PMSummerCOLNPEm Resource

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To: PMSummerCOLNPEm Resource
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Subject: Summary of June 1, 2010, Internal Meeting to Discuss Draft RAI Responses Regarding Summer COLA Wet Bulb Temperature Exemption Request

MEMORANDUM TO: File (Summer COLA Units 2 and 3)

From: Donald Habib, Project Manager
AP1000 Projects Branch (NWE1)
Division of New Reactor Licensing
Office of New Reactors

Subject: Summary of June 1, 2010, Internal Meeting to Discuss Draft RAI Responses Regarding Summer COL Wet Bulb Temperature Exemption Request

The NRC attendees were: John Segala, Sam Lee, Michelle Hayes, Shie-Jeng Peng, Larry Wheeler, Sujata Goetz, John Budzynski, Donald Habib, and Joe Sebrosky

The purpose of the meeting was to discuss the results of a May 27, 2010, audit of calculations that was performed as a result of South Carolina Electric and Gas' (SCE&G) draft response to requests for additional information associated with a Summer wet bulb temperature exemption request. The draft RAI response to RAI 6.2.1-1 and 9.2.2-1 were provided to the staff in emails on 5/21/10 (see ML101410204 for RAI 6.2.1-1 and ML101410201 for 9.2.2-1). The staff reviewed calculation packages that were referenced in these draft RAI responses and determined that the draft RAI responses and calculation packages were lacking in the following areas:

1. The calculation packages that support RAI 6.2.1-1 and 9.2.2-1 refer to Turkey Point and Westinghouse AP1000 and do not mention Summer. These calculation packages should reference Summer. In addition, the draft RAI responses should be changed to state with specificity which calculation packages are referenced and what aspect of the RAI response is being addressed by each calculation. The reference in the RAI response should include the calculation package number, title, revision number, and the conclusion associated with the calculation. It should be made clear that the referenced calculation packages fall under Summer's QA program.

2. The staff expected to see the Wet-Bulb temperature exemption identified as a departure with left-margin annotation in section 6.2 of the FSAR. The staff intends to have an evaluation of the wet bulb temperature exemption request in section 6.2 of the SER.

3. For the high-capacity chilled water system, one of the calculation packages, APP-GW-MIC-002, Revision A, associated with draft RAI 9.2.2-1 includes a summary discussion that the high capacity chilled water system chiller size should be changed from 2 - 300 ton air-cooled units to 2 – 400 ton air-cooled units. The change to the chiller size is not discussed in the RAI response or in the FSAR. A change to the high capacity chiller size would constitute a departure from the DCD.

4. For the low-capacity chilled water system, one of the calculation packages associated with draft RAI 9.2.2-1 states that the loads on the low capacity chilled water system will change from 164 tons to 182 tons based on the increase in the wet-bulb temperature. Again, there is no mention of this change in

the draft RAI response. In addition, it is not clear whether any equipment needs to be changed since the low-capacity system is not discussed in detail in the DCD.

5. The staff expected to see more of a discussion in the 9.2.2-1 draft RAI response regarding the affect the increased wet bulb temperature would have on spent fuel cooling under the following scenarios: a) normal refueling, b) full core offload with both spent fuel cooling trains running, and 3) full core offload with one train of spent fuel pool cooling train running.

6. The staff expected to see more of a discussion in the 9.2.2-1 draft RAI response regarding the affect the increased wet bulb temperature would have on RTNSS availability controls including the bases for these controls.

7. Neither the draft 9.2.2-1 RAI response nor the calculation packages address all aspects of the question. There is a statement in the draft RAI response that areas not affected by the change in VC Summer maximum safety wet bulb temperature include: HVAC design, including the main control room passive heat sink performance, chilled water system design, steam and power conversion system design, and circulating water system and turbine building closed cooling water system design. There is no discussion in the draft RAI response as to why these systems are not affected.

8. One of the calculation packages associated with draft RAI 9.2.2-1 response notes that the component cooling water return temperature is 97.4F which is below the AP1000 DCD value of 100F. However, this insight is not included in the draft RAI response.

9. The RAI response contains no discussion on wet bulb temperature change related to service water. When reviewing the calculations, staff had to request to review the cooling tower performance evaluation calculation, TPG SWS-M3C-001, which supports calculation TPG-CCS-M3C-001.

10. There is no discussion in the draft RAI response addressing the staff's question requesting a discussion of the normal RHR's system's ability to maintain the incontainment-refueling water storage tank less than boiling during PRHR actuation and not greater than 120F during normal operation.

11. None of the calculation packages reviewed by the staff supported the statement in the draft RAI 9.2.2-1 response that, with the increased heat loads resulting from the higher maximum safety wet bulb temperature, the low capacity chilled water system maintains the Nuclear Island Non-radioactive System's (VBS) capability to maintain the main control room, and 1E electrical rooms below 75 ºF with a single train of VBS and the Chilled Water System (VWS) in service.

12. There is no evaluation on the impact of the higher web bulb temperature (including associated humidity) on the control room habitability (e.g. heat stress) and operability of equipment in the control room during normal and accident conditions (such as a loss of HVAC for certain time following an accident).

13. There is a lack of information in the RAI response as to what changes will be made to the application. The staff expects much of the discussion regarding the wet bulb temperature exemption to be presented in various sections of the FSAR or some other licensing basis document. In addition, the staff was expecting to see much of the information that is contained in the calculation packages docketed as part of the RAI response. For example, Westinghouse provided a topical report on the docket to support the amendment request to increase the wet-bulb temperature exemption. The staff does not understand why a similar comprehensive calculation package is not placed on the docket to support Summer's wet bulb temperature exemption request.

Projects took an action to summarize the issues associated with the draft RAI responses and supporting calculation packages so that the summary could serve as a mechanism for briefing upper management and as a list of topics to be discussed with the applicant.

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