

LevyCountyRAIsPEm Resource

From: Brian Anderson
Sent: Friday, May 08, 2009 11:55 AM
To: LevyCountyRAIsPEm Resource
Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 033 RELATED TO SRP
SECTION 2.5.4 FOR THE LEVY COUNTY UNITS 1 AND 2 COMBINED LICENSE
APPLICATION
Attachments: LNP-RAI-LTR-033.doc
Importance: High

Hearing Identifier: Levy_County_COL_eRAIs
Email Number: 34

Mail Envelope Properties (CB87FC66F95637428C5E0D066E756B6FBFFFFD14B2)

Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 033 RELATED TO
SRP SECTION 2.5.4 FOR THE LEVY COUNTY UNITS 1 AND 2 COMBINED LICENSE APPLICATION
Sent Date: 5/8/2009 11:55:16 AM
Received Date: 5/8/2009 11:55:18 AM
From: Brian Anderson

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	3	5/8/2009 11:55:18 AM
LNP-RAI-LTR-033.doc	61946	

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

May 8, 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. 033 RELATED TO
SRP SECTION 2.5.4 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. 2495

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. 2495

Enclosure:
Request for Additional Information

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NRO-002

OFFICE	RGS1/BC	NWE1/PM	OGC	NWE1/L-PM
NAME	CMunson *	BAnderson *	JMartin*	BAnderson*
DATE	03/31/09	03/31/09	04/24/09	05/08/09

*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: 02.05.04 - Stability of Subsurface Materials and Foundations
Application Section: 2.5.4

QUESTIONS for Geosciences and Geotechnical Engineering Branch 1 (RGS1)

02.05.04-23

FSAR Section 2.5.4.1.2.1.1 (pg 2.5-190) and supplemental materials (Supplement dated 12 September 2008, Attachment 2, pg 4, Karst Discussion) describe local fracture systems observed in outcrops of the Avon Park Formation along the Waccasassa River and in the Gulf Hammock Quarry, which apparently parallel the regional fracture trends defined by Vernon (1951). The Waccasassa River outcrop is located 25 km (15.7mi) north-west of the LNP site, and the Gulf Hammock Quarry outcrop occurs 19 km (11.8mi) north-northwest of the site, so both outcrops lie within the site vicinity (FSAR Section 2.5.4.1.2.1.1, pg 2.5-190).

As shown in FSAR Figure 2.5.4.1-202 in the supplemental materials dated 12 September 2008 (Attachment 2), fracture spacing of these local fractures in both outcrops is 5.8m (19 ft) for the primary fractures trending N39W and 7.7m (23.5ft) for orthogonal fractures striking N51E. FSAR Section 2.5.4.1.2.1.3 (pg 2.5-191), supplemental materials (12 September 2008 Supplement, Attachment 2, pg 18, Site Uniformity Discussion), and RAI Response 2.5.4-2 address the assumptions made regarding the occurrence of large voids at depth directly beneath the RCC bridging mat to enable the 3D FEM analysis. However, it is not clear whether these assumptions properly incorporate pertinent information on the observed local fracture systems into the 3D FEM analysis, including the potential for enhanced dissolution at intersections of fractures with bedding planes. In addition, it is not clear whether field observations at the two outcrops in the site vicinity may have revealed more closely-spaced fracture systems that should be included in the 3D model, and whether the fractures observed in the two outcrops are expected to be characteristic of the anticipated fracture sets at the site location so that the 3D model is appropriate for the site location.

In order for the staff to thoroughly assess the input data for and results of the 3D FEM analysis, please explain how information related to the observed local fracture systems was incorporated into this analysis for the Levy LNP1 and LNP2 sites, including possible interactions between fractures and intersecting bedding planes which may have a strong influence on development of dissolution voids at depth. To ensure that the 3D FEM model is appropriate for the site location, please clarify whether more closely-spaced fractures also occur in the two outcrops and whether the fractures observed in the two outcrops are thought to be characteristic of fracture sets at the site location. Please explain how the design analyses account for settlement due to movement permitted by joint sets and bedding planes.