PMLevyCOLPEm Resource

From: Anderson, Brian
Sent: Friday, May 07, 2010 1:37 PM
To: robert.kitchen@pgnmail.com; david.waters@pgnmail.com; tillie.wilkins@pgnmail.com
Cc: PMLevyCOLPEm Resource
Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 091 RELATED TO SRP SECTION 2.4.12 FOR THE LEVY COUNTY UNITS 1 AND 2 COMBINED LICENSE APPLICATION
Attachments: LNP RAI 091 - ML101270096.pdf

Importance: High

Attached is RAI Letter No. 091 related to SRP Section 2.4.12 for the Levy County Units 1 and 2 combined license application. The ADAMS Accession number is ML101270096.

Brian Anderson
301-415-9967
Senior Project Manager, AP1000 Projects Branch 1
Office of New Reactors
U.S. Nuclear Regulatory Commission

Hearing Identifier: Levy_County_COL_Public
Email Number: 641

Mail Envelope Properties (B46615B367D1144982B324704E3BCEED21CE208A33)

Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 091 RELATED TO SRP SECTION 2.4.12 FOR THE LEVY COUNTY UNITS 1 AND 2 COMBINED LICENSE APPLICATION
Sent Date: 5/7/2010 1:37:05 PM
Received Date: 5/7/2010 1:37:08 PM
From: Anderson, Brian

Created By: Brian.Anderson@nrc.gov

Recipients:
"PMLevyCOLPEm Resource" <PMLevyCOLPEm.Resource@nrc.gov>
Tracking Status: None
"robert.kitchen@pgnmail.com" <robert.kitchen@pgnmail.com>
Tracking Status: None
"david.waters@pgnmail.com" <david.waters@pgnmail.com>
Tracking Status: None
"tillie.wilkins@pgnmail.com" <tillie.wilkins@pgnmail.com>
Tracking Status: None

Post Office: HQCLSTR01.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	329	5/7/2010 1:37:08 PM
LNP RAI 091 - ML101270096.pdf	157437	

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

LevyCountyRAIsPEm Resource

From: Anderson, Brian
Sent: Friday, May 07, 2010 9:24 AM
To: LevyCountyRAIsPEm Resource
Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 091 RELATED TO SRP SECTION 2.4.12 FOR THE LEVY COUNTY UNITS 1 AND 2 COMBINED LICENSE APPLICATION
Attachments: LNP-RAI-LTR-091.doc

Importance: High

Hearing Identifier: Levy_County_COL_eRAIs
Email Number: 89

Mail Envelope Properties (FD7C4204A01F6A4B9272CCA467DB3D037C91923302)

Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 091 RELATED TO SRP SECTION 2.4.12 FOR THE LEVY COUNTY UNITS 1 AND 2 COMBINED LICENSE APPLICATION
Sent Date: 5/7/2010 9:24:01 AM
Received Date: 5/7/2010 9:24:01 AM
From: Anderson, Brian

Created By: Brian.Anderson@nrc.gov

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

Post Office: HQCLSTR01.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	2	5/7/2010 9:24:01 AM
LNP-RAI-LTR-091.doc	60410	

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

May 7, 2010

Mr. John Elnitsky
Vice President, Nuclear Plant Development
Progress Energy Florida, Inc.
P.O. Box 14042
Saint Petersburg, FL 33733

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 091 RELATED TO SRP SECTION 2.4.12 FOR THE LEVY COUNTY NUCLEAR PLANT, UNITS 1 and 2 COMBINED LICENSE APPLICATION

Dear Mr. Elnitsky:

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, Senior Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-029
52-030

eRAI Tracking No. 4630

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, Senior Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-029
52-030

eRAI Tracking No. 4630

Enclosure:
Request for Additional Information

Distribution:

Public	JCruz	TSimms	HJones
RidsNroDnrlNwe1	JSebrosky	SGoetz	NTiruneh
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RidsOgcMailCenter	MComar	JMartin	RRaione
RidsAcrsAcnw_MailCenter	DMcGovern	TSpicher	
RidsRgn2MailCenter	RJoshi	BAnderson	

NRO-002

OFFICE	RHEB/BC	NWE1/PM	NWE1/L-PM
NAME	RRaione *	BAnderson *	BAnderson*
DATE	04/12/10	04/23/10	05/07/10

*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)

02.04.12-22

The transmissivity of the upper Floridan aquifer estimated from pumping test responses of wells in the vicinity of LNP Units 1 and 2 ranged from 4000 to 53,000 ft2/d (PEF 2009| ML0921509601L-0363 -RAI response letter NPD-NRC-2009-177|). This is equivalent to a hydraulic conductivity range of 16 to 212 ft/d assuming an aquifer thickness of 250 ft. The map in Figure 10 of the revised DWRM2 groundwater flow model (338884-TMEM-123) shows an upper Floridan aquifer transmissivity range of 7920 to 50,000 ft2/d from model calibration over the flow path between the hypothetical release site and the receptor locations. Provide a discussion of how the calculated seepage velocity reported in FSAR Table 2.4.12-212 and RAI supplemental response NPD-NRC-2009-177, which is based on a horizontal hydraulic conductivity of 54.4 ft/d, represents a conservative estimate or justify its exclusion.

02.04.12-23

The use of a homogeneous porous media conceptual model for the Upper Floridan Aquifer results in a relatively high estimated effective porosity being applied for seepage velocity calculations reported in FSAR Table 2.4.12-212. Calculation of seepage velocity in FSAR Table 2.4.12-212 uses an effective porosity of 0.15 based on values published in textbooks and the "Groundwater Protection and Siting Ordinance" of Hernando County, Florida. Site-specific measurements of effective porosity at the LNP site at the scale of the transport calculation do not appear to have been provided by the applicant. Published information indicates that there is a possibility of preferential groundwater flow through fractures or solution cavities in the Upper Floridan aquifer in western Florida (|USGS WSP-2475 and USGS WRIR 93-4171|). The "shallow" tracer test at the Old Tampa Well Field (|USGS WRIR 93-4171|) was conducted in the upper 90 feet of the Upper Floridan aquifer over a distance of 200 feet and resulted in an estimated effective porosity of 0.003 based on the early arrival of the tracer. The short travel time and low effective porosity was attributed to secondary aquifer porosity caused by fractures in the limestone. Another tracer test in the Upper Floridan aquifer near Port Malabar resulted in an estimated effective porosity of 0.05 (Burklew 1989). Although the matrix porosity is greater, potential transport through secondary porosity features could result in faster travel times and less decay of radionuclides before reaching an offsite well. Provide a discussion of how an effective porosity of 0.15 represents a conservative value for use in the seepage velocity calculation, or justify its exclusion.

References:
USGS WSP-2475: Knochenmus, Lari A., and Robinson, James L. 1996. Descriptions of anisotropy and heterogeneity and their effect on ground-water flow and areas of contribution to public supply wells in a karst carbonate aquifer system. U.S. Geological Survey Water-Supply Paper 2475, 46 p.

USGS WRIR 93-4171: Robinson, J. L. 1995. Hydrogeology and results of tracer tests at the old Tampa well field in Hillsborough County, with implications for wellhead-protection strategies in west-central Florida. U.S. Geological Survey Water-Resources Investigations Report 93-4171, 63 p.

Burklew 1989: Burklew, Lori M. 1989. Characterization of the Upper Floridan Aquifer System, Including Field Dispersivity Tests and Analytical Modeling, in the Vicinity of Port Malabar, Florida. Masters Thesis. University of Florida, Gainesville, FL.

02.04.12-24

Provide a discussion of the effects of alterations to the groundwater flow system, including the effects of storm water runoff caused by the new structures and facilities. In addition, discuss how these will impact groundwater levels near the safety-related SSCs with respect to the DCD site parameter on maximum groundwater elevation.