

From: Wang, Alan
Sent: Thursday, May 12, 2011 1:47 PM
To: Jerry Burford; 'MILLAR, DANA'
Cc: Lent, Susan; Burkhardt, Janet
Subject: GG Power Range Neutron Monitoring System Human Factors Branch Request for Additional Information (ME2531)

Dana and Jerry,

By application dated November 3, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML093140430), Entergy Operations, Inc. (Entergy, the licensee), requested NRC staff approval of an amendment to the Grand Gulf Nuclear Station, Unit 1, technical specifications to reflect installation of the digital General Electric - Hitachi (GEH) Nuclear Measurement Analysis and Control (NUMAC) Power Range Neutron Monitoring System (PRNMS).

By letter dated January 15, 2010 (ADAMS Accession No. MI100070385), the U.S. Nuclear Regulatory Commission (NRC) staff issued a request for additional information (RAIs). By letter dated February 8, 2010 (ADAMS Accession No. ML100430825), Entergy provided a response to these RAIs. By letter dated May 4, 2010 (ADAMS Accession No. ML101190125) the NRC staff had supplemental RAIs based on the review of this response. By letters dated June 3, June 18, July 29, September 29, December 13, and December 14, 2010, Entergy responded to this request. The NRC staff has determined that additional information is needed for the NRC staff to complete our review of this amendment. These RAIs were discussed with Mr. Jerry Burford of your staff on May 12, 2011, and it was agreed that the responses would be provided within 30 days of receipt of this E-mail. If you have any questions regarding the schedule or the RAIs, please contact me at (301) 415-1445 or via e-mail at Alan.Wang@nrc.gov.

The following RAIs are related to the human factors branch review of the PRNMS license amendment request (LAR):

1. Changes in Emergency and Abnormal Operating Procedures (SRP Section 13.5.2.1),
 - a. Describe how the proposed LAR will change the plant emergency operating procedures (EOPs) or abnormal operating procedures (AOPs). i.e. will any operator actions specified in the EOPs or AOPs, (consistent with the generic emergency procedure guidelines/severe accident guidelines, EPGs/SAGs) be changed, or deleted?
 - b. Will any new operator actions be added to the EOPs or AOPs?
 - c. Are there other new or changed actions in non-EOP/AOP procedures that are high risk, such as a maintenance or surveillance procedure that includes new actions that could negatively affect Reactor Protection System functions if done incorrectly or if omitted?
2. Changes to Operator Response Times
 - a. Identify and describe EOP or AOP operator actions that will involve additional response time or will have reduced time available. Your response should address any operator workarounds that might affect these response times.

- b. Identify any actions that are being changed from automatic to manual as a result of the upgrading to PRNMS.
- c. Provide justification for the acceptability of any increase in time required or any reduction of time available for operators to complete EOP or AOP actions.

3. Changes to Control Room Controls, Displays and Alarms (SRP Section 18.0)

Describe any controls, displays, alarms (other than those already described as part of the Response to NRC Request for Additional Information, dated 12/13/2010) that will be modified as a result of, or to support, the proposed LAR. █

4. Changes to the Safety Parameter Display System (SRP Section 18.0)

Describe any changes to the safety parameter display system resulting from the proposed LAR. How will the operators know of the changes?

5. Changes to the Operator Training Program and the Control Room Simulator (SRP Sections 13.2.1 and 13.2.2)

- a. Describe any changes to the operator training program and the plant-referenced control room simulator resulting from the proposed LAR, and provide the implementation schedule for making the changes.
- b. As determined by the training analysis process, will appropriate classroom, simulator and in-plant training be conducted prior to power escalation?
- c. What administrative controls are in place to monitor the ongoing ability of GGNS operators to reliably perform critical actions identified during the training analysis?
- d. How will operators, maintainers, and other affected personnel be tested to assure that they can perform required actions correctly and reliably within expected quality and time constraints to support operation of the PRNMS?

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