Progress Energy

Serial: NPD-NRC-2010-008 10CFR52.79
January 29, 2010

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

LEVY NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 52-029 AND 52-030
SUPPLEMENT 1 TO RESPONSE TO SUPPLEMENTAL REQUEST FOR ADDITIONAL INFORMATION REGARDING THE ENVIRONMENTAL REVIEW

References:
1. Letter from Douglas Bruner (NRC) to James Scarola (PEF), dated September 25, 2009, "Supplemental Request for Additional Information Regarding the Environmental Review of the Combined License Application for the Levy Nuclear Power Plant, Units 1 and 2"
2. Letter from John Elnitsky (PEF) to U. S. Nuclear Regulatory Commission (NRC), dated December 14, 2009, "Response to Supplemental Request for Additional Information Regarding the Environmental Review", Serial: NPD-NRC-2009-242

Ladies and Gentlemen:

Progress Energy Florida, Inc. (PEF) hereby submits a supplemental response to the Nuclear Regulatory Commission's (NRC) request for additional information provided in Reference 1.

A supplemental response to one of the NRC questions (5.2.2-4) is addressed in Enclosure 1. Enclosure 2 provides a pre-flight report for the files included on the attached CD; these files have been prepared in accordance with NRC electronic submittal guidance.

If you have any further questions, or need additional information, please contact Bob Kitchen at (919) 546-6992, or me at (727) 820-4481.

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

Executed on January 29, 2010.

Sincerely,

John Elnitsky
Vice President
Nuclear Plant Development

Enclosures/Attachment

Progress Energy Florida, Inc.
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NRO

cc : U.S. NRC Region II, Regional Administrator (without attached CD)
Mr. Brian C. Anderson, U.S. NRC Project Manager (without attached CD)
Mr. Douglas Bruner, U.S. NRC Environmental Project Manager (3 copies of attached CD)

Levy Nuclear Plant Units 1 and 2
Supplement 1 to Response to NRC Supplemental Request for Additional Information Regarding the Environmental Review for the Combined License Application, Dated September 25, 2009

NRC RAI #	Progress Energy RAI #	Progress Energy Response
5.2.2-4	L-0561 & L-0688	December 14, 2009; NPD-NRC-2009-242 & Supplemental response enclosed – see following pages
9.3-2	L-0562	December 14, 2009; NPD-NRC-2009-242
9.3-3	L-0563	December 14, 2009; NPD-NRC-2009-242
9.3-4	L-0564	December 14, 2009; NPD-NRC-2009-242
9.3-5	L-0565	December 14, 2009; NPD-NRC-2009-242
9.3-6	L-0566	December 14, 2009; NPD-NRC-2009-242
9.3-7	L-0567	December 14, 2009; NPD-NRC-2009-242
9.3-8	L-0568	December 14, 2009; NPD-NRC-2009-242
9.3-9	L-0569	December 14, 2009; NPD-NRC-2009-242
9.3-10	L-0570	December 14, 2009; NPD-NRC-2009-242
9.3-11	L-0571	December 14, 2009; NPD-NRC-2009-242
9.3-12	L-0572	December 14, 2009; NPD-NRC-2009-242
9.3-13	L-0573	December 14, 2009; NPD-NRC-2009-242
9.3-14	L-0574	December 14, 2009; NPD-NRC-2009-242
9.3-15	L-0575	December 14, 2009; NPD-NRC-2009-242
9.3-16	L-0576	December 14, 2009; NPD-NRC-2009-242
9.3-17	L-0577	December 14, 2009; NPD-NRC-2009-242
9.3-18	L-0578	December 14, 2009; NPD-NRC-2009-242
9.3-19	L-0579	December 14, 2009; NPD-NRC-2009-242
9.3-20	L-0580	December 14, 2009; NPD-NRC-2009-242
USACE-14	L-0581	December 14, 2009; NPD-NRC-2009-242

NRC Letter No.: ER-NRC

NRC Letter Date: September 25, 2009

NRC Review of Environmental Report

NRC RAI #: 5.2.2-4

Text of NRC RAI:

Provide calibrated DWRM2 TMR model results that considers local scale conditions and the goodness of fit between simulated and observed hydraulic heads in the vicinity of the LNP site.

The assessment of groundwater usage impacts in the ER is based on the Southwest Florida Water Management District (SWFWMD) District Wide Regulation Model, Version 2, with Telescopic Mesh Refinement (DWRM2 TMR), which uses basin and regional-scale hydraulic property distributions. In Supplement 3 Response to RAIs (Accession No: ML092240658), three modifications were made to the model to better represent the Levy Nuclear Plant (LNP) site conditions. Model results indicated a poor goodness of fit between simulated and observed hydraulic heads in the vicinity of the LNP site.

Calibrate the DWRM2 TMR model to reflect local scale conditions in order to improve the fit between simulated and observed hydraulic heads in the vicinity of the LNP site. Consider consulting with SWFWMD staff when doing this calibration.

Provide documentation of the DWRM2 TMR model modifications that are made and any consultations with SWFWMD staff regarding calibration of the local scale groundwater conditions. In addition, provide updated versions of all figures that were submitted in Supplement 3 Response to NRC RAI # 5.2.2-3 (Accession No: ML092240658) for results generated using the recalibrated groundwater model.

In the January 14, 2010 Conference Call, clarifications were requested to previously submitted RAI's: The supplemental information should provide the following:

Item 1: In PEF's July 29 2009 supplemental RAI response (PGN RAI#: L-0522- RAI response letter NPD-NRC-2009-166), simulation results were provided that quantified the incremental change in the discharge to 1) rivers and lakes and 2) Big King and Little King Springs attributed to LNP operations. This same information was not provided for the recalibrated model in the December 14 supplemental response (PGN RAI#: L-0561- RAI response letter NPD-NRC-2009-242). Please provide comparable estimates of flux for the recalibrated model.

Item 2: Please provide publication quality gray-scale and/or native files for the following figures for the recalibrated model:

PGN RAI#: L-0561- RAI response letter NPD-NRC-2009-242, Figure 2, TMR model grid and adjacent permitted users/springs

PGN RAI#: L-0561- RAI response letter NPD-NRC-2009-242, Figure 31, Simulated incremental SAS drawdown, 60 yrs at 1.58 mgd

PGN RAI#: L-0561- RAI response letter NPD-NRC-2009-242, Figure 17, Model water balance

PGN RAI#: L-0561- RAI response letter NPD-NRC-2009-242, Figure 30, Simulated incremental SAS drawdown, 1 yr at 1.58 mgd

PGN RAI ID #: L-0688

PGN Response to NRC RAI:

Refer to the response provided for U.S. Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) 5.2.2-4 (PGN RAI L-0561) submitted via Progress Energy Florida, Inc. (PEF) letter, Serial No. NPD-NRC-2009-242, dated December 14, 2009.

Item 1:

The following supplemental information regarding Item 1 above is provided.

Estimates of flux to and from rivers, lakes, and streams in the recalibrated model that are comparable to those provided in the July 29, 2009 supplemental RAI response (PGN RAI L-0522; PEF RAI response letter Serial No. NPD-NRC-2009-166) are provided in Table 1. As indicated in Table 1, the incremental change in discharge into the aquifer from rivers and lakes attributed to simulated Levy Nuclear Plant Units 1 and 2 (LNP) operations is less than 2 percent and from the aquifer is less than 3 percent. In addition, the incremental change in discharge from the aquifer to Big King and Little King Springs attributed to simulated Levy Nuclear Plant Units 1 and 2 (LNP) operations is 1 percent.

Table 1
Summary of Simulated River, Lake, and Spring Fluxes

	Without LNP Withdrawals		With LNP Withdrawals		Difference		Percent Difference	
Flux	Rivers and Lakes[a]	Springs	Rivers and Lakes[a]	Springs	Rivers and Lakes[a]	Springs	Rivers and Lakes[a]	Springs
Into Aquifer from:	30.0	NA	30.5	NA	0.5	NA	1.7%	NA
Out of Aquifer to:	16.8	5.22	16.4	5.17	-0.4	-0.05	-2.4%	-1%
Net[b]:	13.2 (in)	5.22 (out)	14.1 (in)	5.17 (out)	0.9 (in)	-0.05 (out)	6.8%	-1%

Notes:

All values are presented in million gallons per day (mgd).

a. River and lake fluxes were calculated by totalizing the flux in river cells used to represent upland lakes, Lake Rousseau, the Withlacoochee River, the bypass canal, and the Cross Florida Barge Canal (CFBC). Other river cells in the model used to represent coastal discharge south of the CFBC and wetlands were not included in the calculation.

b. Net flow into the aquifer is indicated by (in), net flow out of the aquifer is indicated by (out).

NA = not applicable

In summary, fluxes into the underlying aquifers from rivers and lakes are simulated to increase and fluxes out of the underlying aquifers into rivers, lakes, and springs are simulated to decrease with the addition of LNP withdrawals.

Item 2:

The requested figures in grayscale are provided as attachments to this RAI response (see pdf files on attached CD).

Native files for these figures will be provided in a separate transmittal via PEF Letter Serial No. NPD-NRC-2010-009.

Associated LNP COL Application Revisions:

No COLA revisions have been identified associated with this response.

Attachments/Enclosures:

The following figures are provided on the attached CD:

- FIGURE 2: Location of TMR Model Grid, TMR Model Adjacent Permitted User Withdrawal Points, and Nearby Springs
  [001_TM123_ Figure_2_TMR_model_grid_BW.pdf]
- FIGURE 17: Revised TMR Model Water Budget with LNP Withdrawing 1.58 mgd
  [002_TM123_ Figure_17_Model_water_balance_BW.pdf]
- FIGURE 30: Simulated Incremental SAS Drawdown and Wetlands; 1 year; 1.58 mgd
  [003_TM123_ Figure_30_Sim_incremental_SAS_drdn_1_yr_BW.pdf]
- FIGURE 31: Simulated Incremental SAS Drawdown and Wetlands; 60 year; 1.58 mgd
  [004_TM123_ Figure_31_Sim_incremental_SAS_drdn_60_yrs_BW.pdf]

LNP ER RAI JANUARY 2010 DISC PREFLIGHT REPORT

LNP ER RAI JAN 2010 DISC PREFLIGHT REPORT

This table serves as a pre-flight report for the LNP ER RAI JANUARY 2010 DISC submittal in support of the LNP COLA (Reference: RAI 5.2.4-4 (L-688) Attachments). The following files were checked for items related to pre-flight/electronic submittal acceptance. The results of the review are shown below. All files within this submittal are deemed compliant with the NRC electronic submittal checklist as noted below.

		Acceptance Review			Preflight Review		
Item #	File Name	Word Searchable? (Y/N)	Fast Web View? (Y/N)	Fonts Embedded? (Y/N)	Preflight (Pass/Fail)	Failure Reason (<300 ppi or unembedded fonts)	Comments
Black and White							
1	001_TM123_Figure_2_TMR_model_grid_BW.pdf	Y	Y	Y	PASS	N/A	N/A
2	002_TM123_Figure_17_Model_water_balance_BW.pdf	Y	Y	Y	PASS	N/A	N/A
3	003_TM123_Figure_30_Sim_incremental_SAS_drdn_1_yr_BW.pdf	Y	Y	Y	PASS	N/A	N/A
4	004_TM123_Figure_31_Sim_incremental_SAS_drdn_60_yrs_BW.pdf	Y	Y	Y	PASS	N/A	N/A

Report Prepared by: Ingrid Nordby/CH2M HILL (919) 875-4311