future construction on the FPL site will not result in adverse impacts to wetlands and other surface waters. Specifically, how will these adverse impacts be offset if the proposed onsite mitigation area will not sufficiently offset all current and future proposed impacts? Please provide details for offsite mitigation areas or mitigation banks within the

same drainage basin that may be considered for these future phases. [62-330.301(1); 62-330.302(1), F.A.C., 10.2.7(d) & 10.3, A.H. Volume I]

H. The submitted mitigation plan describes enhancement of wetlands and preservation of uplands within the 376-acre mitigation site; however, it is not yet known if enhancement of the wetlands is appropriate given the existing high quality of these system that is described in the submittal and the proposed limited treatment (e.g. once a year for two years) of nuisance and invasive exotic vegetation. Please contact Monica Sovacool, FDEP Southeast District, at (561) 681-6698 or [Monica.Sovacool@dep.state.fl.us](mailto:Monica.Sovacool@dep.state.fl.us), to coordinate a site visit to the mitigation area.

Depending on the degree to which nuisance and invasive exotic vegetation is present within the various systems in the mitigation area, it may be more appropriate to propose preservation of the entire mitigation area instead of enhancement. Once the site visit has been conducted, this can be further explored. Please note that preservation of a mitigation area, and specifically this proposed 376-acre area, should be accompanied by a thorough and detailed comprehensive management plan that includes management of nuisance and invasive exotic vegetation as part of the plan. The management plan should provide details for how nuisance/exotics will be managed in perpetuity, not just the first five years, and appropriate management activities, above and beyond nuisance/exotics control, should be identified up front. If enhancement is determined to be appropriate, then the submitted enhancement plan will likely not be sufficient and revisions to the plan will be necessary, including a cost estimate for the appropriate enhancement activities. If the cost estimate exceeds \$25,000, then proof of financial responsibility will be necessary, pursuant to 10.3.7 A.H., Volume I.

Additionally, it does not appear to be appropriate to assign mitigation credit to the preservation/enhancement of the perimeter ditches located on the west and south sides of the mitigation area as the function of these ditches is such that they adversely impact or alter the connected and adjacent wetland systems. The Department advises these ditches be omitted from the submitted UMAM analysis; however, they may still be included in the conservation easement area if the applicant wishes.

Furthermore, staff cannot determine if the submitted UMAM scores are sufficient until a site visit to the mitigation and impact areas has been conducted. From an initial review, it appears the Location and Landscape scores for at least part of the mitigation area will be lower in the “With Preservation” condition due to the barriers created by the proposed construction and future construction as well as decreased wildlife corridors that this construction will cause. It also appears that the “without Preservation” condition score for Community Structure may be too high. The UMAM scores can be further reviewed once the site visit has been completed. Please note that a conservation easement over the mitigation will be required as assurance the area will remain preserved in perpetuity. A list of required documents for this conservation easement will be provided once the full scope of the mitigation plan is realized.

[62-330.301(1); 62-330.302(1), F.A.C., 10.2.7(a); 10.3, A.H. Volume I]

I. Please indicate the depth of the proposed wet detention ponds. Section 8.8 Pond Depth - per Applicant Handbook indicate that detention systems shall provide for a maximum pond depth of 12 feet and a mean depth (pond volume divided by the pond area at the control elevation) between 2 and 8 feet. Provide assurance the pond depth will not penetrate into a zone of poorer water quality in terms of chlorides.

## **2. ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (DISTRICT)**

The St. Johns River Water Management District's (SJRWMD) comments on FPL Okeechobee Clean Energy Center Application (dated September 25, 2015) are below. The information requested below is required in rule 40C-2.301, Florida Administrative Code (F.A.C.), and the SJRWMD Applicant's Handbook: Consumptive Uses of Water (A.H.) as adopted by reference in rule 40C-2.101, F.A.C.

A. Please use a minimum 5-year average May head (e.g., May 2003-2007) for calculating interference with existing legal users. May 2005 potentiometric heads were higher than normal and thus would minimize the effect of drawdowns. However, as discussed during our pre-application meetings, you may use an average annual withdrawal rate (9 mgd instead of peak 11 mgd) during this analysis since you have indicated that the peak amount would not be used during this time of year. [Section 1.3.7.2, section 2.3 (a, f, g, h, i) and section 3.6, A.H.]

B. Please provide a surficial drawdown map, drawn to a clearly visible scale, showing labeled contour intervals. In addition to the on-site mitigation area, there are wetlands immediately adjacent to the project that are of concern. Please clarify the surficial drawdown within the on-site mitigation area as well as these adjacent wetlands. [Section 2.3 (f, g), section 3.5, section 3.7, A.H.]

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D. Please provide a more detailed, quantitative alternative source feasibility analysis, including an analysis of the use of the LFA or APPZ. The submittal references higher withdrawal rates, increased deposition and higher treatment costs as prohibitive to the use of the APPZ or LFA. The cooling tower makeup water is designed to use water from the UFA with an estimated TDS of 1,740 ppm (page 4-15). As discussed, water

quality of the UFA may be significantly better than this assumed amount and the value you have assumed is more indicative of the poorer quality water from the APPZ since the modeled water balance indicates approximately half of the water will originate from the APPZ. As required by District criteria, you must use the lowest quality source, if technically, economically, and environmentally feasible. It appears your analysis supports the potential use of a lower quality source (i.e., the APPZ). Please consider deepening all or some of the proposed UFA wells into the APPZ. In addition, use of the APPZ would likely decrease potential interference to users of the UFA. If it is your position that this lower quality source is infeasible, please provide quantitative information (i.e., calculated treatment costs, number of pounds of increased deposition, how much additional saline water intrusion would result, quantity of additional water required, etc.) supporting your evaluation.

E. Your evaluation of the surface water sources currently available is acceptable. Please note that further evaluation of use of lower quality sources, including the Grove Land Reservoir and Stormwater Treatment Area, may be required in the future as a permit condition. [Section 2.3 (a, e, f, g, h), section 3.7, A.H.]

F. Please provide proposed well casing diameter, cased depth, total depth, pump capacity (gpm) and type, and flow measurement method (i.e., flow meter or alternative method) for all wells proposed. As discussed, we understand this may change during design & construction; however, we will update to final construction specs at that time. [Section 2.3 (a, d), A.H.]

G. Please clarify the construction dewatering request including the amounts, location, schedule, duration, and routing for each dewatering activity. [Section 2.3 (a, f, g, h), section 3.7, A.H.]

H. What is the total irrigated area associated with the power plant (and corresponding to requested 20 gpm irrigation water use)? [Section 2.3 (a), A.H.]

I. Please provide more detail on process water use and efficiency and conservation, including:

- 1) What are the operating parameters for the cooling tower, that is, the estimated TDS for makeup water and the TDS threshold for discharge or blowdown.
- 2) Please provide your analysis for determining the five cycles of concentration (water use efficiency in the cooling tower). Please consider the feasibility of increasing the number of cycles. [Section 2.2, 2.3 (a), A.H.]

### **3. INDIAN RIVER COUNTY (IRC)**

(Advisory) Staff acknowledges that FPL is working with the County on an impact fee issue that is subject to the FPL/IRC franchise agreement and on a future ILA regarding

special emergency services. It is staff's understanding that these issues will be addressed by mutual agreement prior to commencement of project construction.

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The applicant and its representatives have coordinated with Indian River County Traffic Engineering and submitted a traffic impact study. Based on that study, Traffic Engineering and the Public Works Director have determined that an eastbound right turn lane on SR 60 at the Main Project Entrance is required. That required improvement needs to be reflected in a revised application section 5.7.2, current page 5-18. Section 6.9.1 (current page 6-20) and possibly other figures and/or sections need to be updated accordingly.

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1) Section 3.2.8.3 Medical Facilities: The application states "There are nine hospitals within 30 miles of the Site." A MapQuest search for road miles, with a starting point at the Main Project Road/SR 60 entrance, yields the following:

- Indian River Medical Center is 25.2 miles
- Sebastian River Medical Center is 34.1 miles
- Lawnwood Regional Medical Center is 35.9 miles
- Raulerson Hospital is 42.2 miles
- Florida Hospital Kissimmee is 66.3 miles

It appears that the section needs to be revised accordingly. With respect to Indian River County Fire Rescue Station 7, the mileage appears accurate.

2) (Advisory) Staff agrees with FPL attorney Michael Tammarro's email to Indian River County staff dated September 30, 2015 wherein he suggests: 1) a conference call with Indian River County risk management representative and 2) a future ILA (inter-local agreement) for reimbursement related to special emergency services.

C. Utility Services/Water Supply (Utility Services Director Vincent Burke: 772-226-1830)

1) Figure 1 under Appendix 10.9 should identify "Indian River County".

2) Figure 4.5-1, it appears the water balance from the cooling tower may be a typographical error (466000).

3) Wastewater from the water treatment system will be routed to the injection wells. As noted in the water balance on Figure 4.5-1, the peak short duration industrial wastewater sent to injection well from water plant is estimated

to be 8.68MGD when 11 MGD is being pulled from the UFA. This is very close to a single pass through scenario.

4) Sample flows for domestic sanitary uses are shown on 4-16; therefore, the industrial/process WW flows (aka water plant effluent) should also be noted in the body of the text as well (i.e. Average injection 1.92MGD, max month of 2.33MGD & 8.68MGD Peak).

5) Figure 8 under Appendix 10.9 should be extended to show the impacts of the 1-foot drawdown contour.

6) Also, if the 1-foot drawdown contour is to extend beyond the ECFS groundwater model, is it accurate to only use the subject model or should it be combined with the SEC model (which covers the east portion of Indian River County)?

7) When firing ULSD oil, when natural gas is not used, emissions of NOx will be controlled using water injection and SCR. How much additional water (process or treated) will be used in this effort?

8) "A supplemental SCA describing the solar facility layout, engineering design, drainage system, and construction specifications would be submitted prior to development of the future solar generation area of the Site." How much process/treated water, if any, will be used in the future solar panel array for cooling? If water will be used, will this future additional water be factored into the CUP allocation being requested now?

9) Cooling Towers

- Cooling tower bactericides used in controlling microbial growth in the draft cooling tower should be evaluated to take into account drift that may affect neighbors, cattle, drivers on SR60, and visitors to the Fort Drum conservation area.

- Cooling towers, evaporative condensers, and fluid coolers use a fan to move air through a recirculated water system. This allows a considerable amount of water vapor and sometimes droplets to be introduced into the surroundings, despite the presence of drift eliminators designed to limit droplet release. This water may be in the ideal temperature range for Legionnaires' disease bacteria (LDB) growth, 20°-50°C (68°- 122°F). Good maintenance is necessary, both to control LDB growth and for effective operation. Does the report address either of these issues?

- OCEC Unit 1 will utilize water from the UFA, with the expected water quality resulting in deposition ranging between 2.6 and 6 kg/ha/month within 2,000 meters of the cooling towers. These values are within the range of natural background deposition and are not anticipated to result in any adverse impacts to vegetation in the vicinity. Are these figures based on virgin process water or 5th cycle concentration?

10) If a regional WW facility becomes available at the OCEC, should connection of the facility to domestic WW be a condition of the certification/permit?

11) Have OCEC's engineers looked at the feasibility of going to a "zero liquid discharge" system for the RO/NF concentrate (Water plant wastewater) such as the anion exchange system in use at Palm Coast Utilities?

12) Section 5.3: What is the age of existing 10" artesian well? Please confirm the casing is in good shape and that there are no lateral leaks of artesian water.

13) Section 5.3.1 states "Dewatering of the surficial aquifer will have no adverse impact on water levels or water supplies in the Upper Floridan Aquifer because the two aquifer systems are hydrologically separated by almost 300 feet of a clay-rich confining unit. What effect, if any, will the "dewatering of the SAS" have on the Fort Drum Marsh Conservation Area? As noted, the SJRWMD's Fort Drum Marsh Conservation Area is located adjacent to the Site, on the eastern boundary.

14) Section 6.8 should list IRC Utilities which has 1 MGD reuse available now. Transmission logistics from IRC to OCEC remain (to be determined).

15) Report states "Additionally, using groundwater with higher chloride concentrations could reduce acceptable cooling tower cycles of concentration which in turn would increase the amount of groundwater withdrawals required for makeup and increase the discharge rate to the injection wells." Agreed, but additional process treatment technologies exist that can lessen chloride concentrations prior to cooling tower use. Has use of such technologies been considered?

D. Planning (Community Development Director Stan Boling, AICP 772-226-1253)

There are no planning-related issues with respect to the subject certification application.

**From:** [Callie Register](#)  
**To:** [Seiler, Ann](#)  
**Cc:** ["Colios, Thomas"](#); [Karen Ferguson](#); [Mary Ellen Winkler](#); [Richard Burklew](#); [Patricia Renish](#)  
**Subject:** SJRWMD Completeness Review for FPL - Okeechobee Clean Energy Center Application  
**Date:** Monday, October 26, 2015 12:43:24 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)

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Ms. Seiler,

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[Section 2.2, 2.3 (a), A.H.]

Callie Register, P.E.  
Hydrologist PG/PE  
Regulatory, Engineering and Environmental Services  
St. Johns River Water Management District  
Palm Bay Service Center  
525 Community College Parkway, S.E. • Palm Bay, FL 32909  
Office: (321) 473-1328 • Cell: (321) 863-0011  
Email: [cregister@sjrwmd.com](mailto:cregister@sjrwmd.com)  
Website: [floridaswater.com](http://floridaswater.com)  
Connect with us: [Newsletter](#), [Facebook](#), [Twitter](#), [YouTube](#)



[floridaswater.com/epermitting](http://floridaswater.com/epermitting)

We value your opinion. Please take a few minutes to share your comments on the service you received from the District by clicking this [link](#)

#### Notices

- Emails to and from the St. Johns River Water Management District are archived and, unless exempt or confidential by law, are subject to being made available to the public upon request. Users should not have an expectation of confidentiality or privacy.
- Individuals lobbying the District must be registered as lobbyists (§112.3261, Florida Statutes). Details, applicability and the registration form are available at <http://floridaswater.com/lobbyist>.

10/26/15

Dept. of Environmental Protection  
Siting Coordination Office

INDIAN RIVER COUNTY  
COMMUNITY DEVELOPMENT DEPARTMENT  
1801 27th Street, Vero Beach FL 32960  
772-226-1237 / 772-978-1806 fax  
[www.ircgov.com](http://www.ircgov.com)

October 21, 2015

Ann Seiler  
Florida Department of Environmental Protection  
Siting Coordination Office  
2600 Blainstone Road, MS 5500  
Tallahassee, FL 32399-2400

RE: Indian River County Staff Completeness Review Comments on Site Certification  
Application – FPL Okeechobee Clean Energy Center (PA15-58)

Dear Ms. Seiler:

Indian River County staff appreciates the opportunity to provide completeness and information-related comments on the subject powerplant application. Staff also acknowledges diligent efforts by FPL representatives to coordinate multiple issues with county staff.

The subject powerplant facility is proposed to be located in northeastern Okeechobee County near the Okeechobee/Indian River County line, and will be accessed solely through Indian River County to SR 60. Impacts will occur during project construction and operation. Indian River County staff have reviewed the FPL site certification application submitted September 25, 2015 and offer the following comments.

**Traffic** (Public Works Director Chris Mora, P.E.: 772-226-1234)

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Again, Indian River County staff appreciates the opportunity to review and comment. If you have any questions, please do not hesitate to contact me at (772) 226-1253.

Sincerely,



Stan Boling, AICP  
Community Development Director, Indian River County

cc: Board of County Commissioners (via e-mail)  
Joe Baird, County Administrator (via e-mail)  
Mike Zito, Assistant County Administrator (via e-mail)  
Dylan Reingold, County Attorney (via e-mail)  
Bill DeBraal, Deputy County Attorney (via e-mail)  
Jason Brown (via e-mail)  
Vincent Burke, P.E. (via e-mail)  
Arjuna Weragoda, P.E. (via e-mail)  
Eric Charest (via e-mail)  
Chris Mora, P.E. (via e-mail)  
Richard Szpyrka, P.E. (via e-mail)  
Jeanne Bresett (via e-mail)  
John King (via e-mail)  
Brian Burkeen (via e-mail)  
Roland M. DeBlois, AICP (via e-mail)  
John W. McCoy, AICP (via e-mail)  
Sasan Rohani, AICP (via e-mail)  
Phil Matson, AICP (via e-mail)  
Cheryl Dunn, Department of Health (via e-mail)  
Bill Royce, Okeechobee County Planning (via e-mail)  
Mike Busha, Treasure Coast Regional Planning Council (via e-mail)