LevyCountyRAIsPEm Resource

From: Brian Anderson
Sent: Tuesday, May 26, 2009 10:37 AM
To: LevyCountyRAIsPEm Resource
Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 048 RELATED TO SRP SECTION 2.4.12 FOR THE LEVY COUNTY UNITS 1 AND 2 COMBINED LICENSE APPLICATION
Attachments: LNP-RAI-LTR-048.doc

Importance: High

Hearing Identifier: Levy_County_COL_eRAIs
Email Number: 49

Mail Envelope Properties (CB87FC66F95637428C5E0D066E756B6FC000219A8A)

Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 048 RELATED TO SRP SECTION 2.4.12 FOR THE LEVY COUNTY UNITS 1 AND 2 COMBINED LICENSE APPLICATION
Sent Date: 5/26/2009 10:36:56 AM
Received Date: 5/26/2009 10:36:59 AM
From: Brian Anderson

Created By: Brian.Anderson@nrc.gov

Recipients:
"LevyCountyRAIsPEm Resource" <LevyCountyRAIsPEm.Resource@nrc.gov>
Tracking Status: None

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Files	**Size**	**Date & Time**
MESSAGE	3	5/26/2009 10:36:59 AM
LNP-RAI-LTR-048.doc	74234	

Options
Priority: High
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

May 26, 2009

Mr. Garry Miller
General Manager, Nuclear Plant Development
Progress Energy Florida, Inc.
PO Box 1551
411 Fayetteville Street Mall
Raleigh, NC 27602

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 048 RELATED TO SRP SECTION 2.4.12 FOR THE LEVY COUNTY NUCLEAR PLANT, UNITS 1 and 2 COMBINED LICENSE APPLICATION

Dear Mr. Miller:

By letter dated July 28, 2008, as supplemented by a letter dated September 12, 2008, Progress Energy Florida, Inc. submitted its application to the U. S. Nuclear Regulatory Commission (NRC) for a combined license (COL) for two AP1000 advanced passive pressurized water reactors pursuant to 10 CFR Part 52. The NRC staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

To support the review schedule, you are requested to respond within 30 days of the date of this letter. If changes are needed to the final safety analysis report, the staff requests that the RAI response include the proposed wording changes.

If you have any questions or comments concerning this matter, you may contact me at 301-415-9967.

Sincerely,

/**RA**/

Brian C. Anderson, Lead Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-029
52-030

eRAI Tracking No. 2164

Enclosure:
Request for Additional Information

If you have any questions or comments concerning this matter, you may contact me at 301-415-9967.

Sincerely,

/**RA**/

Brian C. Anderson, Lead Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-029
52-030

eRAI Tracking No. 2164

Enclosure:
Request for Additional Information

Distribution:

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NRO-002

OFFICE	RHEB/BC	NWE1/PM	OGC	NWE1/L-PM
NAME	RRaione *	BAnderson *	JMartin*	BAnderson*
DATE	02/12/09	02/13/09	05/08/09	05/26/09

*Approval captured electronically in the electronic RAI system.

OFFICIAL RECORD COPY

Request for Additional Information
Levy County, Units 1 and 2
Progress Energy Florida, Inc.
Docket No. 52-029 and 52-030
SRP Section: 02.04.12 - Groundwater
Application Section: FSAR Section 2.4

QUESTIONS for Hydrologic Engineering Branch (RHEB)

02.04.12-1

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please include details of groundwater chemistry as it relates to transport properties of the subsurface.

02.04.12-2

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please provide details of plant water supply wells including the design of the wellfield and the projected impacts of pumping on transport pathways, surrounding surface waters, and adjacent offsite groundwater users.

02.04.12-3

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please provide detailed explanation for the difference in well densities shown in FSAR Figures 2.4.12-206 to 2.4.12-210.

02.04.12-4

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5,10 CFR 100.20(c)(3), 10 CFR 100.23(d), and 10 CFR 100.10(c) or 100.20(c), a complete description of the effects of groundwater levels and other hydrodynamic effects on the design bases of plant foundations and other SSC important to safety is needed. Please discuss LNP groundwater usage from the Upper Floridan Aquifer in relation to a basin or subbasin scale water balance and the projected impacts of pumping on groundwater elevations at the nuclear islands.

02.04.12-5

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please provide, in spreadsheet or similar format, the site groundwater elevation monitoring data (including the monitoring locations) and the available historical seasonal groundwater elevations in the vicinity of the LNP site.

02.04.12-6

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please clarify the description of groundwater discharge areas in the FSAR.

02.04.12-7

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and 10 CFR 100.10(c) or 100.20(c), please clarify the significance of vertical hydraulic gradients in relation to the selection of the most conservative plausible conceptual model for transport of radioactive liquid effluents in the subsurface.

02.04.12-8

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please clarify the interpretation of vertical groundwater gradients, with particular reference to (1) FSAR Revision 0, page 2.4-73, which states that the LNP site is “in a transitional area between upward and downward vertical gradients” on account of the low magnitudes of the vertical gradients, and (2) FSAR Revision 0, Table 2.4.12-209, in which the groundwater gradients are without exception downward.

02.04.12-9

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please clarify whether any spatial trend or regularities are evident in the hydraulic conductivities measured by the slug tests on the LNP site.

02.04.12-10

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please clarify the apparent discrepancy in the estimated transmissivity range presented in FSAR Revision 0 Section 2.4.12.1.1 and the average transmissivity values derived from slug tests. Please discuss which of these values are most representative of actual site conditions.

02.04.12-11

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please justify the approach adopted for analysis of pumping tests in the FSAR.

02.04.12-12

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please discuss selection of the hydraulic conductivity estimates used in the seepage velocity calculations and whether these represent conservative estimates of groundwater velocity.

02.04.12-13

The calculation titled "Groundwater Velocity and Flux Calculations (LNG-0000-X7C-006, Rev0)," references several documents. To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please provide the following three references for NRC review:

1. Groundwater Protection and Siting Ordinance, Hernando County, FL
2. Radiological Assessment (1993)
3. Principles of Groundwater Engineering (1991)

02.04.12-14

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please justify the use of the porous media concept for estimating seepage velocity and whether preferential flow paths associated with fracturing and solution cavities in carbonate rock aquifers at the LNP site should be considered when developing conservative estimates of groundwater velocity.

02.04.12-15

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please clarify the potential effects of groundwater pumping for plant water supply on groundwater levels, transport pathways, surface water, and other water users in the affected area.

02.04.12-16

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please provide a description of plausible groundwater pathways for use in the analysis of transport of accidental liquid radioactive effluent release in the subsurface.

02.04.12-17

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please update FSAR Section 2.4.12.4 with a summary of the details of groundwater monitoring under the Radiation Protection Program included in FSAR Section 12AA.5.4.14, or describe why it is not necessary to update the FASR with this information.

02.04.12-18

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please provide a description of post-construction groundwater conditions near the safety-related SSCs with respect to the DCD maximum allowable groundwater elevation.

02.04.12-19

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and 10 CFR 100.10(c) or 100.20(c), a complete description of the effects of groundwater levels and other hydrodynamic effects on the design bases of plant foundations and other SSC important to safety is needed. Please describe the process followed to determine that the conceptual models of subsurface site characteristics related to groundwater that were evaluated to ensure that the most conservative of plausible conceptual models has been identified.

02.04.12-20

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and 10 CFR 100.10(c) or 100.20(c), a complete description of the site dewatering system, including its reliability to maintain the groundwater conditions within the groundwater design bases of SSC important to safety is needed. Please describe the conceptual design of the system for dewatering plant foundation excavations during dewatering. This description should include approximate locations, numbers, and estimated pumping rates of wells or other dewatering facilities; total rate and duration of dewatering; how pumped water will be handled; and effects of dewatering on affected groundwater and surface water resources.

02.04.12-21

To meet the requirements of 10 CFR 50.55a, GDC 2, GDC 4, GDC 5, 10 CFR 100.20(c)(3), 10 CFR 100.23(d), and10 CFR 100.10(c) or 100.20(c), please make available to the NRC staff all boring logs associated with monitoring wells, observation wells, and the pumping well listed in Table 2.4.12-207.