

From: Wang, Alan
Sent: Monday, April 04, 2011 10:10 AM
To: Jerry Burford; 'Dana Millar'
Cc: Lent, Susan; Burkhardt, Janet; Obodoako, Aloysius
Subject: GG EPU SG and Chemical Engineering Branch Request for Additional Information (ME4679)

Dana and Jerry,

By letter dated September 8, 2010 (Agencywide Documents Access and Management System (ADAMS) 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. By letter dated February 8, 2011 (ADAMS Accession No. MI110390173), the U.S. Nuclear Regulatory Commission (NRC) staff issued RAIs. By letter dated March 9, 2011 (ADAMS Accession No. ML110680507), Entergy provided a response to these RAIs. Based on the review of this response, the 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 April 1, 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.

1. Based on industry operating experience, degradation of Boraflex panels occur in a much less uniform configuration than is shown in the spent fuel pool map provided in your letter dated March 9, 2011. That map shows that Region II racks (the racks that are degraded beyond a usable condition) are located together in the center of the pool. Please provide a map of the spent fuel pool which shows the cumulative dose to each panel in the pool. Also, discuss why Region II cells would be located in one specific area of the pool, and other cells outside of that area would not experience similar degradation after housing recently discharged fuel.
2. In your response letter dated March 9, 2011, it states, "an additional BADGER [Boron-10 Areal Density Gauge for Evaluating Racks] measurement will be performed prior to the end of 2012. The need for additional tests will be determined following the 2012 test campaign, based on the test results along with projected rack performance." The NRC staff believes that the data from the performance of a one-time BADGER campaign is insufficient to ensure that the Boraflex neutron absorber material will continue to perform its intended function.
 - a. Please provide the future (i.e., after 2012) surveillance approach and BADGER testing for the Boraflex material. The NRC staff has provided the details of one acceptable program for periodic surveillance of Boraflex neutron absorbing materials in the Generic Aging Lessons Learned, Rev 2, program XI.M22, "Boraflex Monitoring."

Alan Wang, Project Manager
Plant Licensing Branch IV

Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation