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

September 10, 2012

LICENSEE: Entergy Operations, Inc.

FACILITY: Grand Gulf Nuclear Station

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON JULY 11, 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 July 11, 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.

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

Docket No. 50-416

Enclosures:
1. List of Participants
2. List of Requests for Additional Information

cc w/encls: Listserv

TELEPHONE CONFERENCE CALL
GRAND GULF NUCLEAR STATION
LICENSE RENEWAL APPLICATION

LIST OF PARTICIPANTS
JULY 11, 2012

PARTICIPANTS	AFFILIATIONS
Nate Ferrer	U. S. Nuclear Regulatory Commission (NRC)
Michelle Kichline	NRC
Ching Ng	NRC
Seung Min	NRC
Cliff Doutt	NRC
Pat Purtscher	NRC
Jeff Seiter	Entergy
Ted Ivy	Entergy
Andy Taylor	Entergy
Alan Cox	Entergy
Roger Rucker	Entergy
Jack Lingenfelter	Entergy
Wayne Bicklmeir	Entergy
Larry Siemens	Entergy
Bill Nichols	Entergy
Leland Loyd	Entergy

ENCLOSURE 1

REQUESTS FOR ADDITIONAL INFORMATION (SETS 27 AND 28)

LICENSE RENEWAL APPLICATION
JULY 11, 2012

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Entergy Operations, Inc., held a telephone conference call on July 11, 2012, to discuss and clarify the following requests for additional information (RAIs) concerning the license renewal application (LRA).

Draft RAI B.1.21-2a

Background. In RAI B.1.21-2, the staff requested that the applicant provide AMR items for sprinkler heads that reference the Fire Water System program to manage aging, or provide justification for why no program will be used to manage aging. The response to RAI B.1.21-2 dated May 15, 2012, states that sprinklers are described as nozzles in the LRA and that nozzles are listed in LRA Table 3.3.2-12 as being managed by the Fire Water System and Selective Leaching programs. However, the only nozzle AMR items in LRA Table 3.3.2-12 that reference the Fire Water System program to manage aging are for nozzles exposed to water. LRA Section 2.3.3.12 states that the applicant's fire water system includes both wet-pipe and dry-pipe sprinkler systems. Sprinkler heads exposed to both air and water are included within the scope of GALL Report AMP XI.M27, "Fire Water System."

Issue. The AMR items in LRA Table 3.3.2-12 for nozzles exposed indoor air state that the components have no aging effects requiring management and no AMP is proposed. It is unclear to the staff why the nozzles exposed to air do not require aging management using the Fire Water System Program.

Request. State the basis for why the nozzles exposed to indoor air do not require aging management.

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

Draft RAI B.1.21-3a

Background. In RAI B.1.21-3, the staff requested that the applicant clarify whether the visual inspections that will be performed as part of the enhancement to the Fire Water System program to perform visual inspections of the internal surfaces of fire protection piping will be performed periodically during the period of extended operation. The staff also requested that the applicant state the basis for the frequency of inspections. The response to RAI B.1.21-3 dated May 15, 2012, states that the periodicity of the visual inspections is tied to the need for routine or corrective maintenance and that the basis for the frequency is a past maintenance history demonstrating that inspections have been performed on a representative number of locations. The RAI response also states that additional inspections will be performed as needed to obtain the representative sample prior to the period of extended operation.

Issue. The response to RAI B.1.21-3 states that the inspection frequency is based on the need for component maintenance, which implies that the inspection frequency is purely opportunistic. GALL Report AMP XI.M27 states that inspections may be performed concurrent with component maintenance; however, it recommends that plant-specific inspection intervals be

determined by engineering evaluation of the fire water piping to ensure degradation is detected prior to loss of intended function. The RAI response did not state the frequency at which the visual inspections will be performed or include an acceptable basis for the frequency of inspections. It is unclear to the staff what the inspection frequency will be and how the inspection frequency discussed in the enhancement to the Fire Water System program is consistent with the guidance in GALL Report AMP XI.M27.

Request. State the frequency and basis for the frequency of the visual inspections that will be performed during the period of extended operation as part of the enhancement to the Fire Water System program to perform visual inspections of the internal surfaces of fire protection piping.

Discussion: The applicant stated that the request section was unclear what specific frequency the question was referring to. The staff is requesting additional information on if the inspection frequency is periodic or only opportunistic. The staff will reword the request section of the question as follows:

> Request. State the basis for the frequency of the visual inspections that will be performed during the period of extended operation as part of the enhancement to the Fire Water System Program to perform visual inspections of the internal surfaces of fire protection piping.

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

Draft RAI B.1.28-1a

Background. LRA Section B.1.28 states that the Non-EQ Cable Connections Program is consistent with GALL Report AMP XI.E6. The GALL Report AMP under "parameter monitored/inspected" program element recommends that connection type be considered for sampling basis. During the audit, the staff reviewed the Grand Gulf basis document GGNS-EP-08-LRD08, Revision 1, and noted that the "parameters monitored or inspected" program element does not consider or address connection type as one of sample selection criteria. The staff requested the applicant to clarify how the applicant's Non-EQ Cable Connection Program (basis document) is consistent with GALL Report AMP XI.E6 with respect to sample selection criteria including connection type. In response to the staff's request, in a letter dated May 25, 2012, the applicant stated that LRA Section B.1.28 is consistent with the program as described in NUREG-1801, Section XI.E6, Electrical Cable Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirement, without exception. The applicant also stated that as described in LRA Section B.1.28, connection type is a factor that will be considered in sample selection.

Issue. The basis document under "parameter monitored/inspected" program element is not consistent with those in GALL AMP XI.E6 because it does not consider connection type as sampling basis.

Request. Revise the basis document to include connection type as sampling basis or explain how the "parameter monitored/inspection" program element is consistent with those in GALL AMP XI.E6.

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

Draft RAI B.1.8-2a

Background. By letter dated May 1, 2012, the applicant responded to RAI B.1.8-2, which requested that the LRA include specific references to the BWRVIP documents credited for the applicant's BWR Penetrations Program. In its response, the applicant stated that its BWR Penetrations Program is consistent with the program described in NUREG-1801, Section XI.M8, BWR Penetrations, without exception. Therefore, by reference, the BWR Penetrations Program incorporates the relevant staff-approved BWRVIP documents consistent with NUREG-1801 guidance.

Issue. 10 CFR 54.21(d) requires that the UFSAR supplement contain a summary description of the programs and activities for managing the effects of aging. Without referencing specific BWRVIP documents credited for the BWR Penetrations Program, the staff cannot determine whether the proposed UFSAR supplement in LRA Section A.1.8 contains an adequate summary description of the program and activities for managing the effects of aging in accordance with 10 CFR 54.21(d).

Request. Justify why LRA Section A.1.8 (UFSAR supplement) does not identify specific references to the BWRVIP documents credited for the BWR Penetrations Program.

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

Draft RAI B.1.9-2a

Background. By letter dated May 1, 2012, the applicant responded to RAI B.1.9-2 to, in part, address the types of inspections of the stainless steel and nickel alloy thermal sleeve and sleeve extensions of reactor vessel nozzles (recirculation inlet, core spray inlet, and RHR/LPCI nozzles). In its response, the applicant indicated that the BWR Stress Corrosion Cracking Program [along with the Water Chemistry Program] is credited to manage cracking due to stress corrosion cracking (SCC) and intergranular stress corrosion cracking (IGSCC) in the thermal sleeves and thermal sleeve extensions of the reactor nozzles. The applicant's response also states that welds adjacent to specific components are inspected because welds are the susceptible areas.

In comparison, GALL Report item IV.B1.R-99 recommends the BWR Vessel Internals Program and Water Chemistry Program to manage cracking of the core spray nozzle thermal sleeves. In addition, Section 3.2.4, "Other Locations," of BWRVIP-18-A, "BWR Vessel and Internals Project BWR Core Spray Internals Inspection and Flaw Evaluation Guidelines," indicates that there is currently no technique available for inspecting the core spray nozzle thermal sleeve welds. Inspection of thermal sleeve welds should be done when the capability exists.

Issue. The LRA does not include an AMR item for aging management of core spray nozzle thermal sleeves based on GALL Report item IV.B1.R-99.

Therefore, the staff needs to further clarify whether the BWR Vessel Internals Program (including BWRVIP-18-A) is used to manage cracking of the core spray nozzle thermal sleeves as recommended in the GALL Report.

The staff also noted that BWRVIP-18-A indicates that there is currently no technique available for inspecting the thermal sleeve welds of the core spray nozzles and inspection of thermal sleeve welds should be done when the capability exists. It is not clear to the staff how the applicant's BWR Stress Corrosion Cracking Program inspects the thermal sleeves and thermal sleeve extensions to manage aging.

Request.

a. Provide the following information regarding aging management for the reactor nozzle thermal sleeves and thermal sleeve extensions.
    1. Identify the specific welds associated with the thermal sleeves and thermal sleeve extensions of the recirculation inlet, core spray inlet and RHR/LPCI nozzles that are addressed under LRA item 3.1.1-97 (e.g., safe-end-to-thermal-sleeve-extension weld of the recirculation inlet nozzle, thermal-sleeve-extension-to-thermal-sleeve weld of the recirculation inlet nozzle, and so on).
    2. Clarify which of the aforementioned welds are inspected in the BWR Stress Corrosion Cracking Program to manage aging and which of the welds are not inspected in the program. In addition, identify the inspection method for the welds that are inspected in the BWR Stress Corrosion Cracking Program.
        (a) As part of the response, clarify whether the BWR Vessel Internals Program (including BWRVIP-18-A for the core spray lines) is used to manage cracking of the core spray nozzle thermal sleeves and sleeve extensions as recommended in GALL Report item IV.B1.R-99.
    3. If applicable, identify what programs manage cracking of the welds that are not inspected in the BWR Stress Corrosion Cracking Program. As part of the response, provide the technical basis for why these programs are adequate to manage cracking of the thermal sleeve and thermal sleeve extension welds.
b. Describe the inspection results and operating experience in terms of occurrence of cracking in the thermal sleeves and sleeve extensions of the reactor nozzles. In addition, clarify whether the inspection results and operating experience support the adequacy of the applicant's aging management programs.
c. Ensure that the LRA (including Table 3.1.2-1) is consistent with the applicant's response.

Discussion: The applicant stated that the requests (a) and (b) were unclear with respect to what additional information was being requested beyond the information provided in previous RAI responses and the LRA. The staff is specifically requesting justification for using the BWR Stress Corrosion Cracking Program to manage the aging of thermal sleeves and thermal sleeve extensions, given that they are typically located within the reactor vessel or piping. Additionally, the staff noted that the LRA does include an AMR item for aging management of core spray nozzle thermal sleeves based on GALL Report item IV.B1.R-99. The staff will reword the issue and request sections as follows:

> Issue. The staff needs to further clarify whether the BWR Vessel Internals Program (including BWRVIP-18-A) is used to manage cracking of the core spray nozzle thermal sleeves as recommended in the GALL Report.

The staff also noted that BWRVIP-18-A indicates that there is currently no technique available for inspecting the thermal sleeve welds of the core spray nozzles and inspection of thermal sleeve welds should be done when the capability exists. It is not clear to the staff how the applicant's BWR Stress Corrosion Cracking Program inspects the thermal sleeves and thermal sleeve extensions to manage aging.

Request.

a. Provide justification for using the BWR Stress Corrosion Cracking Program to manage the aging of thermal sleeves and thermal sleeve extensions, given that they are typically located within the reactor vessel or piping. As part of the justification, describe how the BWR Stress Corrosion Cracking Program inspects these components (for example, using ultrasonic testing). In addition, describe the inspection results and operating experience in terms of occurrence of cracking in the thermal sleeves and sleeve extensions of the reactor nozzles.

b. Ensure that the LRA (including Table 3.1.2-1) is consistent with the applicant's response.

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

Draft RAI B.1.10-1a

Background and Issue. In RAI B.1.10-1, the staff requested that the applicant provide reference to the specific BWRVIP document credited for the BWR Vessel Attachment Welds Program. By letter dated May 1, 2012, the applicant responded to state that LRA Section A.1.10 was not changed to include the reference of BWRVIP-48-A. The applicant stated that the existing Section A.1.10 references "applicable industry standards and staff-approved BWRVIP documents," which provides a more comprehensive definition of applicant guidance to ensure program effectiveness than to list specific BWRVIP documents that may be revised or superseded in the future. This is contradictory to SRP-LR Table 3.0-1, "FSAR Supplement for Aging Management of Applicable Systems," for GALL AMP XI.M4, which specifically references BWRVIP-48-A.

10 CFR 54.21(d) requires that the UFSAR supplement contained a summary description of the program and activities for managing the effects of aging. Without an explicit reference to the appropriate document (i.e., BWRVIP-48-A) the summary description proposed by the applicant is vague and does not allow the staff to make a finding of reasonable assurance regarding whether the proposed UFSAR supplement in LRA Section A.1.10 reflects an accurate summary description of the program and activities for managing the effects of aging.

Request. Revise LRA Section A.1.10 to indicate that the BWR Vessel Attachment Welds Program perform inspections and flaw evaluation in accordance with the guidelines in the BWRVIP-48-A report consistent with the SRP-LR's FSAR supplement. Alternatively, identify the section of the current UFSAR that references the BWRVIP-48-A report.

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

SUBJECT: Summary of Telephone Conference Call conducted on May 15, 2012

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/RA/
Nathaniel Ferrer, Project Manager
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