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GNRO-2016/00029

June 6, 2016

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

**SUBJECT:** Grand Gulf Nuclear Station Comments Regarding License Renewal Safety  
Evaluation Report ML16090A252 dated April 4, 2016  
Grand Gulf Nuclear Station, Unit 1  
Docket No. 50-416  
License No. NPF-29

**REFERENCE:** U.S. NRC Letter, "Safety Evaluation Report Related to the License  
Renewal of Grand Gulf Nuclear Station, Unit 1, ML16090A252

Dear Sir or Madam:

Entergy Operations, Inc. is providing, in the Attachment, a list of comments from review of the referenced Safety Evaluation Report (SER) to clarify and/or correct information in the report to ensure accuracy.

Additionally, the Advisory Committee for Reactor Safeguards (ACRS) subcommittee meeting held May 4, 2016 questioned if BWRVIP-18, Revision 1, had been approved (the referenced SER stated that BWRVIP-18 was under review). Your Staff acknowledged that BWRVIP-18, Revision 1, had been approved and took a follow-up action to identify any other instances of an SER-referenced document being updated since the 2013 SER. Please consider updating Appendix D to the referenced SER.

This letter contains no new commitments.

If you have any questions or require additional information, please contact James Nadeau at 601-437-2103.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 6th day of June, 2016.

Sincerely,

  
KJM/ras

Attachment: Comments from review of the Safety Evaluation Report Related to the License  
Renewal of Grand Gulf Nuclear Station, Unit 1, ML16090A252

cc: with Attachment

U.S. Nuclear Regulatory Commission  
ATTN: Mr. Emmanuel Sayoc, NRR/DLR  
Project Manager  
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Washington, DC 20555

cc: without Attachments

U.S. Nuclear Regulatory Commission  
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Regional Administrator, Region IV  
U.S. Nuclear Regulatory Commission  
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NRC Senior Resident Inspector  
Grand Gulf Nuclear Station  
Port Gibson, MS 39150

Attachment to

GNRO-2016/00029

Comments from review of the Safety Evaluation Report Related to the License Renewal of  
Grand Gulf Nuclear Station, Unit 1, ML16090A252

Comment No.	Section/Pg.#	Comment
1.	1.5/1-8	Open Item 3.0.3.1.39-1 Service Water Integrity does not include any information describing what the open item was or what section in the SER covers this item. This is inconsistent with two of the other open items. Also open item 4.2.1-1 refers to SER section that covers the open item but fails to describe the open item.
2.	1.7/1-10	License condition 2 incorrectly refers to the commitment list in the LRA as being in Section A.5 when it is actually in Section A.4 as stated in the response to RAI A.1-1 in the 12-20-13 letter. Change A.5 to A.4
3.	2.1.3.1.2/2-4	1 <sup>st</sup> paragraph, 5th line, delete comma after <i>controls</i> .
4.	2.1.4.2.2/2-11	2 <sup>nd</sup> full paragraph, 1 <sup>st</sup> sentence: Delete commas before and after <i>directly connected to SSCs</i> since this is a restrictive clause.
5.	2.1.4.3.2/2-14	1 <sup>st</sup> paragraph under 2.1.4.3.2 states, "As part of this review, during the scoping and screening methodology audit, the staff had discussions with the applicant, reviewed implementing procedures and the technical basis documents, license renewal drawings, and scoping results reports." For GGNS, the scoping results are included in one scoping results report. Rather than referring to "scoping results reports," suggest revising to say "reviewed...scoping results" or "reviewed...applicable sections of the scoping report." Also, In last sentence of this paragraph, suggest changing "scoping report results referenced" to "scoping report referenced." This comment applies in each instance of the discussion of multiple scoping reports.

Comment No.	Section/Pg.#	Comment
6.	2.1.4.3.2/2-14	The discussion of regulated events refers to technical basis documents for license renewal topics. For example, the fire protection scoping discussion refers to "the Fire Protection technical basis document." A number of technical basis documents were used during the (a)(3) scoping, but not necessarily a specific technical basis document for each of the regulated events. Consider revising to say "the applicable technical basis documents." This comment applies to scoping discussions that refer to a single specific technical basis document.
7.	2.1.4.3.2/2-14	Under Fire Protection, paragraph says, "...the staff reviewed a selected sample of scoping reports for the systems and structures identified in the Fire Protection technical basis document." This is not an accurate description of what the staff reviewed for scoping for 10 CFR 50.48 because there was a single scoping report with sections for individual systems. LRA Section 2.1.1.3.1 discusses scoping for fire protection and identifies the technical documents used for scoping.
8.	2.1.4.3.2/2-14	Under Environmental Qualification, staff's discussion of EQ scoping does not include the bounding method used for electrical scoping. The implementing procedure describes the bounding approach for scoping rather than a process that considers EQ technical basis documents. As described in LRA Section 2.1.1 and 2.1.1.3.2, plant EIC systems are included in the scope of license renewal by default. This includes equipment relied upon to perform a function that demonstrates compliance with the Commission's regulations for environmental qualification.

Comment No.	Section/Pg.#	Comment
9.	2.1.4.3.2/2-14	Under Anticipated Transient Without Scram, there is no mention of the bounding approach to scoping electrical and I&C commodity groups. As indicated in LRA Section 2.1.1 and 2.1.1.3.4, plant EIC systems are included in the scope of license renewal by default. Consequently, EIC equipment that supports the requirements of 10 CFR 50.62 is included in the scope of license renewal.
10.	2.1.4.3.2/2-15	Under Station Blackout, discussion states, "In addition, the staff reviewed a selected sample of scoping reports for the systems and structures identified in the SBO technical basis document." This is an inaccurate description of the GGNS scoping and screening process. As indicated in LRA Section 2.1.1 and 2.1.1.3.5, plant EIC systems are included in the scope of license renewal by default. Consequently, electrical equipment that supports the requirements of 10 CFR 50.63 is included in the scope of license renewal.
11.	2.1.4.4.2/2-16	The SER discusses scoping results <i>reports</i> , plural. For GGNS, one scoping report documents the scoping results for all GGNS systems. It would be more appropriate to discuss reviews of sections of the report or simply "scoping results," rather than scoping results reports.
12.	2.1.4.6.2/2-18	2 <sup>nd</sup> paragraph, discussion refers to <i>scoping reports</i> . For GGNS, it is more appropriate to refer to the "discussion of structures in the scoping report."
13.	2.1.4.6.2/2-18	2 <sup>nd</sup> paragraph should have <i>structure intended functions</i> instead of <i>system intended functions</i> .
14.	2.3.2.3/2-38	Reference to LRA Section 2.3.2.1 should be to Section 2.3.2.3.
15.	2.3.3.4.1/2-47	Leakage Detection and Control consists of three systems. The SER discussion in paragraph 1 & 2 covers the leak detection system only.

Comment No.	Section/Pg.#	Comment
16.	2.3.3.19.1/2-67	In the first line, the section referenced should be 2.3.3.19. Note: LRA Section 2.3.2.8 is correctly referenced in section 2.3.2.8.1, page 2-42.
17.	2.3.3.19.1/2-67	Correct first list of systems and sections as follows: -Control Room Heating, Ventilation and Air Conditioning (LRA Section 2.3.3.17) -Heating, Ventilation and Air Conditioning (LRA Section 2.3.3.18)
18.	2.4.1.1.5/2-82	In 3 <sup>rd</sup> bullet item, please change "in vessel" to "in-vessel." The meaning is ambiguous as written.
19.	2.4.3.1.3/2-90	Last paragraph under Transformer and Switchyard Support Structures and Foundations contains duplicate information of the previous paragraph. Please delete one of the last two paragraphs.
20.	2.4.4.1/2-92	In 2nd paragraph, please change "LRA Table 2.4-2" to "LRA Table 2.4-4". Table 2.4-4 corresponds to this section of the SER.
21.	2.4.4.1/2-92	The 3 <sup>rd</sup> paragraph contains duplicate information of the previous paragraph. Please delete the 3rd paragraph: "LRA Table 2.4-4 identifies bulk commodities component types that are within the scope of license renewal and subject to an AMR."
22.	2.5/2-93	First paragraph, in 1 <sup>st</sup> sentence, add RAI number as follows. In its scoping evaluation, the staff reviewed the applicable LRA sections and the RAI <u>2.5-1</u> response, focusing on components that have not been identified as within the scope of license renewal.
23.	2.5.1.2/2-94	Last paragraph, 2 <sup>nd</sup> sentence: The scoping boundary consists of the 34.5 kV breakers (552-1,104 <u>1104</u> and 552-2,104 <u>2104</u> ) and 115 kV breaker (J1365).
24.	2.6/2-95	Third paragraph- "renewed licenses"- license should be singular.
25.	3.0.2.4/3-6 and 3-7	The paragraphs discussing Notes B thru E do not belong in this section, which is titled "Documentation and Documents Reviewed. The same discussion is already in 3.0.2.2.

Comment No.	Section/Pg.#	Comment
26.	3.0.3.1.1/3-12	Operating Experience, first paragraph states: "...visual inspection of the condensate storage tank (CST) conducted in 2007 found indications of age-related degradation." By letter GNRO-2014/00030 dated 5/13/14, LRA section B.1.2 Aboveground Metallic Tanks, operating experience section was changed to indicate that this visual inspection found <u>no</u> indications of age-related degradation.
27.	3.0.3.1.1/3-13	Letter GNRO-2014/00030 revised the LRA to indicate that the Fire Water System Program manages the effects of aging on the fire water system tanks rather than the Aboveground Metallic Tanks Program described in LRA section B.1.2. The operating experience description for this program was correspondingly revised to remove discussion of the fire water storage tanks. However, the SER includes discussion of plant-specific operating experience related to the fire water storage tanks in section 3.0.3.1.1 Aboveground Metallic Tanks.
28.	3.0.3.1.4/3-23	The SER states in the 2 <sup>nd</sup> paragraph, 1 <sup>st</sup> sentence, "The "preventive actions" program element in GALL Report AMP XI.M41 recommends that coatings are in accordance with Section 3.4 of NACE RP0285-2002." This is incorrect. In ISG-LR-2011-03, GALL AMP XI.M41 recommends that coatings are in accordance with Table 1 of NACE SP0169-2007 or Section 3.4 of NACE RP0285-2002.
29.	3.0.3.1.7/3-38 starting half way down the page and continuing on Page 3-39.	The SER makes several references to AAI No. 5 specific to BWRVIP-27. The reference should be to AAI No. 4. According to BWRVIP-27-A, Section 4.1, pdf Page 83 of 90 there is no AAI No. 5 for BWRVIP-27.
30.	3.0.3.1.18/3-91	Please remove blank line (extra return) in second to the last paragraph on this page

Comment No.	Section/Pg.#	Comment
31.	3.0.3.1.20/Page 3-101	The beginning of this section lists a number of letters to the NRC from Entergy that describe the FWS AMP. However, it does not list letters dated May 15, 2012, June 27, 2012, and August 13, 2012.
32.	3.0.3.1.20/Page 3-106 (Exception 6)	The SER Exception 6, last sentence, states, "The applicant also stated that it performs holiday testing and ultrasonic thickness checks or mechanical measurements of any corroded areas." This is incorrect. Exception #6 in the August 19, 2015 letter (GNRO-2015/00055) to the NRC states, "When indications are identified in the fire water tank coating, GGNS performs holiday testing. In addition, GGNS performs ultrasonic thickness checks or mechanical measurements of any corroded areas." Holiday testing is only performed on the coating in areas where there are indications of coating degradation.
33.	3.0.3.1.20/Page 3-108 (Enhancement 2) 4 <sup>th</sup> Sentence	The 4 <sup>th</sup> sentence reads, "In its response to RAI 3.5.2.4-4, dated June 27, 2012....." The date of the response is July 25, 2012, not June 27, 2012.
34.	3.0.3.1.20/Page 3-110, 2 <sup>nd</sup> paragraph under Enhancement 10, 1 <sup>st</sup> Sentence	The SER sentence reads, "The staff finds the applicant's response acceptable because the plant-specific configuration for the distribution piping does not include nozzles." Our response does not say that the piping does not include nozzles. Our response says we thought the wording "fire water distribution piping" was better than nozzles because the vendor manual was ambiguous with respect to the presence of nozzles. It was not clear in the vendor manual if there were nozzles or simply holes drilled in the pipe. The conclusion was that GGNS would perform air testing to ensure no blockage and inspect fire water distribution piping, including nozzles if any, when the charcoal is replaced.
35.	3.0.3.1.23/3-137	In 2 <sup>nd</sup> paragraph, last sentence, please change "RAI B.124-2" to "RAI B.1.24-2".

Comment No.	Section/Pg.#	Comment
36.	3.0.3.1.36 General	In various places within Section 3.0.3.1.36, fluence values are given that are no longer valid as a result of updated neutron transport analyses and the issuance of the response to RAI 4.2.1-2c(5)(b) [GNRO-2105/00048, Dated July 29, 2015]. Without additional discussion on updated fluence values, it is unclear that the fluence values shown are not current. Suggest adding a reference to the response to RAI 4.2.1-2c(5)(b) with a note that says slightly different fluence values were provided, but the conclusions regarding program acceptability were not altered.
37.	3.0.3.1.37/3-185	In "Summary", last sentence, please close quotation mark after the word "effects" to read: "detection of aging effects" and "acceptance criteria" program.
38.	3.0.3.1.39/3-192	The last sentence in the 2 <sup>nd</sup> paragraph states, "but the majority of the inspections were conducted since August 2013, apparently as a result of the issues related to the Predecisional Enforcement Conference conducted on July 16, 2013." This seems a speculative statement. Recommend deletion of "apparently as a result of the issues related to the Predecisional Enforcement Conference conducted on July 16, 2013" from the last part of this sentence.
39.	3.0.3.1.40/3-198	In Enhancement 1, second sentence, please add "(GGN2)" after "containment building".
40.	3.0.3.1.40/3-200	In last paragraph, 1st sentence, please delete the comma after the word "May."

Comment No.	Section/Pg.#	Comment
41.	3.0.3.2.1/3-214	<p>Last paragraph - RAI B.1.1-1 was not for the subject discussed. This was RAI B.1.1-2. This needs to be corrected in the rest of the statements for RAIs in the "Corrective Action" section of this AMP discussion.</p> <p>In a letter dated June 22, 2012, the staff issued RAI <del>B1.1-4</del> <u>B.1.1-2</u>, requesting the applicant revise the corrective actions as appropriate to include the corrective actions when inspection acceptance criteria are not met or provide a technical justification of how the proposed corrective actions are consistent with SRP-LR Section A.1.2.3.7, . . .</p>
42.	3.0.3.2.1/3-216	<p>Last paragraph - RAI B.1.1-2 was not for the subject discussed. This was RAI B.1.1-1. This needs to be corrected in the rest of the statements for RAIs in the "Operating Experience" section of this AMP discussion.</p> <p>In a letter dated June 22, 2012, the staff issued RAI <del>B1.1-2</del> <u>B.1.1-1</u>, requesting the applicant confirm that MH-15 containing in-service cables has been inspected.</p>
43.	3.0.3.3.2/3-226	<p>Under Monitoring and Trending of Results, the SER quotes from the LRA saying, "...and (b) the coating inspection report will include a list and location of all areas evidencing deterioration...". The latest change to the referenced section was provided in a letter dated November 6, 2014, which includes the statement "the coating inspection report will include a list of locations identified with coating degradation." The SER statement is incorrect as the quoted statement is not found in the LRA.</p>

Comment No.	Section/Pg.#	Comment
44.	3.0.3.3.2/3-227	SER states: "By letters dated August 19, 2015, and November 23, 2015, the applicant stated...If base metal is exposed and accompanied by <b>accelerated</b> corrosion, a volumetric examination will be performed...". This is incorrect. The word "accelerated" was not found in letters dated August 19, 2015, and November 23, 2015. The SER earlier stated: "In its response dated November 6, 2014, the applicant stated that the term "accelerated corrosion" was revised to "corrosion".
45.	3.3.2.3.1/3-361, 362	At the bottom of the page, the three paragraphs discussing carbon steel heat exchanger components exposed to raw water should be moved to section 3.3.2.3.16
46.	3.3.2.3.9/3-369	Second full paragraph is redundant to conclusion paragraph at the end of the section.
47.	3.3.2.3.14/3-374	Introductory statement that staff reviewed table 3.3.2-14 is missing.
48.	3.7/3-504	Second paragraph- "renewed licenses"- license should be singular.
49.	4.1.1.1/ 4-2	In the second bulleted list on the page, please add closing ")" after LRA Section 4.4.
50.	4.1.2.1.1/4-3	The "RV axial weld probability" should be "RV axial weld <b>failure</b> probability" to match LRA Section 4.2.5.
51.	4.1.2.1.2/4-17	In the paragraph "Potentially Applicable TLAs...", BWRVIP-48A should be BWRVIP-48-A (add dash)

Comment No.	Section/Pg.#	Comment
52.	4.2.4.2 /4-47	<p>The last paragraph of Section 4.2.4.2, in part, states, “<i>The staff finds the applicant’s conclusion for this TLAA acceptable because.... (b) the applicant committed that it will request relief from the requirement to perform volumetric examinations of the RPV circumferential welds, in accordance with 10 CFR 50.55a, prior to entering the period of extended operation</i>”.</p> <p>The only explicit commitment is that the relief will be submitted in accordance with 10 CFR 50.55(a), which may not require submittal prior to the period of extended operation.</p> <p>Suggest re-wording to state, “<i>The staff finds the applicant’s conclusion for this TLAA acceptable because.... (b) the applicant committed that it will request relief from the requirement to perform volumetric examinations of the RPV circumferential welds, in accordance with 10 CFR 50.55a.,<del>prior to entering the period of extended operation.</del></i></p>

Comment No.	Section/Pg.#	Comment
53.	4.2.6.2 /4-51	<p>The third paragraph in Section 4.2.6.2 Staff Evaluation states, <i>“By letter dated June 5, 2012, the staff issued RAI 4.2.6-1 requesting that the applicant provide the following information and calculations to confirm that the applicant’s RV materials are bounded by the analysis in the Ranganath paper as referenced in the LRA: (a) additional supporting information and calculations, including the projected fracture toughness values of the RV materials in comparison to the acceptable RV fracture toughness values for the postulated event, (b) confirmation as to whether the applicant’s bounding-case analysis in LRA Section 4.2.6 includes all the relevant RV materials, the fast fluence values of which are projected to exceed <math>1 \times 10^{17}</math> n/cm<sup>2</sup> during the period of extended operation, not omitting any newly identified limiting material or extended beltline material (e.g., not omitting the relevant materials addressed in LRA Table 4.2-2), and (c) justification for why the applicant’s RV is sufficiently similar to the RV analyzed in the paper for comparison.</i></p> <p>RAI 4.2.6-1 request summaries labeled as (a), (b), and (c) in this paragraph actually relate to RAI 4.2.6-1 requests (a.1), (a.2), and (a.3), respectively. Additionally, RAI 4.2.6-1 requests (b) and (c) are not summarized. It is noted that although RAI 4.2.6-1 requests (b) and (c) are not summarized, response summaries for all 5 parts of the RAI request (a.1 through c) are addressed in the SER.</p>
54.	4.3.1/4-53	The last sentence on the page should refer to LRA Table 4.3-1
55.	4.3.1/4-57	The third paragraph last sentence should be Table 4.3-1 (singular)
56.	4.7.2.3 /4-92	<p>The first sentence in Section 4.7.2.3 refers to “....LRA Section A2.5.2....”</p> <p>Change LRA Section reference to A.2.5.2. (add period between A and 2) #</p>

Comment No.	Section/Pg.#	Comment
57.	4.8/4-99	Second paragraph- “renewed licenses”- license should be singular.
58.	App A/A-5	In item 2 of Commitment 9, the phrase “during each 10-year period” should be revised to “during each 5-year period.” This is consistent with the commitment as revised in letter GNRO-2013/00021.
	App A/A-6	The last bullet under item 3 of Commitment 9 (ESM) should be split into two items. A separate bulleted paragraph should include the section beginning with “Removal of tightly adhering insulation that is impermeable...” [See Letter GNRO-2014/00030]
59.	App A/A-8	Commitment 12 (Fire Water System Program), 4 <sup>th</sup> para, 4 <sup>th</sup> line: wet pipe systems were removed from this commitment. Delete “and wet pipe” from this paragraph. [See Letter GNRO-2015/00055]
60.	App A/A-9	Commitment 12 (Fire Water System Program), 2 <sup>nd</sup> para: For better technical clarity and ease of use to the reader, consider indenting the second para as it belongs to item 2 above in the SER.
61.	App A/A-13	Commitment 12 (Fire Water System Program), 1 <sup>st</sup> paragraph: The acceptance criteria statement was removed consistent with LR-ISG-2012-02 as shown in letter GNRO-2014/00030. Delete the last sentence in this paragraph.
62.	App A/A-18	Commitment 27: Consider adding letter GNRO-2012/00081 to the Source column.
63.	App A/A-22	Commitment 30 (Structures Monitoring Program), last paragraph: codes ACI 201.1R-92 and ACI 349.3R-96 with <u>no</u> space between the revision levels. The SER shows ACI 201.1 with a space between the code and R-92. For consistency show both codes without a space between the revision levels.

Comment No.	Section/Pg.#	Comment
64.	App A/A-24	Commitment 31 (Water Chemistry Control – Closed Treated Water Program) last para, 2 <sup>nd</sup> sentence, general observation: Typo – “...200/0 of the population...” should read “...20% of the population...”.
65.	App A/A-26	Commitment 35 (Service Water Integrity Program), para iii, 1 <sup>st</sup> sentence: Typo – “mediation” should read “remediation”.
66.	App A/A-28	Commitment 36 (Wall thinning other than FAC): this commitment item number is missing from the SER. Add Commitment 36 to the SER per letter GNRO-2013/00096. Also add letter GNRO-2013/00096 to the Source column.
67.	Appendix B/B-9	The following are not identified in the appendix October 11, 2013 GNRO-2013/00079 Response to set 49 October 27, 2014 GNRO-2014/00074 for the 2014 annual update. November 21, 2013 RAI letter from NRC for set 48 December 10, 2015 GNRO-2015/00080 for the 2015 annual update.
68.	Appendix D/D-3	The <i>proprietary information</i> note was not included for BWRVIP-05, 38, 130 and 183. Consider adding the note.
69.	3.0.3.1.5/3-29	Second paragraph citing what is stated in the LRA is not accurate. The SER adds words to what the LRA actually states. For example, the LRA says the program manages <b>cracking</b> . The SER says that the LRA states that the program manages <b>the effects of cracking</b> .
70.	Section 6/p. 6-1	It appears that the second paragraph should be updated to reflect closure of open items.
71.	Entire SER	ACRS subcommittee questioned if BWRVIP-18, Revision 1, had been approved. The SER states that BWRVIP-18 is under review. Determine if BWRVIP-18, Rev 1 has been approved.
72.	Entire SER	Review SER to identify any other instances of an SER-referenced document being updated since the 2013 SER.
73.	Appendix D	Update Appendix D to include all referenced documents.