

TurkeyPointRAIsPEm Resource

From: Comar, Manny
Sent: Wednesday, May 18, 2011 3:13 PM
To: TurkeyPointRAIsPEm Resource
Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 022 RELATED TO SRP 9.2.2 REACTOR AUX. COOLING WATER SYSTEM FOR THE TURKEY POINT PLANT UNITS 6 AND 7
Attachments: PTN-RAI-LTR-022.doc

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Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 022 RELATED TO SRP 9.2.2 REACTOR AUX. COOLING WATER SYSTEM FOR THE TURKEY POINT PLANT UNITS 6 AND 7

Sent Date: 5/18/2011 3:13:27 PM

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From: Comar, Manny

Created By: Manny.Comar@nrc.gov

Recipients:

"TurkeyPointRAIsPEm Resource" <TurkeyPointRAIsPEm.Resource@nrc.gov>

Tracking Status: None

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Expiration Date:

Recipients Received:

May 18, 2011

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. 022 RELATED
TO SRP SECTION 9.2.2 REACTOR AUXILIARY COOLING WATER SYSTEM
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 and December 21, 2010, 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 30 days of the date of this letter. If you are unable to provide a response within 30 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. 5403

Enclosure:
Request for Additional Information

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NRO-002

OFFICE	SBPA/BC	NWE1/PM	OGC	NWE1/L-PM
NAME	JSegala*	MComar*	PMoulding*	MComar*
DATE	2/25/11	3/29/11	4/5/11	5/12/11

*Approval captured electronically in the electronic RAI system.

OFFICIAL RECORD COPY

Request for Additional Information No. 5403

5/18/2011

Turkey Point Units 6 and 7

Florida P and L

Docket No. 52-040 and 52-041

SRP Section: 09.02.02 - Reactor Auxiliary Cooling Water Systems

Application Section: 9.2.2 - Component Cooling Water System

QUESTIONS from Balance of Plant Branch 1 (SBPA)

09.02.02-1

In the PTN COL Application, Part 7, Departures and Exemptions, PTN DEP 2.0-3, the applicant evaluated and justified the change to the maximum safety wet bulb (non-coincident) air temperature of 87.4 °F. This corresponding site characteristic value exceeds the AP1000 DCD site parameter by 1.3 °F. The departure justification was performed on the following components/systems.

- Containment pressure design limits
- IRWST temperature control with normal residual heat removal system
- Component cooling water system
- Nuclear Island nonradioactive ventilation system capability

In response to VC Summer RAI 09.02.02-1 regarding a similar maximum safety wet bulb air temperature departure on the VC Summer COL application, the VC Summer applicant performed an analysis of the maximum safety wet bulb (non-coincident) air temperature at a bounding value of 87.4 °F and docketed this analysis in VSP-VSG-000706, June 30, 2010, "Evaluation of Impacts – Change to Maximum Safety Non-Coincident Ambient Wet Bulb Temperature for the VC Summer Site." (ML101830391) The VC Summer departure analysis encompassed a broader array of components/systems than those listed above.

The NRC staff also evaluated a maximum safety wet bulb air temperature change proposed in Revision 16 to the AP1000 DCD submittal, which was documented in APP-GW-GLE-036, "Impact of a revision to the current Wet Bulb Temperature identified in Table 5.0-1 (Tier 1) and Tier 2 Table 2-1 (Sheet 1 of 3) of the DCD (Revision 16)," in order to encompass the Levy and Turkey Point 6 and 7 sites. This AP1000 change was also evaluated for impact on a broader array of components/systems than those listed above.

Justify departure PTN DEP 2.0-3 in a manner that encompasses the components/systems considered in the VC Summer response to RAI 09.02.02-1 in its June 30, 2010 Letter to NRC NND-10-0254 (ML101830391) and the above AP1000 justification and evaluation, or explain why justification with respect to those components/systems is not necessary. Specifically, the departure/exemption evaluation should include the impact on:

- The performance of passive containment cooling system
- Passive heat sinks associated with the main control room habitability system
- Normal, decay, and spent fuel pool heat removal

- HVAC design
- Chiller water system design (to include High and Low Capacity Subsystems)
- Component cooling and service water system design
- Steam and power conversion
- Circulating water system and turbine building closed cooling water system design

In addition, specific to PTN COL FSAR Section 5.4.7, "Normal Residual Heat Removal System," the applicant incorporated by reference DCD Section 5.4.7 with the exception of the following departure in Subsection 5.4.7.1.2.3:

- PTN DEP 2.0-3 The component cooling water system supply temperature to the normal residual heat removal system heat exchangers is based on an ambient design wet bulb temperature of no greater than 87.4°F (100 year return estimate of 2-hour duration). The 87.4°F value is assumed for normal conditions and transients that start at normal conditions.

With plant operation at the design limit and the ambient design wet bulb temperature at the proposed 87.4°F, describe whether the CCW have sufficient heat removal capacity such that the RNS remains within the design basis as described in DCD Subsection 5.4.7.1, and provide a discussion of the evaluation performed that confirms the following subsections:

A. Subsection 5.4.7.1.2.1, confirming that the normal residual heat removal system reduces the temperature of the reactor coolant system from 350°F to 125°F within 96 hours after shutdown and the RNS system maintains the reactor coolant temperature at or below 125°F for the plant shutdown;

B. Subsection 5.4.7.1.2.3, confirming that the RNS system limits the in-containment refueling water storage tank water temperature to less than boiling temperature during extended operation of the passive residual heat removal system and not greater than 120°F during normal operation.