

Lent, Susan

From: Wang, Alan
Sent: Monday, March 18, 2013 11:14 AM
To: Ward, Steven; SEITER, JEFFERY ALAN
Cc: Lent, Susan; Burkhardt, Janet
Subject: Grand Gulf Nuclear Station Request for Additional Information Regarding 18 to 24 Month License Amendment Request (TAC ME9764)
Attachments: EEEB RA3-18-13.docx

Jeff and Steve,

By Letter dated October 2, 2012 (Agencywide Documents Access management System (ADAMS) Accession number ML122770130), Entergy Operations, Inc. (the licensee), requested an amendment to Facility Operating License Number NPF-29 for Grand Gulf Nuclear Station (GGNS), Unit 1. The proposed amendment would revise the Technical Specifications (TSs) to extend certain surveillance frequencies that are currently specified as "18 months" to "24 months" to support operation with 24-month fuel cycles.

The NRC staff has determined that additional information, related to the electrical engineering branch review, is needed to complete our review of this request. This request for additional information (RAI) was discussed with Mr. Steven Ward on March 18, 2013, and it was agreed that a response would be provided within 30 days of receipt of this email. 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 RAIs are attached and related to your license amendment request dated October 2, 2012. In addition, on a conference call on February 15, 2013, the NRC staff informed the licensee that if its chooses to replace the Service Test with a Modified Performance test, they will need to provide the duty cycle/profile (either in graphical or numeric form) that shows that the Modified Performance Test completely envelopes the Service Test.

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REQUEST FOR ADDITIONAL INFORMATION
REGARDING GRAND GULF NUCLEAR STATION, UNIT 1
LICENSE AMENDMENT REQUEST FOR IMPLEMENTING A 24-MONTH FUEL CYCLE
DOCKET NO. 50-416

By Letter dated October 2, 2012 (Agencywide Documents Access management System (ADAMS) Accession number ML122770130), Entergy Operations, Inc. (the licensee), requested a license amendment request (LAR) to Facility Operating License Number NPF-29 for Grand Gulf Nuclear Station, Unit 1 (GGNS). The proposed amendment would revise the Technical Specifications (TSs) to extend certain surveillance frequencies that are currently specified as "18 months" to "24 months" to support operation with 24-month fuel cycles. The proposed TS changes are in accordance with the guidance in NRC GL 91-04, "Changes in Technical Specifications Surveillance Intervals to Accommodate a 24-month fuel cycle." The NRC staff had determined that the following information is needed to complete its review:

1. In Attachment 5, Section 3.8.1, AC Sources-Operating, of the LAR, the licensee stated that a review of the applicable surveillance history for the AC sources demonstrated that there have been seven previous failures of the TS functions that would have been detected solely by the periodic performance of these surveillance requirements (SRs).

Explain how each of these failures were identified. Also, explain how each of these failures would have been identified by the TS SRs and why the failures were not identified during the performance of these TS SRs.

2. In Attachment 5, Section 3.8.4, DC Sources-Operating, of the LAR, the licensee stated that a review of the applicable surveillance history demonstrated that DC electric power subsystem had three previous failures of the TS functions that would have been detected solely by the periodic performance of these SRs. The licensee identified these three failures related to the current limit board of the Battery Charger 1A4 in 2003, 2007 and 2009.
 - a) Provide a discussion as to why these three failures related to Battery Charger 1A4 were not considered in the technical evaluation of the LAR as repetitive and of common cause failure nature.
 - b) Explain how each of these failures was identified. Also, explain how each of these failures would have been identified by these TS SRs and why the failures were not identified during the performance of these TS SRs.
 - c) Provide a discussion on how the determination was made that no timed-based mechanisms are apparent for these failures.

3. In Attachment 5, Section 3.8.4 of the LAR, the licensee stated:

Additionally, upon approval of this amendment request, commitments outlined in the GGNS UFSAR [Updated Final Safety Analysis Report] related to RG 1.32, "Criteria for

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Safety-related Electric Power Systems for Nuclear Power Plants," RG 1.129, "Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," and to IEEE-450, "Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications," to perform the battery service test (i.e., SR 3.8.4.3) during refueling outages, or at some other outage, with intervals between tests "not to exceed 18 months," will be revised to reflect intervals between tests "not to exceed 30 months."

However, the NRC staff notes that the 18 month frequency of SR 3.8.4.3 is based on engineering judgment taking into consideration the desired unit conditions to perform the surveillance as stated in the GGNS TSs Bases and, also, on aging characteristics of vented lead-acid batteries as known in the industry. Also, SR 3.8.4.3 is not a service discharge test, but a visual inspection of the battery cells, cell plates, and battery racks.

- a) Regarding the statement above, provide a discussion as to why SR 3.8.4.3 is considered a service discharge test and clarify if the commitments related to Regulatory Guide (RG) 1.32, RG 1.129, and IEEE-450 are applicable to SR 3.8.4.3.
 - b) The versions of RG 1.32 and RG 1.129 in the UFSAR endorse the performance of battery service discharge tests at 18-month surveillance intervals. Since the proposed change to the battery service discharge tests at 24-month surveillance intervals is endorsed in the latest versions of these RGs, provide a regulatory commitment to follow the guidance in the latest versions of RG 1.32 and RG 1.129 and incorporate these RG versions into the next revision of the GGNS UFSAR.
4. In Attachment 5, Sections 3.8.1 and 3.8.4, the licensee stated that the surveillance test interval of these SRs is being increased from once every 18 months to once every 24 months including the 25% grace period.

However, the NRC staff notes that SR 3.0.2 allows certain surveillances to be performed within 1.25 times the interval specified in the Frequency in situations where plant conditions (e.g. transient conditions or other ongoing surveillance or maintenance activities) are not suitable for conducting these surveillances at their specified frequencies.

- a) Since SR 3.8.1.8 and SR 3.8.1.12 are required to be performed in Mode 3, 4 or 5, and SR 3.8.1.11, SR 3.8.1.16, SR 3.8.1.18, SR 3.8.1.19 and SR 3.8.4.7 are required to be performed in Mode 4 or 5, explain how SR 3.0.2 would be applied if either one of those surveillances was not performed during plant shutdown for some reason.
- b) NRC RGs limit surveillance intervals for service discharge tests to once per 18 or 24 months, depending on which revision. Given this, explain why SR 3.0.2 should be applicable to SR 3.8.4.7 when extending the surveillance interval from 18 to 24 months.