



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

August 15, 2012

LICENSEE: Entergy Operations, Inc.  
FACILITY: Grand Gulf Nuclear Station  
SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON MAY 30, 2012,  
BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND ENTERGY  
OPERATIONS, INC., CONCERNING REQUESTS FOR ADDITIONAL  
INFORMATION PERTAINING TO THE GRAND GULF NUCLEAR STATION,  
LICENSE RENEWAL APPLICATION (TAC. NO. ME7493)

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Entergy Operations, Inc., (Entergy) held a telephone conference call on May 30, 2012, to discuss and clarify the staff's requests for additional information (RAIs) concerning the Grand Gulf Nuclear Station, license renewal application. The telephone conference call was useful in clarifying the intent of the staff's RAIs.

Enclosure 1 provides a listing of the participants and Enclosure 2 contains a listing of the RAIs discussed with the applicant, including a brief description on the status of the items.

The applicant had an opportunity to comment on this summary.

A handwritten signature in black ink, appearing to read "N. Ferrer", written over a horizontal line.

Nathaniel Ferrer, Project Manager  
Projects Branch 1  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket No. 50-416

Enclosures:  
As stated

cc w/encls: Listserv

TELEPHONE CONFERENCE CALL  
GRAND GULF NUCLEAR STATION  
LICENSE RENEWAL APPLICATION

LIST OF PARTICIPANTS  
May 30, 2012

PARTICIPANTS

AFFILIATIONS

Nate Ferrer	U.S. Nuclear Regulatory Commission (NRC)
Duc Nguyen	NRC
Emma Wong	NRC
Aloysius Obodoako	NRC
Jeff Seiter	Entergy
Ted Ivy	Entergy
Andy Taylor	Entergy
Alan Cox	Entergy
Roger Rucker	Entergy

## REQUESTS FOR ADDITIONAL INFORMATION (SETS 22 AND 23)

### LICENSE RENEWAL APPLICATION

May 30, 2012

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Entergy Operations, Inc., held a telephone conference call on May 30, 2012, to discuss and clarify the following requests for additional information (RAIs) concerning the license renewal application (LRA).

#### **Draft RAI B.1.4-1**

Background. GALL Report AMP XI.M22, "Boraflex Monitoring," states:

For Boraflex panels in spent fuel storage racks, gamma irradiation and long-term exposure to the wet fuel pool environment causes shrinkage resulting in gap formation, gradual degradation of the polymer matrix, and the release of silica to the spent fuel storage pool water. This results in the loss of boron carbide in the neutron absorber sheets. A monitoring program for the Boraflex panels in the spent fuel storage racks is implemented to assure that no unexpected degradation of the Boraflex material compromises the criticality analysis in support of the design of spent fuel storage racks. This aging management program (AMP) relies on periodic inspection, testing, monitoring, and analysis of the criticality design to assure that the required 5% subcriticality margin is maintained. Therefore, this AMP includes: (a) completing sampling and analysis for silica levels in the spent fuel pool water on a regular basis, such as monthly, quarterly, or annually (depending on Boraflex panel condition), and trending the results by using the EPRI RACKLIFE predictive code or its equivalent; and (b) performing neutron attenuation testing or blackness testing to determine gap formation in Boraflex panels or measuring boron areal density by techniques such as the BADGER device.

Issue. The LRA states that "the Boraflex Monitoring Program, with enhancements, is consistent with the program described in NUREG-1801, Section XI.22, Boraflex Monitoring." In order to obtain the information necessary to verify whether these program elements are consistent with the corresponding program elements of the GALL Report AMP with enhancements, the following requests for information are needed.

#### Request.

- a. It is not clear to the staff in the documentation; therefore, clarify whether the "scope of the program" includes the Boraflex in the upper containment pool.
- b. The "scope of the program" program element of the Boraflex Monitoring Program states that the coupon monitoring program will still be employed. Clarify whether GGNS still performs the coupon monitoring program, and whether this coupon monitoring program will be performed in the PEO. Also, if the coupon monitoring program will be relied upon in the PEO, state how many coupons are left and at what frequency will they be monitored.
- c. The "detection of aging effects" and "monitoring and trending" program elements of the Boraflex Monitoring Program state that the aging and monitoring will be done by the use of RACKLIFE on a frequency of 1 year. The enhancement states that "RACKLIFE

analysis will continue to be performed each cycle.” The staff notes that each cycle is about 1.5-2 years.

1. Clarify if the RACKLIFE will be performed every year or every cycle.
2. Due to GGNS operating experience with Boraflex degradation, provide justification for the frequency of the RACKLIFE predictions.

**Discussion:** The applicant stated that it was unclear what portions of the program the request section was referencing. The staff was referring to information in the site documentation and implementing procedures. The staff will reword the request section as follows:

**Request.**

- a. Clarify whether the "scope of the program" includes the Boraflex in the upper containment pool.
- b. The Boraflex Monitoring Program implementing procedures describe the use of a coupon monitoring technique. Clarify whether GGNS still uses the coupon monitoring technique, and whether this coupon monitoring technique will be performed in the period of extended operation. Also, if the coupon monitoring technique will be relied upon in the period of extended operation, state how many coupons are left and at what frequency will they be monitored.
- c. The Boraflex Monitoring Program basis documentation references, which describe the "detection of aging effects" and "monitoring and trending" program elements, state that monitoring will be done by the use of RACKLIFE on a frequency of 1 year. The enhancement states that "RACKLIFE analysis will continue to be performed each cycle." The staff notes that each cycle is about 1.5-2 years.
  1. Clarify if the RACKLIFE will be performed every year or every cycle.
  2. Due to GGNS operating experience with Boraflex degradation, provide justification for the frequency of the RACKLIFE predictions.

The staff will issue the revised question as a formal RAI.

**Draft RAI B.1.16-2**

**Background.** The GALL Report recommends draining and cleaning of diesel fuel oil tank internal surfaces at least once every 10 years during the period of extended operation. Periodic draining and cleaning of diesel fuel oil tanks is performed so that internal surfaces can be visually and volumetrically inspected allowing for detection of corrosion and other degradation inside the tanks. LRA AMP B.1.16, "Diesel Fuel Monitoring Program," states that the program will be enhanced to include a 10-year periodic cleaning and internal visual inspection of the fire water fuel oil tanks, the diesel fuel oil day tanks, and the diesel fuel oil drip tanks in scope of the program.

**Issue.** The LRA AMP does not include the procedures for performing cleaning and inspection of the above mentioned tanks. That is, the staff is not clear on the cleaning and inspection approach for these tanks.

**Request.** Provide the procedures for performing cleanings and internal visual inspections of the fire water fuel oil tanks, the diesel fuel oil day tanks, and the diesel fuel oil drip tanks in scope of the program.

**Discussion:** The applicant stated that it was unclear what specific procedures the request section was referencing. The staff was referring to a summary of the procedures or processes used to perform the cleaning and inspections. The staff will reword the request section as follows:

**Request.** Provide a summary of the process for performing cleanings and internal visual inspections of the fire water fuel oil tanks, the diesel fuel oil day tanks, and the diesel fuel oil drip tanks in scope of the program.

The staff will issue the revised question as a formal RAI.

#### **Draft RAI B.1.1-1**

**Background.** In LRA Section B.1.1, under operating experience, the applicant states that the 115 kV Inaccessible Transmission Cable Program is a new program. Industry operating experience was considered in the development of this program. The applicant also stated that plant operating experience will be gained as the program is implemented and will be factored into the program via confirmation and corrective actions elements of the GGNS 10 CFR 50, Appendix B quality assurance program. The applicant further stated that this inspection program applies to a potential aging effect for which there is no operating experience at GGNS indicating the need for an aging management program. Additionally, the applicant stated that a search of GGNS operating experience with the 115 kV inaccessible transmission cables and connections in this program identified no age-related failures.

SRP-LR Section A.1.2.3.10, under Operating Experience, states that for new AMPs that have yet to be implemented at an applicant's facility, the programs have not yet generated any operating experience (OE). However, there may be other relevant plant-specific OE at the plant or generic OE in the industry that is relevant to the AMP's program elements even though the OE was not identified as a result of the implementation of the new program.

During the switchyard walk-down, the staff noted that Manhole15 contains the 115 kV in-service transmission cables and the spare cables. These cables have the same manhole but different vaults. The spare cables have a manhole cover and appeared to have a new sump pump installed. However, the vault containing in-service cables appears to have never been inspected for water and does not have a sump pump. This vault is covered by the thick concrete slab with no manhole cover.

**Issue.** When a power cable is exposed to wet, submerged, or other adverse environmental conditions for which it was not designed, an aging effect of reduced insulation resistance may result, causing a decrease in the dielectric strength of the conductor insulation. This can potentially lead to failure of the cable's insulation system.

**Request.** Please confirm that manhole MH-15 containing in-service cable has been inspected. Describe recent operating experience with water accumulation in Manhole 15. If water is found submerging cables, describe corrective actions to prevent future cable submergence conditions.

**Discussion:** The applicant indicated that the question is clear. The staff will issue the question as a formal RAI.

August 15, 2012

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Nathaniel Ferrer, Project Manager  
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Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket No. 50-416

Enclosures:  
As stated

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DATE	8/3/12	7/31/12	8/15/12

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Memorandum to Entergy Operations, Inc. from Nathaniel Ferrer dated August 15, 2012

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