December 7, 2006

Mr. David H. Hinds, Manager, ESBWR
General Electric Company
P.O. Box 780, M/C J70
Wilmington, NC 28402-0780

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 83 RELATED TO ESBWR DESIGN CERTIFICATION APPLICATION

Dear Mr. Hinds:

By letter dated August 24, 2005, General Electric Company (GE) submitted an application for final design approval and standard design certification of the economic simplified boiling water reactor (ESBWR) standard plant design pursuant to 10 CFR Part 52. The Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed design.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter. This RAI requests information to support the staff's development of Chapter 20, "Generic Issues," of the ESBWR safety evaluation report.

Chapter 20: 20.0-1 through 20.0-6

To support the review schedule, you are requested to respond to these RAI questions by January 15, 2007.

If you have questions or comments concerning this matter, please contact me at (301) 415-3207 or saw8@nrc.gov or you may contact Amy Cubbage at (301) 415-2875 or aec@nrc.gov.

Sincerely,

/RA/

Shawn A. Williams, Project Manager
ESBWR/ABWR Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-010

Enclosure: As stated

December 7, 2006

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General Electric Company
P.O. Box 780, M/C J70
Wilmington, NC 28402-0780

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Chapter 20: 20.0-1 through 20.0-6

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Enclosure: As stated
ACCESSION NO. ML063350325

OFFICE	DNRL:NGE1:PM	DNRL:NGE1:BC
NAME	S.Williams-AEC For:	M.Shuaibi
DATE	12/7/06	12/7/06

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Request for Additional Information (RAIs)
ESBWR Design Control Document (DCD), Tier 2, Revision 1, Chapter 1, Generic Issues

RAI Number	Reviewer	Question Summary	Full Text
20.0-1	Radlinski R	GL 89-13, Supp 1, may be applicable to the plant-specific fire protection program depending on fire protection water source and quality.	DCD, Tier 2, Revision 1, Table 1C-1 states that GL 89-13, Supplement 1, is not applicable because the ESBWR has no safety-related service water. However, this GL supplement states: "The generic letter is not designed to focus on fire protection systems, which are not safety-related, but to incidentally include them if they use untreated water that could be subject to the service water system problems described in the generic letter." The staff believes that COL Applicant/Holder" should be indicated in Table 1C-1 rather than the current wording, "not applicable..." Since the fire water source will be determined by the COL applicant, explain why the "Evaluation Result" for this item in Table 1C-1 does not indicate "COL Applicant/Holder" or provide a justification for current wording.
20.0-2	Radlinski R	Will any electrical raceway fire barrier systems be required for separation of redundant safe-shutdown trains?	DCD, Tier 2, Revision 1, Table 1C-1 states that GL 92-008 is not applicable because the ESBWR provides strict physical separation between the redundant safety-related divisions without the need for Thermo-Lag 330. This suggests that the ESBWR design, including plant-specific electrical designs, does not require any local raceway fire barriers to ensure post-fire safe shutdown. Please confirm.
20.0-3	Radlinski R	Address GL 86-10, Supplement 1 and GL 2006-03 in Table 1C-1	GL 86-10, Supplement 1, and GL 2006-03 are not addressed in Table 1C-1, yet these GL's address electrical raceway fire barrier systems similar to those addressed by GL 92-008, which is included in Table 1C-1. The staff believes that GL 86-10, Supplement 1, and GL 2006-03 should also be addressed in Table 1C-1. Please include these GLs in the table or provide justification for not including them.

Request for Additional Information (RAIs)
ESBWR Design Control Document (DCD), Tier 2, Revision 1, Chapter 1, Generic Issues

RAI Number	Reviewer	Question Summary	Full Text
20.0-4	Williams S	Provide a consolidated response that to New Generic Issue 156.6.1	Provide a consolidated response to New Generic Issue 156.6.1, “Pipe Break Effects on Systems and Components.” DCD, Tier 2, Revision 1, Table 1.11-1 only states that this issue is address in Sections 3.5, 3.6, 3.8, and 3.9.
20.0-5	Davis R	Address concerns of Bulletin 80-08	In view of past weld inspection issues associated with the use of backing bars, provide the following information. Provide a description of containment welds, pressure boundary and structural, that have a weld joint design that utilizes a backing bar and requires a volumetric inspection for which the applicant will us the ultrasonic inspection method. Describe what steps will be taken to ensure that the examination techniques will reliably identify welding defects given the issues identified in Bulletin 80-08
20.0-6	Davis R	Address current guidance related to flow-accelerated corrosion	An acceptable flow-accelerated corrosion (FAC) program was originally outlined in NUREG-1344 "Erosion/Corrosion-Induced Pipe Wall Thinning in U.S. Nuclear Power Plants" and was further described in Generic Letter 89-08 "Erosion/Corrosion Induced Pipe Wall Thinning." NUREG-1801, Revision 1, "Generic Aging Lessons Learned (GALL) Report" provides a description of an effective FAC program. Per the guidance of GL 89-08, an FAC program must include all high-energy (two phase as well as single phase) carbon steel systems. The staff’s current position is that a licensee should adhere to the guidance provided in GL 89-08 and implement Electric Power Research Institute (EPRI) guidelines in the Nuclear Safety Analysis Center (NSAC)-202L-R2 for an effective FAC program. The staff requests that GE revise the applicable portions of the ESBWR DCD, Tier 2, Chapters 6, 5, and 10 to indicate that the COL applicant is responsible for submitting an FAC program following the guidance of GL 89-08 and meeting the guidelines of NSAC-202L-R2 (or other program deemed acceptable by the NRC.) It should be clear that all systems potentially susceptible to single phase and or two phase erosion-corrosion (ASME Class 1, 2, 3 and non-safety related) are included.

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