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GNRO-2012/00156

December 18, 2012

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Response to Requests for Additional Information (RAI) Set 42 dated November 20, 2012
Grand Gulf Nuclear Station, Unit 1
Docket No. 50-416
License No. NPF-29

REFERENCE: NRC Letter, "Requests for Additional Information for the Review of the Grand Gulf Nuclear Station, License Renewal Application," dated November 20, 2012 (GNRI-2012/00245)

Dear Sir or Madam:

Entergy Operations, Inc. is providing, in Attachment 1, the response to the referenced Requests for Additional Information (RAI). Attachment 2 contains the new commitment in response to the letter.

If you have any questions or require additional information, please contact Jeffery A. Seiter at 601-437-2344.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 18th day of December, 2012.

Sincerely,

KJM/jas

Attachments and cc: (see next page)

Attachments: 1 Response to Request for Additional Information (RAI)
2 List of Regulatory Commitment

cc: with Attachments

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Attachment 1 to

GNRO-2012/00156

Response to Requests for Additional Information (RAI)

The format for the Requests for Additional Information (RAI) responses below is as follows. The RAI is listed in its entirety as received from the Nuclear Regulatory Commission (NRC) with background, issue and request subparts. This is followed by the Grand Gulf Nuclear Station (GGNS) RAI response to the individual question.

RAI 4.2.1-2b

Background. In its License Renewal Application, the applicant used a reactor vessel fluence estimate that was obtained by combining a pre-extended power uprate (EPU) fluence value obtained from MPM Technologies calculations to a post-EPU fluence value obtained from General Electric Hitachi (GEH).

By letter dated October 15, 2012, the applicant responded to RAI 4.2.1-2a that, in part, addressed the discrepancies between the pre-EPU and post-EPU flux values for the core shroud welds (H1, V1, V2, V3, and V4 welds in the top portion of the core shroud). In the applicant's analysis for these weld locations, the pre-EPU peak flux values are greater than the post-EPU peak flux values approximately by three orders of magnitude (i.e., approximately 1.0E10 n/cm^2-s versus 1.0E07 n/cm^2-s). The core shroud neutron flux values are described in the applicant's response, dated July 25, 2012, to RAI 4.2.1-2.

In addition, RAI 4.2.1-2a addressed the issue regarding the combined analytic uncertainty associated with the two different methods for the pre-EPU and post-EPU fluence calculations (i.e., MPM method and GEH method, respectively).

Issue. The applicant's response to RAI 4.3.1-2a states that the MPM approach used a bounding-case flux at the core shroud weld locations in the top portion of the core shroud shell. However, the applicant's response does not provide specific information to justify why the flux values obtained from the MPM method are bounding-case flux values for the core shroud weld locations.

In addition, the applicant's response indicates the following with respect to the combined analytic uncertainty:

- The applicant acknowledged that proving the independence of all uncertainty terms in both fluence calculations is not possible.
- The applicant stated that because the independence of the uncertainty values cannot be proven, relative uncertainties are considered instead.
- The applicant expressed total uncertainty as a "relative uncertainty" combination, which is, in actuality, a weighted average of the uncertainties associated with both methods.

The staff noted the following issues with the applicant's response:

- The applicant's approach is not a valid or acceptable way to perform an analytic uncertainty analysis because it is not consistent with Regulatory Guide (RG) 1.190.
- The errors associated with both fluence calculation methods will propagate when the two fluence calculational methods are combined.
- The uncertainty associated with adding the two fluence values together should be higher than either as a stand-alone calculation.

Request.

a. Provide additional information to clarify why the flux values obtained from the MPM method are bounding-case flux values for the core shroud weld locations (i.e., H1, V1, V2, V3, and V4 welds). As part of the response, clarify which locations are actually associated with the bounding-case flux values and why the bounding-case flux values have sufficient conservatisms as bounding-case values.

b. Provide an analytic uncertainty analysis for the combined fluence values, consistent with RG 1.190 that states that each of the fluence methods be supported by an analytic uncertainty analysis. Alternatively, provide reactor vessel neutron fluence values that were calculated using a single, NRC-approved method that has a valid and accepted analytic uncertainty analysis, and reconfirm the validity of the related neutron embrittlement time-limited aging analysis (TLAAs) in light of the updated fluence values.

RAI 4.2.1-2b RESPONSE:

The analysis work required to provide the information requested in RAI 4.2.1-2b could not be completed in the required response time of 30 days. As a result the response to this RAI will be provided by January 18, 2013 as agreed to by the Staff on December 4, 2012.

RAI 4.7.3-1a

Background. In its response to RAI 4.7.3-1 dated July 25, 2012, as revised by letter dated September 4, 2012, the applicant provided a list of components included in the TLAA of reactor vessel internals fluence effects. The applicant also provided the 40- and 60-year fluence values for these components and indicated that these values were calculated in accordance with General Electric Licensing Topical Report NEDC-32983P-A, "General Electric Methodology for Reactor Pressure Vessel Fast Neutron Flux Evaluations," Revision 2 (GE methodology).

Issue.

a. Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants (SRP-LR) Section 4.7.3.1.2 states that, for TLAA dispositions pursuant to 10 CFR 54.21(c)(1)(ii), the applicant shall provide a sufficient description of the re-analysis and document the results to show that it is satisfactory for the 60-year period. In RAI 4.7.3-1, the staff requested the applicant to identify the applicable design requirements to show that the results of the re-analysis meet those requirements. The applicant did not provide this information; therefore, the applicant has not shown that the results of the re-analysis are satisfactory for 60 years.

b. SRP-LR Section 4.7.3.1.2 also states that the applicable analysis technique can be the one that is in effect in the plant's current licensing basis (CLB) at the time when the license renewal application is filed. The response to RAI 4.7.3-1 states that the GE methodology was used to calculate the 60-year fluence values for the reactor vessel internals. This 60-year period includes pre-EPU fluence and post-EPU fluence through the period of extended operation. The response to RAI 4.2.1-2 states that the GE methodology was incorporated into the CLB during EPU license amendment approval, which occurred after the license renewal application was filed. As such, it is not clear whether use of the GE methodology for calculating pre-EPU fluence values was consistent with the CLB.

c. The response to RAI 4.7.3-1 states that non-core support structure components (i.e., jet pump beam bolt and shroud head studs) were evaluated in the TLAA of reactor vessel internals fluence effects; however, the updated final safety analysis report (UFSAR) supplement summary description of the TLAA in LRA Section A.2.5.3 does not address the analysis of these components.

Request

a. Provide the applicable design requirements for each component included in the TLAA (e.g., fluence values, bolting preload values). Show that these requirements are met as a result of the re-analysis of fluence effects through the proposed 60 years of plant operation.

b. Justify use of the GE methodology for calculating fluence for the reactor vessel internals pre-EPU.

RAI 4.7.3-1a RESPONSE:

The analysis work required to provide the information requested in RAI 4.7.3-1a could not be completed in the required response time of 30 days. As a result the response to this RAI will be provided by January 18, 2013 as agreed to by the Staff on December 4, 2012.

RAI B.1.22-1b

Background. The GGNS response dated October 2, 2012, to RAI B.1.22-1a acknowledged that its Flow-Accelerated Corrosion Program manages loss of material due to mechanisms other than flow-accelerated corrosion, and revised a number of tables in the LRA to include a line item that credits the Flow-Accelerated Corrosion Program for managing the loss of material of carbon steel piping in treated water. The revised tables include GALL Report item V.D2.E-09, which correlates to SRP-LR item 3.2.1-11, for steel components exposed to steam or treated water that are being managed for wall thinning due to flow-accelerated corrosion. In addition, GGNS revised LRA Section A.1.22 and provided an exception in Section B.1.22, by noting in the "scope of program" program element, that the Flow-Accelerated Corrosion Program also addresses loss of material due to erosion mechanisms.

Issue. The aging management review (AMR) item added to the various tables is specific to wall thinning due to flow-accelerated corrosion; however, the associated components are being managed for loss of material due to erosion mechanisms that are not flow-accelerated corrosion. In that regard, neither the GALL Report nor the SRP-LR currently contain any AMR items to address wall thinning due to erosion mechanisms in piping, piping components or piping elements.

Although component degradation due to erosion mechanisms can be managed through the Flow-Accelerated Corrosion Program, it is important that the program distinguish between the components being managed for the different mechanisms. Component degradation due to flow-accelerated corrosion can be addressed by replacements with "FAC [flow-accelerated corrosion]-resistant" material; however, "high-chromium materials do not protect against other damage mechanisms, such as cavitation and liquid impingement erosion," as stated in NSAC-202L, Section 4.2.2.

In addition, the exception cited in the RAI response does not address all of the differences that may need to be incorporated into the Flow-Accelerated Corrosion Program. As discussed above, "FAC-resistant" materials will not resolve degradation due to erosion, which needs to be addressed in the "corrective actions" program element. Also, since the component susceptibility may not be predicted using the existing modeling, the "detection of aging effects" may need to

account for the extent of condition process that was used to identify other susceptible locations. Finally, the "monitoring and trending" program element may need to account for specific usage of components that are not in constant use.

Request. Provide additional bases to justify the exception to the Flow-Accelerated Corrosion Program by addressing any needed changes to the 10 aging management program elements. In addition, provide additional detail in the LRA tables such that the AMR item associated with or the erosion aging mechanism are identified.

RAI B.1.22-1b RESPONSE:

To provide additional bases to justify the exception to the Flow-Accelerated Corrosion (FAC) Program described in GGNS LRA B.1.22, the NUREG-1801 XI.M17 program elements were compared to current GGNS FAC Program activities. The 10 aging management program elements were reviewed. Program elements 4, 5, and 7 warrant further discussion as follows.

1. XI.M17 program element 4. "Detection of Aging Effects"

   The GGNS FAC Program includes a quarterly review of plant conditions to identify operating conditions outside of design conditions that could affect plant piping and equipment due to FAC or erosion. The review includes significant plant changes and abnormal operating conditions such as the following.

   - Significant changes are defined as any change greater than five percent of the normal dissolved oxygen content and longer than two weeks of continuous operation. An example would be a change in plant water chemistry such as consistent operation at lower than normal dissolved oxygen levels.

   - Abnormal operating conditions include continuous operation of susceptible systems piping not normally operated, valves that are leaking by or cracked open, and valves that are throttled.

   - Abnormal operating conditions include lines in susceptible or non-susceptible systems that become susceptible as a result of severe erosion, pinhole, or rupture caused by increased frequency or duration of usage, or other changes identified through a review of industry or plant-specific operating experience.

   Based on a GGNS extent of condition review, components have been added to the GGNS FAC Program that are susceptible to erosion mechanisms other than FAC. The FAC program includes identification of susceptible locations, as indicated by operating conditions or special considerations. In addition, the corrective action process performs extent of condition reviews for component degradation that would be the result of loss of material due to erosion. Thus, no LRA B.1.22 program exception or enhancement is required due to the "Detection of Aging Effects" program element.

2. XI.M17 program element 5. "Monitoring and Trending"

   At GGNS, monitoring of components for loss of material due to erosion mechanisms other than FAC is performed through a review of plant-specific and industry operating experience as well as trending data. Since NUREG-1801 XI.M17 program element 5 discusses the use of CHECWORKS, but does not specifically address erosion mechanisms other than FAC, the monitoring and trending element is added to the elements affected by the exception taken in the response to RAI B.1.22-1a.

3. XI.M17 program element 7. "Corrective Actions"

   The GGNS FAC program includes provisions to address non-modeled piping, provisions to include piping based on plant-specific and industry operating experience, and provisions to replace with materials that don't preclude further loss of material.

   Replacement with FAC-resistant material is only one of the possible corrective actions. The corrective action program evaluation of the condition will determine the appropriate corrective actions. If degradation is due to erosion, it is not acceptable to only replace with FAC or erosion resistant material; monitoring the replaced component at an appropriate frequency is warranted.

   Replacement does not remove the component from the program. A replaced component will still be inspected on a schedule that ensures wall thinning does not exceed acceptable values. The FAC program has always included provisions for replacing with like-for-like and resistant materials where degradation due to thinning remains a possibility. A component's material does not exclude the component from being managed by the program. The GGNS corrective action program addresses degradation of components whether due to FAC or other non-FAC aging mechanisms. Based on this, no LRA B.1.22 program exception or enhancement is required due to the "Corrective Actions" program element.

LRA Appendix B.1.22 is revised as follows with additions shown in underline.

B.1.22 FLOW-ACCELERATED CORROSION

Exceptions to NUREG-1801

The Flow-Accelerated Corrosion Program is consistent with the program described in NUREG-1801, Section XI.M17, Flow-Accelerated Corrosion, with the following exception.

Elements Affected	Exceptions
1. Scope of Program 5. Monitoring and Trending	NUREG-1801 XI.M17 element 1 indicates that the program is described by the EPRI guidelines in NSAC 202L, which primarily addresses loss of material due to flow-accelerated corrosion. The GGNS FAC Program also addresses loss of material due to erosion mechanisms other than FAC that are identified through plant-specific and industry operating experience. The monitoring of components for other than the FAC mechanism is considered an exception to NUREG-1801, Section XI.M17. [1]

1. Exception Note
   This exception is justified because the program elements are applicable and effective for managing loss of material whether due to FAC or other erosion mechanisms. While a predictive model is not applicable to loss of material due to non-FAC mechanisms, the program provisions for identifying inspection locations based on operating experience are applicable and appropriate for loss of material due to non-FAC mechanisms.

The following LRA tables are revised to add a Plant-Specific Note for managing loss of material due to erosion mechanisms other than FAC for carbon steel in treated water. Additions are shown with underline, deletions shown with strikethrough.

LRA Tables 3.2.2-2 and 3.2.2-8-2
LRA Tables 3.2.2-3 and 3.2.2-8-3
LRA Tables 3.3.2-1 and 3.3.2-19-1
LRA Tables 3.3.2-6 and 3.3.2-19-8
LRA Table 3.3.2-19-20
LRA Table 3.4.2-2-4
LRA Table 3.4.2-2-6
LRA Table 3.4.2-2-11

At the end of LRA Table 3.2.1 Engineered Safety Features, in Notes for Table 3.2.2-1 through Table 3.2.2-8-4, add a new plant specific note 204:

204. The Flow-Accelerated Corrosion Program also manages loss of material due to erosion mechanisms other than FAC.

At the end of LRA Table 3.3.1 Auxiliary Systems, in Notes for Table 3.3.2-1 through Table 3.3.2-19-37, add a new plant specific note 309:

309. The Flow-Accelerated Corrosion Program also manages loss of material due to erosion mechanisms other than FAC.

At the end of LRA Table 3.4.1 Steam and Power Conversion Systems, in Notes for Table 3.4.2-1 through Table 3.4.2-2-19, add a new plant specific note 403:

403. The Flow-Accelerated Corrosion Program also manages loss of material due to erosion mechanisms other than FAC.

Table 3.2.2-2: Low Pressure Core Spray System

Piping	Pressure boundary	Carbon steel	Treated water (int)	Loss of material	Flow-Accelerated Corrosion	~~V.D2.E-09~~ --	~~3.2.1-11~~ --	~~A~~ H, 204

Table 3.2.2-3: High Pressure Core Spray System

Piping	Pressure boundary	Carbon steel	Treated water (int)	Loss of material	Flow-Accelerated Corrosion	~~V.D2.E-09~~ --	~~3.2.1-11~~ --	~~A~~ H, 204

Table 3.2.2-8-2: Low Pressure Core Spray System, Nonsafety-Related Components Affecting Safety-Related Systems

Piping	Pressure boundary	Carbon steel	Treated water (int)	Loss of material	Flow-Accelerated Corrosion	~~V.D2.E-09~~ --	~~3.2.1-11~~ --	~~A~~ H, 204

Table 3.2.2-8-3: High Pressure Core Spray System, Nonsafety-Related Components Affecting Safety-Related Systems

Piping	Pressure boundary	Carbon steel	Treated water (int)	Loss of material	Flow-Accelerated Corrosion	~~V.D2.E-09~~ --	~~3.2.1-11~~ --	~~A~~ H, 204

Table 3.3.2-1: Control Rod Drive System

Piping	Pressure boundary	Carbon steel	Treated water (int)	Loss of material	Flow-Accelerated Corrosion	~~V.D2.E-09~~ --	~~3.2.1-11~~ --	~~A~~ H, 309

Table 3.3.2-6: Fuel Pool Cooling and Cleanup System

Piping	Pressure boundary	Carbon steel	Treated water (int)	Loss of material	Flow-Accelerated Corrosion	~~V.D2.E-09~~ --	~~3.2.1-11~~ --	~~A~~ H, 309

Table 3.3.2-19-1: CRD Hydraulic System [10 CFR 54.4(a)(2)]

Piping	Pressure boundary	Carbon steel	Treated water (int)	Loss of material	Flow-Accelerated Corrosion	~~V.D2.E-09~~ --	~~3.2.1-11~~ --	~~A~~ H, 309

Table 3.3.2-19-8: Fuel Pool Cooling and Cleanup System [10 CFR 54.4(a)(2)]

Piping	Pressure boundary	Carbon steel	Treated water (int)	Loss of material	Flow-Accelerated Corrosion	~~V.D2.E-09~~ --	~~3.2.1-11~~ --	~~A~~ H, 309

Table 3.3.2-19-20: Floor and Equipment Drain System [10 CFR 54.4(a)(2)]

Piping	Pressure boundary	Carbon steel	Treated water (int)	Loss of material	Flow-Accelerated Corrosion	~~V.D2.E-09~~ --	~~3.2.1-11~~ --	~~A~~ H, 309

Table 3.4.2-2-4: Condensate Cleanup System, Nonsafety-Related Components Affecting Safety-Related Systems

Piping	Pressure boundary	Carbon steel	Treated water (int)	Loss of material	Flow-Accelerated Corrosion	~~V.D2.E-09~~ --	~~3.2.1-11~~ --	~~A~~ H, 403

Table 3.4.2-2-6: Main Turbine and Auxiliaries, Nonsafety-Related Components Affecting Safety-Related Systems

Piping	Pressure boundary	Carbon steel	Treated water (int)	Loss of material	Flow-Accelerated Corrosion	~~V.D2.E-09~~ --	~~3.2.1-11~~ --	~~A~~ H, 403

Table 3.4.2-2-11: Turbine Bypass System, Nonsafety-Related Components Affecting Safety-Related Systems

Piping	Pressure boundary	Carbon steel	Treated water (int)	Loss of material	Flow-Accelerated Corrosion	~~V.D2.E-09~~ --	~~3.2.1-11~~ --	~~A~~ H, 403

Appendix B, Table B-3 "GGNS Program Consistency with NUREG-1801" is revised as follows with additions shown underlined and deletions shown with strikethrough:

Program Name	Plant Specific	NUREG-1801 Comparisons		
		Consistent with NUREG-1801	Programs with Enhancements	Programs with Exceptions to NUREG-1801
Flow-Accelerated Corrosion		~~X~~	X	X

Table 3.2.1 line item 3.2.1-11 and Table 3.4.1 line item 3.4.1-5 are revised as follows with additions shown underlined and deletions shown with strikethrough:

3.2.1-11	Steel piping, piping components, and piping elements exposed to steam, treated water	Wall thinning due to flow-accelerated corrosion	Chapter XI.M17, "Flow-Accelerated Corrosion"	No	~~Consistent with NUREG-1801.~~ Loss of material due to flow accelerated corrosion and non-FAC mechanisms in steel components exposed to steam or treated water is managed by the Flow-Accelerated Corrosion Program.

3.4.1-5	Steel piping, piping components, and piping elements exposed to steam, treated water	Wall thinning due to flow-accelerated corrosion	Chapter XI.M17, "Flow-Accelerated Corrosion"	No	~~Consistent with NUREG-1801.~~ Loss of material due to flow accelerated corrosion and non-FAC mechanisms in steel components exposed to steam or treated water is managed by the Flow-Accelerated Corrosion Program.

RAI B.1.41-3b

Background. Based on information in GGNS condition report CR-GGN-2010-01344, regarding loss of material due to erosion/corrosion in the standby service water system, the staff requested additional information regarding GGNS-MS-46, "Program Plan for Monitoring Internal Erosion/Corrosion in Moderate Energy Piping Components." The response to RAI B.1.41-3, dated May 25, 2012, states that procedure MS-46 is not "credited to manage the effects of aging for components that are included in the Service Water Integrity Program." However, the response to RAI B.1.41-3a, dated October 2, 2012, states that GGNS-MS-46 provides instructions for implementing the inspection of components subject to aging management review, and that "[t]hese inspections are ongoing monitoring activities that are credited by aging management programs described in the GGNS LRA, such as the Fire Water System Program, the Water Chemistry Control – Closed Treated Water Systems Program, and the Service Water Integrity Program."

Issue.

a. It is not clear which, if any, components within the scope of license renewal are being managed for loss of material due to erosion/corrosion through the ongoing monitoring activities of GGNS-MS-46. The staff noted that there are no items in the LRA being managed for loss of material due to erosion/corrosion, despite the fact that the recent RAI response states that the inspections prescribed in MS-46 are "ongoing monitoring activities that are credited by [several] aging management programs." If specific components are being monitored due to identified degradation caused by erosion/corrosion, then these aging management activities should have resulted in an AMR item for each system where the ongoing monitoring activities in GGNS-MS-46 are occurring.

b. It is not clear whether the three aging management programs (AMPs) citied above, for which GGNS-MS-46 provides inspection instructions, manage loss of material due to erosion/corrosion. The LRA states that these programs are consistent with the GALL

Report AMPs, and none of the GALL Report AMPs manage loss of material due to erosion/corrosion. Although the GALL Report AMP for the Open Cycle Cooling Water System addresses loss of material due to erosion, this is only associated solid particle erosion and does not include other erosion mechanisms that may be included with erosion/corrosion. In addition, GGNS-EP-08-LRD06, "Aging Management Program Evaluation Report Non-Class 1 Mechanical," which was provided to the staff during staff's onsite AMP audit, does not cite MS-46 as an implementing procedure for the three AMPs cited in the response above. Consequently, the requirements of 10 CFR 54.37(a) may not be met for auditable records to document the compliance with the provisions of Part 54.

Request.

a. Provide additional detail in the LRA tables such that the AMR items associated with the erosion aging mechanism are identified.

b. Update the AMP descriptions in LRA Sections A and B to reflect the aging management of erosion/corrosion, as necessary. Confirm that the Service Water Integrity Program does not include any other activities beyond those described in the GGNS Response to GL 89-13, if appropriate. Also, confirm that the appropriate sections of GGNS-EP-08-LRD06, "Aging Management Program Evaluation Report Non-Class 1 Mechanical," will be updated to include GGNS-MS-46 for the applicable AMP where associated ongoing monitoring activities are currently credited. Otherwise, provide the basis for why GGNS-EP-08-LRD06 does not need to be updated.

c. Provide a summary of recent inspection activities performed through GGNS-MS-46.

RAI B.1.41-3b RESPONSE:

a. Site procedure GGNS-MS-46 is not credited with managing loss of material due to erosion on components within the scope of license renewal.

   The original 1993 version of site procedure GGNS-MS-46 provided guidance for the management of various aging mechanisms that could lead to loss of material from the internal surfaces of piping and components in GGNS plant systems. During the past 19 years of plant operation, these aging mechanisms have been more clearly defined in the power industry. Accordingly, other GGNS programs and procedures have been developed to focus on specific mechanisms such as flow accelerated corrosion (FAC) in high-flow systems and microbiologically influenced corrosion (MIC) in systems with stagnant water. GGNS-MS-46 was last revised in 2002 and does not reflect the systems and components that are addressed by this procedure and requires revision to update its purpose and scope. This condition has been entered into the GGNS corrective action program.

   The piping and components included in site procedure GGNS-MS-46 are monitored for MIC as a result of being in MIC-susceptible systems that have a flowing medium. GGNS-MS-46 does not describe components that are subject to loss of material due to erosion. Aging management programs that reference this procedure are discussed below in part b.

b. No update is needed for the Fire Water System Program, the Water Chemistry Control-Closed Treated Water Systems Program, and the Service Water Integrity Program descriptions in GGNS LRA Appendix A and Appendix B as a result of the above discussion.

Appropriate sections of GGNS-EP-08-LRD06, "Aging Management Program Evaluation Report Non-Class 1 Mechanical" have been revised to identify GGNS-MS-46 as an implementing procedure for the Fire Water System Program, the Water Chemistry Control-Closed Treated Water Systems Program, and the Service Water Integrity Program.

It has been confirmed that the Service Water Integrity Program does not include any other activities beyond those described in the GGNS Response to GL 89-13. The GGNS program addresses the aging effects of loss of material and fouling in open-cycle cooling water systems, as described in the GGNS response to NRC GL 89-13.

c. There are no recent monitoring activities of moderate energy systems performed through GGNS-MS-46.

Attachment 2 to

GNRO-2012/00156

List of Regulatory Commitment

The following table identifies actions identified in this letter for which Entergy commits to perform. Any other actions discussed in this submittal are described for the Nuclear Regulatory Commission's (NRC's) information and are not commitments.

COMMITMENT	TYPE (Check One)		SCHEDULED COMPLETION DATE (If Required)
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
The analysis work required to provide the information requested in request for additional information (RAI) 4.2.1-2b and 4.7.3-1a could not be completed in the required response time of 30 days. The responses will be provided in a follow-up letter by January 18, 2013.	X		January 18, 2013