PMTurkeyCOLPEm Resource

From: Orthen, Richard [Richard.Orthen@fpl.com]
Sent: Tuesday, March 26, 2013 8:33 AM
To: Williamson, Alicia; Matthews, David; Nguyen, John-Chau; Maher, William; Comar, Manny; Hoeg, Tim; McCree, Victor; Terry, Tomeka
Subject: FPL Letter L-2013-098 Dated 03-26-2013: Supplemental Response to NRC RAI Letter 120329 (eRAI 6354 Rev. 0)
Attachments: L-2013-098 Dated 03-26-2013 RAI 6354 2.3.1-3 SUP Response.pdf

Follow Up Flag: Follow up
Due By: Monday, April 01, 2013 8:00 AM
Flag Status: Flagged

Re: Florida Power & Light Company
Proposed Turkey Point Units 6 and 7
Docket Nos. 52-040 and 52-041
Supplemental Response to NRC Request for Additional Information Letter 120329
(eRAI 6354 Rev. 0) Related to ESRP Section 2.3.1 - Hydrology

Reference:

FPL Letter L-2012-337 to NRC dated October 17, 2012, Response to NRC Request for Additional Information Letter 120329 (eRAI 6354 Rev. 0) Related to ESRP Section 2.3.1 - Hydrology

Florida Power & Light Company (FPL) provides, as an attachment to this letter, its supplemental response to the Nuclear Regulatory Commission's (NRC) Request for Additional Information (RAI) EIS 2.3.1-3 provided in the referenced letter. The Turkey Point Units 6 & 7 Combined License Application (COLA) Environmental Report (ER) will not be revised to include this supplemental response, as the response confirms the appropriateness of information already contained in the COLA ER.

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From: Orthen, Richard

Created By: Richard.Orthen@fpl.com

Recipients:
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L-2013-098
10 CFR 52.3

March 26, 2013

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555-0001

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If you have any questions, or need additional information, please contact me at 561-691-7490.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on March 26, 2013.

Sincerely,

William Maher
Senior Licensing Director – New Nuclear Projects

WDM/RFO

Attachment: Supplemental Response to EIS 2.3.1-3 (eRAI 6354 Rev. 0)

cc:
PTN 6 & 7 Project Manager, AP1000 Projects Branch 1, USNRC DNRL/NRO
Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant 3 & 4

On August 24, 2012, FPL sent letters to eight regional organizations requesting information on existing, new, or emerging groundwater and surface water models potentially relevant to informing Turkey Point Units 6 & 7 project operations. The organizations contacted were:

- South Florida Water Management District (SFWMD)
- Florida Department of Environmental Protection (FDEP)
- U.S. Army Corps of Engineers (USACE)
- Biscayne National Park (BNP)
- Everglades National Park (ENP)
- Miami-Dade County
- U.S. Geological Survey (USGS)
- Miami-Dade County Water and Sewer Department (MDWASD)

FPL attempted to contact each organization to confirm receipt of, and to answer questions about, the information request; four organizations ultimately responded (BNP, FDEP, SFWMD, and USACE). The responses generally named reports or studies without providing much technical detail about those reports or studies. FPL considered the information provided by the respondents (including references) to complete its relevance review of the cited models, reports, and studies. Refer to Table 1 for information about the 17 specific models identified by the respondents and reviewed by FPL.

FPL's review of this information showed that some models had no relevance to the Turkey Point Units 6 & 7 project although most included the Turkey Point peninsula in the model's domain. Only one model had actually simulated the Turkey Point Units 6 & 7 project (i.e., the 'Biscayne Bay Simulation Model'). The Biscayne Bay Simulation Model focuses on potential salinity changes in Biscayne Bay surface water as a result of operating the radial collector wells. However, the model does not consider drawdown in the aquifer, changes in salinity in the aquifer, or movement of the saltwater front as a result of operating the radial collector wells. The results of this model are consistent with the control volume simulations developed by FPL to analyze changes to Biscayne Bay salinity.

Based on this information review, FPL concludes that the groundwater modeling represented in the Turkey Point Units 6 & 7 Combined License Application (COLA) Environmental Report (ER) remains appropriate.

Table 1. Groundwater (GW) and Surface Water (SW) Models Identified by Responding Organizations

Modeled By	Model Name	Study Completed	Turkey Point Peninsula In Model Domain	RCW Operation Simulated	Variable Density	Type	Main Objective	Simulator	Identified By
BNP	Biscayne Bay Simulation Model (BBSM)	●	●	●	●	SW	The BBSM has been traditionally employed to evaluate restoration alternatives for Biscayne Bay that alter freshwater inflow and investigate connectivity and residence times within the Bay. The BBSM has recently been employed to simulate the impact of the operation of FPLs proposed radial collector wells.	Cafe3D, modified	BNP
SFWMD	Lower East Coast Subregional (LECsR) Model	●	●	○	○	GW	General purpose SFWMD model.	MODFLOW	SFWMD
SFWMD	Refined Version of LECsR	○	●	○	○	GW	General purpose SFWMD model.	MODFLOW	SFWMD
SFWMD	South Florida Water Management Model (SFWMM)	●	●	○	○	GW SW	Regional-scale tool for addressing water management issues specific to South Florida.	Proprietary integrated groundwater-surface water model	SFWMD
SFWMD	Regional Simulation Model (RSM)	●	●	○	○	GW SW	Regional-scale tool for addressing water management issues specific to South Florida.	Proprietary integrated groundwater-surface water model	SFWMD

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USGS	FTLOADDS Integrated Surface Water/Groundwater Model	●	●	○	●	GW SW	To simulate and quantify the influence of factors contributing to hypersaline conditions in Biscayne Bay.	FTLOADDS (SWIFT2D + SEAWAT)	SFWMD BNP
USGS	Simulation of Ground-Water Discharge to Biscayne Bay, Southeastern Florida (2001)	●	●	○	●	GW	To simulate variable-density ground-water discharge to Biscayne Bay, and to estimate submarine ground-water discharge to Biscayne Bay.	SEAWAT	SFWMD
USGS	Numerical simulation of Integrated Surface Water/Groundwater Flow and Solute Transport in the Southern Everglades, Florida	●	○	○	●	GW SW	To evaluate the effects of the Comprehensive Everglades Resto-ration Plan (CERP) on future hydrologic conditions (heads, flows, and salinities) in the coastal wetlands and adjacent Florida Bay estuary.	SWIFT2D / SEAWAT	SFWMD
USGS	Groundwater Discharge to Biscayne Bay (2003)	●	●	○	●	GW	To simulate variable-density ground-water discharge to Biscayne Bay, and to estimate submarine ground-water discharge to Biscayne Bay.	SEAWAT	SFWMD

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USGS	Effect of Hypersaline Cooling Canals on Aquifer Salinization	●	●	○	●	GW	Identifying the important physical processes and controls on density-driven convection and aquifer salinization under a variety of hydraulic conductivity configurations.	SEAWAT	SFWMD
USGS	Sea Level Impacts on Groundwater	●	●	○	●	GW SW	The model was created to evaluate the combined effects of sea-level rise and CERP implementation using a variety of scenarios.	FTLOADDS (SWIFT2D + SEAWAT)	SFWMD
USGS	Impact of Sea Level Rise on Groundwater Salinity in Coastal Community of South Florida	●	○	○	●	GW SW	Model simulations were conducted to determine the groundwater discharge to Biscayne Bay.	MODHMS	SFWMD
Miami-Dade County	USGS Modeling for MDWASD	○	●	○	●	GW SW	General purpose model used to evaluate several scenarios of interest to Miami-Dade County regulatory agencies.	MODFLOW + SWR1	SFWMD
FDEP	South Dade Landfill	●	○	○	○	GW	Unclear; possibly to evaluate hydrogeologic conditions at the South Dade Landfill.	MODFLOW	FDEP

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FDEP	MDWASD South District Wastewater Treatment Facility Injection Wells Model	●	●	⭘	●	GW	To test hypotheses that included injection well construction problems as well as geological heterogeneity as being responsible for the observed ammonia plume configurations.	SEAWAT	FDEP
USACE	Adaptive Hydraulics (ADH) Model	⭘	■	⭘	■	GW SW	Primary objective appears to be establishment of salinity goals for habitat restoration in Florida Bay and Biscayne Bay.	ADH	USACE BNP
Earthfx	Atlantic Civil (ACI) Model	●	●	⭘	●	GW	To gain approval for expansion of ACIs quarry west of the Turkey Point cooling canal system.	SEAWAT	USACE

Columns 3 – 6 Cell Designations: ● – *Yes*; ⭘ – *No*; ■ – *Relevant Information Not Available*
Entity Designations: SFWMD – *South Florida Water Management District*; USGS – *United States Geological Survey*; BNP – *Biscayne National Park*; MDWASD – *Miami-Dade Water and Sewer Department*; FDEP – *Florida Department of Environmental Protection*; USACE – *United States Army Corps of Engineers*