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GNRO-2012/00059

June 11, 2012

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

**SUBJECT:** Response to Request for Additional Information (RAI) dated May 14, 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 May  
14, 2012 (Accession No. ML12117a383, GNRI-2012/00118)

Dear Sir or Madam:

Entergy Operations, Inc is providing, in the Attachment, the response to the referenced Request for Additional Information (RAI).

This letter does not contain any new commitments. If you have any questions or require additional information, please contact Christina L. Perino at 601-437-6299.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 11<sup>th</sup> day of June, 2012.

Sincerely,

A handwritten signature in black ink, appearing to read "MP-It", written over a horizontal line.

MP/jas

Attachment: Response to Request for Additional Information (RAI)

cc: (see next page)

cc: with Attachment

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cc: without Attachment

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NRC Senior Resident Inspector  
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**Attachment to**  
**GNRO-2012/00059**  
**Response to Request for Additional Information (RAI)**

The format for the License Renewal Application (LRA) Request for Additional Information (RAI) responses below is as follows. The RAI is listed in its entirety as received from the Nuclear Regulatory Commission (NRC). This is followed by the Grand Gulf Nuclear Station (GGNS) RAI response to the individual question.

### **RAI 2.3.3.19-1**

LRA Section 2.1.1.2.2(1) indicates that nonsafety-related SSCs attached to safety-related SSCs are within the scope of license renewal for 10 CFR 54.4(a)(2) up to the first seismic anchor past the safety-related/nonsafety-related interface. On the following makeup water treatment system license renewal boundary drawings, the staff could not locate seismic anchors on the 10 CFR 54.4(a)(2) nonsafety-related lines connected to safety-related lines:

<b>License Renewal Application Drawing Number &amp; Location</b>	<b>10 CFR 54.4(a)(2) Pipe Line(s) or Identifier</b>
LR-M-0033B, location E-2	2"-JCD-36 upstream of valve Q1P21F017-A
LR-M-0033B, location E-2	2"-JCD-33 downstream of valve Q1P21F018-B
LR-M-0033B, location F-2	4"-JCD-30 downstream of valve Q1P21F024

Provide additional information to locate the seismic anchors or anchored components between the safety-related/nonsafety-related interface and the end of the 10 CFR 54.4(a)(2) scoping boundary.

### **RAI 2.3.3.19-1 RESPONSE**

<b>License Renewal Application Drawing Number &amp; Location</b>	<b>10 CFR 54.4(a)(2) Pipe Line(s) or Identifier</b>
LRA-M-0033B, location E-2	2"-JCD-36 upstream of valve Q1P21F017-A
LRA-M-0033B, location E-2	2"-JCD-33 downstream of valve Q1P21F018-B
LRA-M-0033B, location F-2	4"-JCD-30 downstream of valve Q1P21F024

#### **Location E-2 / 2"-JCD-36 upstream of valve Q1P21F017-A**

The review of this location identified equivalent seismic supports on 2"-JCD-36 upstream of valve Q1P21F017-A beyond valve N1P21F068 on LRA-M-0033B, location F-1, before line 2"-JCD-36 connects to 4"-JCD-40. This piping and the associated restraints or supports are subject to aging management review per the criterion of 10 CFR 54.4(a)(2).

#### **2"-JCD-33 downstream of valve Q1P21F018-B**

2"-JCD-33 continues downstream of Q1P21F018-B and is then is directed to the containment sample station, beyond the reduced piping 1"JCD-20, shown on LRA-M-0033B location F-2 and LRA-M-1069A location F-8. Line 2"-JCD-33 is also directed, downstream of Q1P21F018-B, to calibration stations shown on LRA-M-0033B location E-3.

The review of this location identified equivalent seismic supports on 1"-JCD-20 downstream of valve Q1P21F018-B on LRA-M-0033B, location F-2 and LRA-M-1069A location F-8.

For the 2"-JCD-33 piping downstream of Q1P21F018-B to the calibration stations shown on LRA-M-0033B location E-3, a review of applicable isometric drawings verified that nonsafety-related piping attached to safety-related piping was included within the scope of license renewal using the approach described in LRA section 2.1.2.1.2 up to the end of a piping run per the criterion of 10 CFR 54.4(a)(2). This provides assurance that the license renewal scoping encompasses the design basis seismic analysis.

#### **4"-JCD-30 downstream of valve Q1P21F024**

The review of this location identified equivalent seismic supports on 1"-JCD-5 and 4"-JCD-30 downstream of valve Q1P21F024 on drawing LRA-M-0033B, location G-2.

The review of this location also identified that a seismic anchor is located downstream of valve Q1P21F024 (LRA-M-0033B, location F-2) on the nonsafety-related piping 4"-JCD-40, after the 1"-JCD-30 connection to 4"-JCD-40 and before 2"-JCD-36 connects to 4"-JCD-40.

The review of this location also identified that a seismic anchor is located downstream of valve Q1P21F024 (LRA-M-0033B, location F-2) on the 3"-JCD-13 piping downstream of the connection of 4"-JCD-40 and 3"-JCD-13 but before the flanged connection shown on LRA-M-0033B, location H-1.

The piping to which the seismic anchors are attached is subject to aging management review per the criterion of 10 CFR 54.4(a)(2).

#### **RAI 2.3.3.19-2**

Auxiliary steam system license renewal boundary drawing LRA-M-0036C, location D-6, shows line 1"-HBD-1108 I-"E" as within the scope of license renewal for 10 CFR 54.4(a)(2). The drawing also shows a portion of the connecting CRW drain line (1-1/2" HBD-1108 I-"E" line) as within the scope of license renewal for 10 CFR 54.4(a)(2). However, there is no separation (i.e., valve) between the in-scope portion of this CRW drain line and the out-of-scope portion of the auxiliary steam system.

Provide additional information to clarify the scoping classification of this pipe section.

#### **RAI 2.3.3.19-2 RESPONSE**

The auxiliary steam system components are abandoned in place. Part of the auxiliary steam system provides pressure boundary to associated systems. This portion of the auxiliary steam system up to the isolation valves was conservatively considered subject to aging management review for 10 CFR 54.4(a)(2). Upon further review, it has been determined that this should have also included piping (1-1/2"-HBD-1108) from the drain up to and including the closed isolation valve (F098).

This carbon steel piping and valve are in scope and subject to aging management review per the criterion of 10 CFR 54.4(a)(2) and are included in LRA Table 2.3.3-19-13, Auxiliary Steam

System Nonsafety-Related Components Affecting Safety-Related Systems Components Subject to Aging Management Review as “piping” and valve body,” and are included in the aging management evaluation in LRA Table 3.3.2-19-13 as “piping” and valve body” – carbon steel.

#### **RAI 2.3.3.19-3**

LRA Section 2.1.1.2.2(1) states that nonsafety-related SSCs attached to safety-related SSCs are within the scope of license renewal for 10 CFR 54.4(a)(2) up to the first seismic anchor past the safety-related/nonsafety-related interface. On reactor water cleanup system license renewal boundary drawing LRA-M-1080B, location G-4, the staff could not locate a seismic anchor on the nonsafety-related piping downstream of safety related line 4”-HBC-355, where the pipe leaves the auxiliary building.

Provide additional information on the location of the seismic anchors or anchored components between the safety-related/nonsafety-related interface and the end of the 10 CFR 54.4(a)(2) scoping boundary.

#### **RAI 2.3.3.19-3 RESPONSE**

A review of applicable isometric drawings identified that a seismic anchor is located at the transition from the auxiliary building to radwaste building piping tunnel between the safety-related/nonsafety-related interface and the end of the 10 CFR 54.4(a)(2) scoping boundary.

#### **RAI 2.3.3.19-4**

LRA Section 2.1.1.2.2(1) states that nonsafety-related SSCs attached to safety-related SSCs are within the scope of license renewal for 10 CFR 54.4(a)(2) up to the first seismic anchor past the safety-related/nonsafety-related interface. On domestic water system license renewal boundary drawing LRA-M-0034B, location F-3, the staff could not locate the seismic anchor on the nonsafety-related 3”-HCD-439 line connected to safety-related line 3”-HCC-65.

Provide additional information on the location of the seismic anchors or anchored components between the safety-related/nonsafety-related interface and the end of the 10 CFR 54.4(a)(2) scoping boundary.

#### **RAI 2.3.3.19-4 RESPONSE**

A review of applicable isometric drawings identified a seismic anchor located on the nonsafety-related piping beyond the nonsafety-related to safety-related interface on the nonsafety-related piping 3”-HCD-439. The piping to which the seismic anchors are attached is in the scope of license renewal and subject to aging management review per the criterion of 10 CFR 54.4(a)(2).

### **RAI 2.3.3.19-5**

The containment leak rate test system license renewal boundary drawing LRA-M-1072F, location B-3 and B-4, shows the after cooler and refrigerated air dryer as not within the scope of license renewal. However, the lines connecting to these two components are shown as in scope for 10 CFR 54.4(a)(2).

Provide additional information to clarify the scoping classification of the after cooler and refrigerated air dryer.

### **RAI 2.3.3.19-5 RESPONSE**

The aftercooler and refrigerated air dryer are temporary skid-mounted components associated with the containment leak rate testing. The lines connected to the after cooler and refrigerated air dryer are in scope for 10 CFR 54.4(a)(2). The tube side of aftercooler and refrigerated air dryer is liquid filled and the shell side contains compressed air. Thus, any leakage or spray from the tubes within the aftercooler and air dryer boundary is contained in the housing and will not affect safety-related components; therefore the tubes within the cooler are not in the scope of license renewal. The housing is included as "piping" in LRA Table 2.3.3-19-12, and included in the aging management evaluation in LRA Table 3.3.2-19-12 as "piping" – carbon steel.

### **RAI 2.3.3.19-6**

LRA Section 2.1.1.2.2(1) states that nonsafety-related SSCs attached to safety-related SSCs are within the scope of license renewal for 10 CFR 54.4(a)(2) up to the first seismic anchor past the safety-related/nonsafety-related interface. On containment leak rate test system license renewal boundary drawing LRA-M-1111A, locations E-7, D-7 and C-7, the staff could not locate the seismic anchors on the nonsafety-related lines connected to safety-related lines 1"-HCB-36, 1"-HCB-37, and 1"-HCB-38.

Provide additional information on the location of the seismic anchors or anchored components between the safety-related/nonsafety-related interface and the end of the 10 CFR 54.4(a)(2) scoping boundary.

### **RAI 2.3.3.19-6 RESPONSE**

The containment leak rate system is disconnected after testing where the highlighting ends on the drawing and is not part of the containment pressure boundary.

LRA Section 2.1.2.1.2 indicates that for the nonsafety-related component to safety-related component interfaces, the piping and components out to the end of a piping run (such as a vent or drain line) are included within the scope of license renewal. Accordingly, nonsafety-related piping and piping components to the end of the piping run in these situations are in scope for 10 CFR 54.4(a)(2) and subject to aging management review. This provides assurance that license renewal scoping encompasses components that support the design basis seismic analysis.

### **RAI 2.3.3.19-7**

LRA Section 2.1.1.2.2(1) states that nonsafety-related SSCs attached to safety-related SSCs are within the scope of license renewal for 10 CFR 54.4(a)(2) up to the first seismic anchor past the safety-related/nonsafety-related interface. On process sampling system license renewal boundary drawing LRA-M-1069 the staff could not locate seismic anchors on the 10 CFR 54.4(a)(2) nonsafety-related line between the safety-related/nonsafety-related interface at location H-8 and the end of the 10 CFR 54.4(a)(2) scoping boundary at valve SV-F572, location H-3.

Provide additional information on the location of the seismic anchors or anchored components between the safety-related/nonsafety-related interface and the end of the 10 CFR 54.4(a)(2) scoping boundary.

### **RAI 2.3.3.19-7 RESPONSE**

The complete drawing number is noted to be LRA-M-1069D.

A review of applicable isometric drawings revealed that support for the piping beyond the safety-related/nonsafety-related interface on drawing LRA-M-1069D at location H-8 is provided by panel 1P33P008, a base-mounted component shown on LRA-M-1069D as a solid line around the process sampling system components in location G-8 and G-3 and described in LRA Tables 2.4-4 and 3.5.2-4. Piping and components up to and including panel 1P33P008 are included in the scope of license renewal and are subject to aging management review.

### **RAI 2.3.3.19-8**

The process sampling system license renewal boundary drawing LRA-M-1069D shows the various sampling lines are within the scope of license renewal for 10 CFR 54.4(a)(2). However the license renewal boundary of these lines, at locations B/C-2 and H-3, is shown to end at valves F026 and F031. It is not clear that the piping no longer has the potential to impact safety-related components beyond valves F026 and F031.

Provide additional information to clarify the extent of the license renewal boundary.

### **RAI 2.3.3.19-8 RESPONSE**

Piping and piping components beyond the valves in question contain air only. Thus there is no potential for spatial impact to safety-related components, and the piping and components in question are not subject to aging management review.

**RAI 2.3.3.19-9**

The process sampling system license renewal boundary drawing LRA-M-1069B shows sampling lines are within the scope of license renewal for 10 CFR 54.4(a)(2). The piping sections below are connected to in-scope sampling lines but are not shown as within the scope of license renewal.

<b>Drawing Number &amp; Location</b>	<b>Continuation Issue</b>
LR-M-1069B, location B-2	Drip line from valve FA14.
LR-M-1069B, location B-3	Drip line from valve FA12.
LR-M-1069B, location B-4	Drip line from valve FA10.
LR-M-1069B, location B-5/6	Drip line from valve FA08.
LR-M-1069B, location B-6/7	Drip line from valve FA06.
LR-M-1069B, location B-7/8	Drip line from valve FA04.
LR-M-1069B, location E-2	Drip line from valve F981.
LR-M-1069B, location E-3	Drip line from valve F979.
LR-M-1069B, location E-4	Drip line from valve F977.
LR-M-1069B, location E-5	Drip line from valve F974.
LR-M-1069B, location E-5/6	Drip line from valve F972.

Provide additional information to clarify the extent of the license renewal boundary.

**RAI 2.3.3.19-9 RESPONSE**

The drip lines connected to the valves in question are within the scope of license renewal for 10 CFR 54.4(a)(2) and subject to aging management review.

The drip lines are included in the component type "piping" shown in LRA Table 2.3.3-19-15, Process Sampling System Nonsafety-Related Components Affecting Safety-Related Systems Subject to Aging Management Review, and are included in the aging management evaluation in LRA Table 3.3.2-19-5 as "piping" – carbon steel.

### **RAI 2.3.3.19-10**

The turbine building cooling water system license renewal boundary drawing LRA-M-1044A, location F-6, shows line 1"-JBD-1342 to be within the scope of license renewal for 10 CFR 54.4(a)(2) with continuation to drawing LRA-M-1062C (location D-1). However, the continuation of this line on drawing LRA-M-1062C is shown as not within the scope of license renewal.

Provide additional information to clarify the scoping classification of this pipe section.

### **RAI 2.3.3.19-10 RESPONSE**

The turbine building cooling water system line shown on LRA-M-1044A extends to LRA drawing LRA-M-1062C and should have been highlighted as within the scope of license renewal for 10 CFR 54.4(a)(2) and subject to aging management review.

The affected components are included in the component type "piping" shown in LRA Table 2.3.3-19-18, Turbine Building Cooling Water System Nonsafety-Related Components Affecting Safety-Related Systems Subject to Aging Management Review, and are included in the aging management evaluation in LRA Table 3.3.2-19-18 as "piping" and valve body" – carbon steel.