TurkeyPointRAIsPEm Resource

From: Comar, Manny
Sent: Monday, May 21, 2012 8:33 AM
To: TurkeyPointRAIsPEm Resource
Subject: REQUEST FOR ADDITIONAL INFORMATION LTR. No: 62 RELATED TO SRP: 3.08.05 FOUNDATIONS FOR THE TURKEY POINT UNITS 6 AND 7 COMBINED LICENSE APPLICATION
Attachments: PTN-RAI-LTR-062.doc

Hearing Identifier: TurkeyPoint_COL_eRAIs
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Subject: REQUEST FOR ADDITIONAL INFORMATION LTR. No: 62 RELATED TO SRP: 3.08.05 FOUNDATIONS FOR THE TURKEY POINT UNITS 6 AND 7 COMBINED LICENSE APPLICATION
Sent Date: 5/21/2012 8:33:29 AM
Received Date: 5/21/2012 8:33:30 AM
From: Comar, Manny

Created By: Manny.Comar@nrc.gov

Recipients:
"TurkeyPointRAIsPEm Resource" <TurkeyPointRAIsPEm.Resource@nrc.gov>
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Options
Priority: Standard
Return Notification: No
Reply Requested: No
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May 21, 2012

Mano K. Nazar
Senior Vice President and Chief Nuclear Officer
Florida Power & Light Company
Mail Stop NNP/JB
700 Universe Blvd
Juno Beach, FL 33408-0420

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 062 RELATED TO SRP SECTION.3.08.05 FOUNDATIONS FOR THE TURKEY POINT NUCLEAR PLANT UNITS 6 AND 7 COMBINED LICENSE APPLICATION

Dear Mr. Nazar:

By letter dated June 30, 2009, as supplemented by letters dated August 7, 2009, September 3, 2010, December 21, 2010 and December 16, 2011, Florida Power and Light 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 45 days of the date of this letter. If you are unable to provide a response within 45 days, please state when you will be able to provide the response. In the event the response submitted is incomplete, please indicate in the response when the complete response will be provided. If changes are needed to the final safety analysis report, the staff requests that the RAI response include the proposed wording changes. Your response should also indicate whether any of the information provided is to be withheld as exempt from public disclosure pursuant to 10 CFR 2.390.

If you have any questions or comments concerning this matter, you may contact me at 301-415-3863 or manny.comar@nrc.gov.

Sincerely,

/**RA**/

Manny Comar, Lead Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-040
52-041

Enclosure:
Request for Additional Information

CC: see next page

If you have any questions or comments concerning this matter, you may contact me at 301-415-3863 or manny.comar@nrc.gov.

Sincerely,

/**RA**/

Manny Comar, Lead Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-040
52-041
eRAI Tracking No. 6433

Enclosure:
Request for Additional Information

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NAME	MShams*	MComar*	MComar*
DATE	4/27/12	5/01/12	5/21/12

*Approval captured electronically in the electronic RAI system.

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Request for Additional Information No. 6433

5/21/2012

Turkey Point Units 6 and 7
Florida P and L
Docket No. 52-040 and 52-041
SRP Section: 03.08.05 - Foundations
Application Section: 3.8.5

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

03.08.05-1

In Revision 3 of the applicant's FSAR, (aka. TPG-1000-S2R-802, "Turkey Point Site-Specific Seismic Evaluation Report") the second paragraph under Section 1.0, "Purpose," indicates that the lean concrete beneath the NI is a bridging mat. If this lean concrete is indeed a 'bridging mat' then it is spanning over potential voids and thus the lean concrete performs a structural function. Additionally, Figure 3.1-2 of the report shows the lean concrete bridging mat extending approximately 30 ft beyond the reinforced concrete base mat of the NI. This extension will result in shears and moments in the 19 ft thick unreinforced concrete bridging mat as the load from the NI is transferred to the supporting underlying soils. Since there is no reinforcement in the 19 ft thick mat, if the mat cracks, there is no direct mechanism to transfer shear (for example) across the crack. If the foundation stability relies on the ability of the unreinforced concrete to spread out the load from the NI structure to the underlying (softer) foundation materials or to span potential zones of weakness, then the ability of the 19 ft mat to spread the load out and bridge over soft regions needs to be assured.
No quantitative assessment of the lean concrete has been performed to determine the stresses (shear and moment) in the lean concrete and the capability of the mat to carry those stresses. Thus, the applicant is requested to provide an evaluation of the ability of the mat to transfer the expected demand to the underlying soil. In addition, since the mat performs a necessary structural function of transferring loads from the base of the foundation mat to the underlying soils, the staff requests that the applicant describe the safety classification, and basis or the classification of the mat.

03.08.05-2

Section 2.5.4.1.3 of the AP1000 DCD, "Mudmat," requires that the compressive strength of the mudmat (located beneath the NI foundation) have a minimum compressive strength of 2500 psi. The third paragraph in Section 2.5.4.5.1.2, "Power Block and Site Grade Raising," states, in part, "Replacement material below the nuclear islands consists of lean concrete. The selection of lean concrete mix design is made at project detailed design. The compressive strength of 1.5 ksi is estimated for lean concrete fill." The staff believes that the difference in compressive strength is a significant variance from the DCD requirements. It is also noted that ACI 318 requires a minimum compressive strength of 2500 psi for concrete used for structural purposes. As a result, the staff is requesting the applicant to provide the basis for using materials of lower strength than those specified in the DCD.