

## EXHIBIT 2



# Florida Department of Environmental Protection

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TO: Toni Sturtevant, OGC  
THROUGH: Mike Halpin, Siting Coordination Office Administrator  
FROM: Cindy Mulkey, SCO  
DATE: June 4, 2010  
SUBJECT: FPL Turkey Point 6 & 7 SCA Third Completeness Determination (Plant)

Pursuant to § 403.5252, Florida Statutes, the Department of Environmental Protection (DEP), after consulting with the affected agencies, has determined that the portion of the Florida Power & Light (FPL) Turkey Point Units 6 & 7 Nuclear Plant site certification application (SCA) concerning the plant and associated facilities other than the transmission lines is not complete.

The following agencies have found the plant portion of the FPL Turkey Point 6 & 7 SCA to be complete:

1. Department of Community Affairs
2. Department of Transportation
3. Fish and Wildlife Conservation Commission
4. City of Doral
5. City of Homestead

The following agencies have identified the need for additional information:

1. South Florida Regional Planning Council
2. South Florida Water Management District
3. Miami Dade County
4. City of Miami
5. Department of Environmental Protection

Agencies' comments/questions (other than DEP's) are attached "*as received*" by the Department. The Department notes that some of the agencies' recommended completeness issues/questions appear to go beyond the scope of the plant-side completeness review. The Department further notes that the City of Miami has requested information specifically related to the transmission

line portion of the SCA. For this reason the Department does not recommend the inclusion of the City of Miami's item G in this determination.

The following items represent requests for additional or clarifying information and comments from the DEP Southeast District (SED) Office, and the DEP Office of Coastal and Aquatic Managed Areas (CAMA). Questions for which a satisfactory answer has been received and for which there are no further comments have been omitted.

## **I. DEP SED WATERSHED MANAGEMENT AND PLANNING**

### **2FDEP-I-C-4: Radial Collector Wells**

FPL notes that they are still working with the SFWMD and the Department to evaluate the potential impact of the construction dewatering and radial collector well operation and the results will be provided with the second set of responses (Part B Submittal) by July 15, 2010. Until the Part B Submittal is received and reviewed, concerns still remain regarding unknowns including but not limited to possible impacts to the Bay including the seabed, seagrasses and salinity. The reliability of the well to produce the water at a volume and quality needed for the facility will remain speculative until it is in production. This is a significant unknown and thus a risk for the facility, public and the environment.

#### **New Question: FPL –Owned Fill Source**

In an amendment to the Site Certification Application submitted in May 2010, FPL has suspended pursuit of local approvals for the FPL-owned fill source site. With that being said, how will FPL obtain the required amount of fill for the project?

## **II. DEP SED ENVIRONMENTAL RESOURCE PERMITTING**

### **A. Drainage/Engineering**

**FDEP-II-A-1:** As a proposed post-certification requirement prior to construction, it will be necessary for FPL to demonstrate that all runoff from Units 6 & 7 and associated impervious areas will be treated and directed to and contained within the industrial wastewater facility (Cooling Canal System).

**DEP Comment:** DEP is modifying the above proposed post-certification requirement as shown in strikethrough/underline.

**FDEP-II-A-12:** As a proposed post-certification requirement prior to excavation, FPL will be required to perform an appropriate environmental site investigation for the fill area. In the event any potential waste disposal areas and/or contaminated soils are identified during the site investigation or encountered during construction activities, FPL will be required to notify and will coordinate closely with FDEP and DERM for a specific plan for handling of any such material. There may be additional specific requirements conditioned for this part of the project.

**DEP Comment:** FPL has amended the SCA to remove the FPL-owned fill source. As a proposed post-certification requirement, FPL shall notify the DEP of its selection(s) of the fill source(s). FPL shall demonstrate that imported fill materials to be deposited on site is free of contaminants so as to know adversely impact ground water and/or surface water onsite or offsite.

**III. DEP OFFICE OF COASTAL AND AQUATIC MANAGED AREAS (CAMA)**

Part of the proposed project is located within the boundaries of Biscayne Bay Aquatic Preserve, as described in Chapter 258.397 Florida Statute (F.S.) and Chapter 18-18 Florida Administrative Code (F.A.C.) and is located in Miami-Dade County.

The Biscayne Bay Aquatic Preserve (BBAP) was established to preserve Biscayne Bay in an essentially natural condition so that its biological and aesthetic values may endure for the enjoyment of future generations. Preservation and promotion of seagrass habitat is specifically named in the ‘Intent’ of the Biscayne Bay Aquatic Preserve Rule, Paragraph 18-18.001(f), F.A.C. Furthermore, it was the intent of the Legislature upon designating and establishing Biscayne Bay an aquatic preserve, including Card Sound, “...that Biscayne Bay be preserved in an essentially natural condition so that its biological and aesthetic values may endure for the enjoyment of future generations” Chapter 258.397, F.S.

The project is located in the waters of the BBAP, which is a Class III Outstanding Florida Waters, pursuant to Rule 62-302.700(9)(h)5 & 6. This rule states, “It shall be the Department [of Environmental Protection] policy to afford the highest protection to Outstanding Florida Waters and Outstanding National Resource Waters.” It defines this as “no degradation of water quality.”

BBAP staff has identified several areas of the FPL Site Certification Application that lack sufficient data and/or pertinent information to substantiate claims that there will be little or no adverse impacts to the BBAP, thereby prohibiting any further evaluation of the proposed activities until such information can be obtained. In reviewing the Site Certification Application for completeness, staff cited authority in Chapter 18-18 F.A.C. and 258.397 F.S. that established the Biscayne Bay Aquatic Preserve, Chapter 18-21 F.A.C. that rules Sovereignty Submerged Lands Management as well as the Outstanding Florida Water designation pursuant to rule 62-302.700(9)(h) 5 and 6. Staff also employed Environmental Control 403.509(3)(e) and (f) F.S. which states that “...In determining whether an application should be approved in whole, approved with modifications or conditions, or denied, the board, or secretary when applicable, shall consider whether, and the extent to which, the location, construction, and operation of the electrical power plant will... (e) Effect a reasonable balance between the need for the facility as established pursuant to s. 403.519 and the impacts upon air and water quality, fish and wildlife, water resources, and other natural resources of the state resulting from the construction and operation of the facility” as well as “... (f) Minimize, through the use of reasonable and available methods, the adverse effects on human health, the environment, and the ecology of the land and its wildlife and the ecology of state waters and their aquatic life.”

Each of the questions or requests that follow is categorized under Groundwater Issues, and Surface Water and Benthic Resources and can be qualified by the authority cited above.

**Groundwater Issues**

Concerns still remain regarding unknowns related to the Radial Collector Well (RCW) System including, but not limited to: possible impacts to the Bay including benthic flora and fauna; salinity; and possible impacts of the radial collector wells on the freshwater input to the bay, flora and fauna. These issues and concerns will require further review and discussion. Notably, questions related to 2FDEP-VI (CAMA)-1, -2, -4, -5, -6, -7 remain. We look forward to

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receiving the additional information to be sent with July 15, 2010 response to better understand these issues and may have further questions after reviewing the new information.

**New Groundwater Issues requests/questions relating to FPL’s responses:**

**2FDEP-VI(CAMA)-1:** The seepage meter data provided (see excerpt below) indicates that the bay bottom experiences a net loss of freshwater flow, as the “All Days No Pumping” scenario produces a higher flow rate than the “All Days Active Pumping” at all but two meters. Please provide the field data for the “7 day APT Test” and “All Days Active Pumping” as well as all pump tests conducted within the footprint of the proposed units (PW-6U, PW-7U, PW-6L, and PW-7L) including Aqua Trolls data logger results from all observation wells, water quality analyses, and field measurements (i.e., depth to water readings, temperature, conductivity, flow rates, etc.).

**Per 2FDEP-VI(CAMA)-2:** Please provide further information regarding the operation of the RCWs, including the frequency at which the following readings will be collected; pumped water volume rates, water elevations inside the caissons, and water sample parameters, including a map to scale showing the layout of the RCW laterals and the Biscayne Bay Aquatic Preserve boundaries including the proposed coordinates of the position of the RCWs and the projected cone of influence of the full-scale operation of the RCWs, and a definitive depth at which the laterals will be placed as well as their length and diameter.

Seepage Meter Data Provided:

		Meter Number											
		11 (S. Array)	12 (S. Array)	1	3	7	2	4	8	5	6	9	10
Distance from Pump		230'	230'	265'	255'	255'	290'	280'	280'	305'	330'	500'	900'
7 Day APT Test: Pumping	Minimum	-0.0063	0.0103	0.0017	-0.0013	0.0066	0.0084	-0.0025	0.0072	0.0002	0.0000	0.0016	-0.0035
	Maximum	0.0124	0.0314	0.0173	0.0169	0.0305	0.0276	0.0176	0.0251	0.0195	0.0052	0.0047	0.0055
	Average	0.0081	0.0163	0.0051	0.0027	0.0236	0.0167	0.0056	0.0170	0.0078	0.0015	0.0029	0.0019
2 Day Post APT Test: Not Pumping	Minimum	0.0081	0.0131	-0.0002	0.0002	0.0202	0.0220	0.0069	0.0235	0.0181	0.0006	0.0037	-0.0014
	Maximum	0.0143	0.0174	0.0049	0.0009	0.0256	0.0267	0.0090	0.0305	0.0245	0.0055	0.0055	0.0067
	Average	0.0112	0.0153	0.0024	0.0006	0.0229	0.0243	0.0079	0.0270	0.0213	0.0030	0.0046	0.0026
All Days Active Pumping (n=14 )	Minimum	-0.0063	0.0095	-0.0017	-0.0013	0.0066	0.0059	-0.0025	0.0072	0.0002	0.0000	0.0016	-0.0035
	Maximum	0.0132	0.0314	0.0173	0.0214	0.0374	0.0276	0.0176	0.0316	0.0195	0.0055	0.0100	0.0115
	Average	0.0085	0.0165	0.0044	0.0093	0.0253	0.0153	0.0060	0.0198	0.0064	0.0023	0.0046	0.0039
All Days No Pumping (n=12 )	Minimum	0.0025	0.0087	-0.0015	0.0002	0.0136	0.0069	0.0025	0.0018	-0.0018	-0.0002	0.0019	-0.0014
	Maximum	0.0146	0.0431	0.0182	0.0227	0.0581	0.0267	0.0126	0.0305	0.0245	0.0097	0.0084	0.0104
	Average	0.0086	0.0210	0.0051	0.0105	0.0288	0.0167	0.0055	0.0221	0.0041	0.0041	0.0047	0.0056

**2FDEP-VI (CAMA)-4:** Documentation for the Salinity Impact Analysis is incomplete. Please provide published references for the use of an equilibrium mixing chamber model in estuarine environments. Please provide published references and/or supporting documentation for the equations applied and assumptions made for the SFWMD B-63b Mixing Chamber Analysis model (steady state conditions are assumed). Please include published references and/or supporting documentation for the adjustments used to estimate the input parameters provided in the Scenario 1 and Scenario 2 Table of the Salinity Impact Analysis.

**2FDEP-VI (CAMA)-5:** This question was not adequately addressed in FPL's response to CAMA's submission on December 15, 2009. The SFWMD-B-63b spreadsheet does not appear to produce the exact values displayed in the "Scenario 1 & 2" table, which were used to obtain the linear regression equations that predict the 1 square mile and 4 square mile impact. It is stated that "Within ½ mile of the intake (blue line), the RCWs have a slight moderating effect on the salinity (i.e., low salinities are not as low and high salinities are not as high)," but then it is stated that "At 1.0 mile from the intake (green line), there is no measurable impact from the RCWs. This is indicated in the figure by the fact that the green and black lines separate only in a few locations. CAMA staff look forward to clarification related to this discrepancy, and given that the Biscayne Bay Coastal Wetlands projects (part of the Comprehensive Everglades Restoration Plan) seeks to do just the opposite by returning to lower salinities along the shoreline where they currently are variable depending on season, tide and distance from shore, please explain how moderating salinity in any way helps to meet restoration goals, maintains the Biscayne Bay Aquatic Preserve in an essentially natural condition and does not affect salinity values.

**2FDEP-VI (CAMA)-6:** FPL's response to this question states that "The ocean is the ultimate source of water flowing into the Bay to replace water withdrawn by the radial collector wells. Operation of the radial collector wells does not change precipitation, evaporation or freshwater inflow from upland areas. Therefore, the ocean salinity concentration of 35 ppt should reflect the ocean salinity. It should not represent the seasonally variable salinity within Biscayne Bay." While there is a semi-diurnal tidal phase in Biscayne Bay that is influenced by the ocean, the water that resides in Biscayne Bay in any one basin at any one time is greatly affected by groundwater inflow from the bay bottom and tributary discharges, wind patterns and other variables. Salinities are typically lower along the shoreline, between a few hundred meters to 1000m and during the wet season (Langevin, 2001). The referenced county water quality site, BB41, is a surface water sample site approximately 4 miles west of Turkey Point peninsula and does not reflect a near-shore salinity regime, which fluctuates seasonally. It also does not reflect the salinity at or near the bay bottom, the depths most likely to be impacted by operation of the RCWs. Please provide more accurate data for salinity in the vicinity (such as data collected on a continual basis and particularly in the vicinity of the Turkey Point) and explain how this affects the results possible impacts by the RCWs. Continuous sampling results with a frequent time-step obtained from the bay bottom are most appropriate in developing a realistic salinity impact analysis, and a bay bottom depth profile represents the depth of most probable impact by the RCWs.

**Surface Water and Benthic Resources**

**2FDEP-VI (CAMA)-7:** FPL's response does not adequately address how benthic resources in the footprint of the RCWs and adjacent areas will not be significantly affected given the fact that at least 3% of the water will come from the Biscayne Aquifer, a source of freshwater inputs to the bay bottom, helping to support the benthic community. This may be better addressed after FPL's July 15, 2010 response to 2FDEP-VI (CAMA)-2 is provided.

**Conditions of Certification**

CAMA reiterates the need for the following conditions (included in the Department's January 13, 2010 2<sup>nd</sup> Completeness Determination) to be considered in future review of this application.

1. An adequate baseline survey of seagrass cover and benthic fauna in the vicinity of the proposed construction and operation of the radial collector wells and the vicinity of the on-site plant where reuse water would be used, to be conducted within a certain amount of time before the onset of construction-related activities. FP&L will work with DEP staff to design monitoring studies to accomplish these surveys. The monitoring should occur sufficiently prior to and after the beginning of activities at the sites, dates to be determined by FP&L and DEP staff. More information related to the lateral extent of the radial collector wells needs to be provided during this phase also.
2. All dewatering/construction activities happening on the upland may impact the waters of the cooling canal system in that the byproduct will be placed in the system. Given that the cooling canal system has a tidally-connected influence on the groundwater, it can be assumed based on existing knowledge that groundwater moves through the aquifer and into the surface waters of the bay. Best management practices and/or other ways to ensure that artifacts of the dewatering and construction process should be followed to protect the surface waters of the Biscayne Bay Aquatic Preserve.
3. FP&L will provide funds to hire an independent contractor, selected by FDEP, to study the karst features at and adjacent to the radial well collector sites and construction site to determine the feasibility of karst fractures occurring related to their activities. The report will also include recommendations to avoid any fractures during operation and construction as well as proposed mitigation measures in the event of a fracture that impacts benthic communities in the area.
4. FP&L will monitor the velocity of water intake from their collector wells utilizing permanently installed equipment to verify that they are not exceeding the proposed velocities submitted in the application. In addition FP&L will put in place monitoring to verify that no entrainment of vertebrate or invertebrate species is occurring due to their radial collector wells. If entrainment is occurring a remediation plan and mitigation measures will be adopted to eliminate, minimize, or mitigate for this entrainment will be adopted and followed.
5. FP&L will work with CAMA and DEP/ERP to monitor and ensure that no further impacts to the Biscayne Bay Aquatic Preserve will occur from the operation and/or construction of the new units.