

From: Wang, Alan
Sent: Wednesday, June 29, 2011 4:23 PM
To: Jerry Burford; MILLAR, DANA
Cc: Burkhardt, Janet; Lent, Susan
Subject: Grand Gulf Extended Power Uprate Instrumentation and Controls Branch
Second Round Request for Information (ME4679)

Dana and Jerry,

By letter dated September 8, 2010 (Agencywide Documents Access and Management System, Accession No. ML102660403), Entergy Operations, Inc. (Entergy, the licensee), submitted a request to amend the Facility Operating License No. NPF-29 for Grand Gulf Nuclear Station, Unit 1 (GGNS). The licensee proposed a license amendment request (LAR) for an extended power uprate (EPU) to increase the maximum reactor core power operating limit from 3898 megawatts thermal (MWt) to 4408 MWt. The U.S. Nuclear Regulatory Commission (NRC) staff has determined that the following additional information is needed for the NRC staff to complete our review of this amendment. This request for additional information (RAI) was discussed with Mr. Jerry Burford of your staff on [June 29, 2011](#), and it was agreed that a response would be provided within 30 days of receipt of this E-mail. If circumstances result in the need to revise the requested response date, please contact me at (301) 415-1445 or via e-mail at Alan.Wang@nrc.gov.

The following are second round RAIs related to your February 23, 2011, RAI response and the May 24, 2011, audit of the setpoint calculations:

1. In the setpoint calculation summary for the Fixed Neutron Flux – High and APRM Flow-Biased Simulated Thermal Power – High Technical Specifications submitted with the February 23, 2011, RAI responses; certain numbered comments on the tables – specifically comments 20 and 22 – could be interpreted to indicate that GGNS intends to remove certain values from the facility Technical Specifications. Please clarify that GGNS does not intend to use the EPU LAR as a basis for removing items from the GGNS Technical Specifications. The NRC staff understands that GGNS has amended the comments to the calculation summary to address these concerns. Please submit the latest revision of the calculation summary with amended comments.
2. During the May 24, 2011, audit of the setpoint calculations, the licensee noted that the setpoint calculations were being performed with uncertainty values that assumed a 24-month refueling cycle (rather than the current 18 month cycle currently in place at GGNS). While this assumption may be appropriate for calculation of setpoints, it could potentially lead to larger than appropriate values being used in the as-left and as-found calculations. In order to ensure that as-left and as-found values for GGNS setpoints are appropriately determined, the NRC staff needs to understand how the 24-month refueling cycle assumption impacts the calculation of the as-left and as-found values. Please provide a description of your methodology for such determinations.
3. During the May 24, 2011, audit of the setpoint calculations, the NRC staff noted that the spreadsheet and calculation summary documents showed that the temperature effect and humidity effect errors for the NUMAC equipment were “included within the

NUMAC accuracy performance specification.” Upon review of a copy of a design calculation for the NUMAC performance, and its reference specifications, it was noted that a calculation had been performed to demonstrate the negligible magnitude of the temperature effect specification, but no calculation had been performed for the humidity effect specification. The calculation summary merely stated that the humidity effect was enveloped without providing a calculation to demonstrate that it was, as it had done for the temperature effect. The NRC staff noted that this appeared to be an unverified assumption, which would need further amplification or a statement as to why it is considered negligible. Please provide an explanation as to what engineering judgment was used to provide confidence that this assumption (i.e., that the humidity effect has been bounded by other uncertainties) is justified.