



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

June 15, 2012

Mr. Michael Perito
Vice President, Site
Entergy Operations, Inc.
P.O. Box 756
Port Gibson, MS 39150

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE
GRAND GULF NUCLEAR STATION LICENSE RENEWAL APPLICATION (TAC
NO. ME7493)

Dear Mr. Perito:

By letter dated October 28, 2011, Entergy Operations, Inc., submitted an application pursuant to Title 10 of the *Code of Federal Regulations*, Part 54, to renew the operating license for Grand Gulf Nuclear Station, Unit 1 (GGNS) for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review.

These requests for additional information were discussed with Jeff Seiter, and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-1045 or e-mail nathaniel.ferrer@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "N. Ferrer", with a long horizontal flourish extending to the right.

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

Docket No. 50-416

Enclosure:
Requests for Additional
Information

cc w/encl: listserv

GRAND GULF NUCLEAR STATION
LICENSE RENEWAL APPLICATION
REQUESTS FOR ADDITIONAL INFORMATION SET 20

RAI 2.1-1

Background. 10 CFR 54.4, "Scope," states, in part:

(a) Plant systems, structures and components [SSCs] within the scope of this part are –

(1) Safety-related SSCs which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49 (b)(1)) to ensure the following functions –

- (i) The integrity of the reactor coolant pressure boundary;
- (ii) The capability to shut down the reactor and maintain it in a safe shutdown condition; or
- (iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in 10 CFR 50.34(a)(1), 10 CFR 50.67(b)(2), or 10 CFR 100.11, as applicable.

LRA Section 2.1.1.1, "Application of Safety-Related Scoping Criteria," states, in part, relative to the scoping criteria of 10 CFR 54.4(a)(1)(iii), "[t]he capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the applicable guideline exposures set forth in 10 CFR 50.34(a)(1), 10 CFR 50.67, or 10 CFR 100.11, as applicable."

Issue. During the on-site scoping and screening methodology audit, the staff reviewed the definitions of the term safety-related contained in fleet procedures, the Updated Final Safety Analysis Report (UFSAR) and the license renewal application (LRA), used to identify SSCs within the scope of license renewal. The staff determined that the applicability of 10 CFR 50.67 to Grand Gulf Nuclear Station (GGNS) was not specifically addressed in the definitions of the term safety-related in the fleet procedures, the UFSAR or the LRA.

Request. Confirm the definition of the term safety-related used in the development of the LRA and address the applicability of 10 CFR 50.67 to GGNS, as it relates to identifying SSCs within the scope of license renewal in accordance with 10 CFR 54.4(a)(1)(iii). Perform a review of this issue and indicate if the review concludes that use of the scoping methodology precluded the identification of SSCs that should have included within the scope of license renewal in accordance with 10 CFR 54.4(a). Describe any additional scoping evaluations performed to address the 10 CFR 54.4(a) criteria. List any additional SSCs included within the scope of license renewal as a result of the review, structures and components for which aging management reviews (AMR) were performed, and the results of the AMR. For each structure and component for which AMRs were performed, identify the aging management programs, as applicable, to be credited for managing the identified aging effects.

ENCLOSURE

RAI 2.1-2

Background. 10 CFR 54.4, "Scope," states, in part:

(a) Plant systems, structures and components [SSCs] within the scope of this part are –

(1) Safety-related SSCs which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49 (b)(1)) to ensure the following functions –

- (i) The integrity of the reactor coolant pressure boundary;
- (ii) The capability to shut down the reactor and maintain it in a safe shutdown condition; or
- (iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in 10 CFR 50.34(a)(1), 10 CFR 50.67(b)(2), or 10 CFR 100.11, as applicable.

Issue. During the on-site scoping and screening methodology audit, the staff determined that certain SSCs identified as safety-related in the plant equipment database were not included within the scope of license renewal in accordance with 10 CFR 54.4(a)(1).

Request. Provide the bases for not including any SSCs, identified as safety-related in the plant equipment database, within the scope of license renewal in accordance with 10 CFR 54.4(a)(1). Perform a review of this issue and indicate if the review concludes that use of the scoping methodology precluded the identification of SSCs that should have been included within the scope of license renewal in accordance with 10 CFR 54.4(a). Describe any additional scoping evaluations performed to address the 10 CFR 54.4(a) criteria. List any additional SSCs included within the scope of license renewal as a result of the review, structures and components for which AMR were performed, and the results of the AMR. For each structure and component for which AMRs were performed, identify the aging management programs, as applicable, to be credited for managing the identified aging effects.

RAI 2.1-3

Background. 10 CFR 54.4, "Scope," states, in part:

(a) Plant systems, structures and components [SSCs] within the scope of this part are –

(1) Safety-related SSCs which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49 (b)(1)) to ensure the following functions –

- (i) The integrity of the reactor coolant pressure boundary;
- (ii) The capability to shut down the reactor and maintain it in a safe shutdown condition; or

- (iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in 10 CFR 50.34(a)(1), 10 CFR 50.67(b)(2), or 10 CFR 100.11, as applicable.
- (2) All nonsafety-related SSCs whose failure could prevent satisfactory accomplishment of any of the functions identified in (a)(1)(i), (ii), or (iii) of this section.

Issue. During the on-site scoping and screening methodology audit the staff reviewed the license renewal application, the 10 CFR 54.4(a)(2) implementing documents and license renewal drawings, and also performed plant walkdowns. The staff determined through the audit activities and discussion with the applicant that equipment that was no longer required had been abandoned in place.

Request. Provide details on the activities performed to confirm that all abandoned equipment, that at any time contained fluids and is in the proximity of safety-related SSCs, has been verified to be drained or included within the scope of license renewal in accordance with 10 CFR 54.4(a)(2). If abandoned equipment has not been verified to be drained and is not included within the scope of license renewal, provide a technical basis for not including the abandoned equipment within the scope of license renewal in accordance with 10 CFR 54.4(a)(2). Perform a review of this issue and indicate if the review concludes that use of the scoping methodology precluded the identification of SSCs that should have been included within the scope of license renewal in accordance with 10 CFR 54.4(a). Describe any additional scoping evaluations performed to address the 10 CFR 54.4(a) criteria. List any additional SSCs included within the scope of license renewal as a result of the review, structures and components for which AMRs were performed, and the results of the AMRs. For each structure and component for which AMRs were performed, identify the aging management programs, as applicable, to be credited for managing the identified aging effects.

RAI 2.1-4

Background. 10 CFR 54.4, "Scope," states, in part:

(a) Plant systems, structures and components [SSCs] within the scope of this part are –

(1) Safety-related SSCs which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49 (b)(1)) to ensure the following functions –

- (i) The integrity of the reactor coolant pressure boundary;
- (ii) The capability to shut down the reactor and maintain it in a safe shutdown condition; or
- (iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in 10 CFR 50.34(a)(1), 10 CFR 50.67(b)(2), or 10 CFR 100.11, as applicable.

- (2) All nonsafety-related systems, structures and components whose failure could prevent satisfactory accomplishment of any of the functions identified in (a)(1)(i), (ii), or (iii) of this section.

Issue. During the on-site scoping and screening methodology audit the staff reviewed the license renewal application, license renewal implementing documents, current licensing basis documentation and performed walkdowns of the incomplete and abandoned Unit 2 turbine building and other adjacent structures.

The staff determined that the Unit 2 turbine building, which is adjacent to the GGNS turbine building and control building, both of which are within the scope of license renewal in accordance with 10 CFR 54.4(a)(1), is not included within the scope of license renewal in accordance with 10 CFR 54.4(a)(2). In addition, the staff noted that the radioactive waste building, which is also adjacent to the GGNS turbine building (but not the control building), is included within the scope of license renewal in accordance with 10 CFR 54.4(a)(2) for an intended function that includes, "Maintain structural integrity of non-safety related components such that safety functions are not affected and no impact on in-scope structures."

During the audit the applicant indicated that the basis for not including the incomplete and abandoned Unit 2 turbine building within the scope of license renewal in accordance with 10 CFR 54.4(a)(2) was an analysis that demonstrated that the Unit 2 turbine building would not move in a way that impacts adjacent buildings following flooding and earthquake events. However, the applicant did not provide information that demonstrated that the Unit 2 turbine building would not be subject to the effects of aging similar to other buildings of the same construction that the applicant had included within the scope of license renewal and made subject to an aging management program.

Request. Provide a technical basis for not including the incomplete and abandoned Unit 2 turbine building, located adjacent to the GGNS turbine building and the control building, within the scope of license renewal in accordance with 10 CFR 54.4(a)(2). If an analysis is cited as the technical basis for not including the Unit 2 turbine building within the scope of license renewal, demonstrate how the analysis considers the effects of aging relative to other buildings of similar construction that are included within the scope of license renewal. Perform a review of this issue and indicate if the review concludes that use of the scoping methodology precluded the identification of SSCs that should have been included within the scope of license renewal in accordance with 10 CFR 54.4(a). Describe any additional scoping evaluations performed to address the 10 CFR 54.4(a) criteria. List any additional SSCs included within the scope of license renewal as a result of the review, structures and components for which aging management reviews were performed, and the results of the AMR. For each structure and component for which aging management reviews were performed, identify the aging management programs, as applicable, to be credited for managing the identified aging effects.

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Mr. Michael Perito
Vice President, Site
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P.O. Box 756
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Sincerely,

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Nathaniel Ferrer, Project Manager
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Docket No. 50- 416

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