LevyCountyRAIsPEm Resource

From: Spicher, Terri
Sent: Tuesday, March 16, 2010 11:44 AM
To: LevyCountyRAIsPEm Resource
Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 085 RELATED TO SRP SECTION 3.7.2 FOR THE LEVY COUNTY NUCLEAR PLANT, UNITS 1 and 2 COMBINED LICENSE APPLICATION
Attachments: LC RAI SRP 3.7.2 on 3.16.10.doc

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Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 085 RELATED TO SRP SECTION 3.7.2 FOR THE LEVY COUNTY NUCLEAR PLANT, UNITS 1 and 2 COMBINED LICENSE APPLICATION
Sent Date: 3/16/2010 11:44:09 AM
Received Date: 3/16/2010 11:44:08 AM
From: Spicher, Terri

Created By: Terri.Spicher@nrc.gov

Recipients:
"LevyCountyRAIsPEm Resource" <LevyCountyRAIsPEm.Resource@nrc.gov>
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LC RAI SRP 3.7.2 on 3.16.10.doc	61434	

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

March 16, 2010

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. 085 RELATED TO SRP SECTION 3.7.2 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 301-415-1670 or you may contact Brian Anderson, the lead project manager for the Levy County Nuclear Plant Units 1 and 2 combined license application at 301-415-9967.

Sincerely,

/**RA**/

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

Docket Nos. 52-029
52-030

eRAI Tracking No. 4370, 4384

Enclosure:
Request for Additional Information

If you have any questions or comments concerning this matter, you may contact me at 301-415-1670 or you may contact Brian Anderson, the lead project manager for the Levy County Nuclear Plant Units 1 and 2 combined license application at 301-415-9967.

Sincerely,

/**RA**/

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

Docket Nos. 52-029
52-030

eRAI Tracking No. 4370, 4384

Enclosure:
Request for Additional Information

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DATE	02/05/10	03/16/10	03/09/10

*Approval captured electronically in the electronic RAI system.

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Request for Additional Information
Levy County, Units 1 and 2
Progress Energy Florida, Inc.
Docket No. 52-029 and 52-030
SRP Section: 03.07.02 - Seismic System Analysis
Application Section: 3.7.2

QUESTIONS for Structural Engineering Branch 1 (AP1000/EPR Projects) (SEB1)

03.07.02-1

LNP FSAR Figure 2.5.4.5-201B indicates that a cementitious fill will be placed adjacent to the NI structures and fill the region between the NI structures and the diaphragm wall. FSAR Section 3.7.2.8 indicates that structure to structure interaction will not occur since the gap between the NI and adjacent structures is larger than the expected movement based on the maximum displacement seen in the GMRS. The construction details provided in Figure 2.5.4.5-201B indicate that the adjacent buildings rest on the diaphragm wall. Since there is no gap between the diaphragm wall and NI, it appears that the construction detail does not provide a gap as required by the AP1000 DCD.

The GMRS is a ground motion which has been developed based on a UHRS motion modified by a scale factor to account for the fragility inherent in the structural system. However, the level of relative displacement that is expected to occur at the ground surface is the displacement that is associated with the UHRS at the performance goal level without the scale factor included.

1. Please provide the basis, including details of construction (diaphragm wall, cementitous fill, location of adjacent structures, etc.), for neglecting potential coupling between the NI and the adjacent structures. If a gap is to be provided, please provide the construction detail of this joint that demonstrates that a gap is in fact assured over the life span of the facility.

2. Please provide the basis for the use of the GMRS associated displacement in lieu of that associated with the performance goal level UHRS.

03.07.02-2

AP1000 DCD (Revision 17) Section 2.5.2.3 addresses site-specific seismic evaluation that should be performed by the Combined License applicant if site-specific design response spectra exceeds the CSDRS or if site soil conditions are outside the range evaluated for AP1000 design certification.

According to the applicant's response to Question 03.07.01-1 of RAI 2318 (NRC Letter No. 046), the site-specific surface design response spectra exceeds the CSDRS in vertical motion at the LNP site. Although the applicant views that CSDRS-based in-structure response spectra would envelop the corresponding site-specific FIRS-based in-structure response spectra, no quantitative evaluation has been provided to justify the view. As for site soil conditions, no subsurface profile considered in the AP1000 DCD is similar to that of the LNP site which is characterized by stiff material immediately under the NI basemat with soft material to the sides. In addition, the design and analysis of AP1000 is based on subsurface conditions with uniform properties within horizontal layers, and the RAI response (cited above) does not fully justify this assumption of lateral uniformity of subsurface conditions.

The applicant is requested to provide detailed site-specific seismic evaluation of NI structures and those surrounding structures that may impact the safety function of NI structures. The evaluation should fully incorporate the effects of soil-structure interaction and meet the Acceptance Criteria 4 of SRP

Section 3.7.2. If such site-specific seismic evaluation will not be done, the applicant should provide technical justification for not doing so.