

February 1, 2006

Mr. David Hinds, Manager, ESBWR
General Electric Company
P.O. Box 780, M/C L60
Wilmington, NC 28402-0780

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 8 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 concerns the Reactor Water Cleanup/Shutdown Cooling System, Chapters 5, 6, 9, and 10, of the ESBWR design control document. This RAI was sent to you via electronic mail on December 9, 2005, and was discussed with you during a telecon on January 17, 2006. On January 24, 2006, you agreed to respond to these RAIs by February 28, 2006.

If you have any questions or comments concerning this matter, you may contact me at (301) 415-4125 or jsk@nrc.gov or you may contact Amy Cubbage at (301) 415-2875 or aec@nrc.gov.

Sincerely,

/RA/

James Kim, Project Manager
New Reactor Licensing Branch
Division of New Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 52-0010

Enclosure: As stated

cc: See next page

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ACCESSION NO. ML060250432

OFFICE	NRBA/PM	CSGB/BC	NRBA/BC
NAME	JKim	AHiser	LDudes
DATE	01/26/2006	01/30/2006	01/31/2006

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Distribution for DCD RAI Letter No. 8 dated February 1, 2006

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JWilliams

RAIs Regarding ESBWR Design Control Document (DCD) Sections 5.4, 6.5, 9.2, 9.3 and 10.4

RAI Number	Reviewer	Question Summary	Full Text
5.4-1	Yamir Diaz-Castillo	Provide design requirements for the non-regenerative heat exchangers.	Provide design requirements for the non-regenerative heat exchanger enabling it to maintain required temperature of the cleanup flow to the demineralizer when the regenerative heat exchanger cooling capacity is reduced as a result of partially bypassing a portion of the return flow to the main condenser or the radwaste system.
5.4-2	Yamir Diaz-Castillo	Provide design requirements for the system controlling flow through the resin beds.	Provide design requirements for a system controlling the ability of the demineralizer to automatically maintain flow through its resin beds in the event the system flow has to be decreased in order to prevent loss of resin from the bed.
5.4-3	Yamir Diaz-Castillo	Means of transferring resins in and out of the demineralizers.	Describe the resin transfer system and indicate the provisions taken to ensure that transfers are complete and that crud traps in transfer lines are eliminated.
5.4-4	Yamir Diaz-Castillo	Design features for control of radioactive effluents.	Describe the design features of the RWCS that will control the release of radioactive effluents to the environment in accordance with GDC 60.
5.4-5	Yamir Diaz-Castillo	Prevention of inadvertent opening of filter/demineralizer backwash valves.	Describe the control features that will prevent inadvertent opening of the filter/demineralizer backwash valves during normal operation.
5.4-6	Yamir Diaz-Castillo	Instrumentation provided for differential pressure.	Clarify whether instrumentation is provided for measuring differential pressure across the demineralizers and across the resin strainers.
5.4-7	Yamir Diaz-Castillo	Basis for designing return line as Quality Group B.	Provide the basis for designing the return line from the isolation valve, up to and including the connection to the feedwater line as Quality Group B.

RAI Number	Reviewer	Question Summary	Full Text
6.5-1	Yamir Diaz-Castillo	Meeting the requirements of GDC 42 and 43.	Provide more information on how the requirements of GDC 42 and 43 are met.
RAI Number	Reviewer	Question Summary	Full Text
9.2-1	Yamir Diaz-Castillo	Meeting the requirements of GDC 2 and RG 1.29, Positions C-1 and C-2.	Clarify if the Makeup Water System meets the requirements of GDC 2 and RG 1.29, Positions C-1 and C-2 and explain how each of these requirements are met. It is not clear from the application whether the non-safety related portions of the system, which upon their failure during a natural phenomena can adversely impact systems, structures and components important to safety, will be designed to ensure their integrity under the effects of natural phenomena.
9.2-2	Yamir Diaz-Castillo	Seismic Design and Quality Group classification.	Identify under what Seismic Design Categories and Quality Groups is the Makeup Water System classified, including the classification for the containment isolation portion of the system.
RAI Number	Reviewer	Question Summary	Full Text
9.3-1	Yamir Diaz-Castillo	Compliance with EPRI Report NP-5283-SR-A.	Clarify whether the means for storing and handling hydrogen comply with EPRI Report NP-5283-SR-A "Guidelines for Permanent BWR Hydrogen Water Chemistry Installations."

RAI Number	Reviewer	Question Summary	Full Text
10.4-1	Yamir Diaz-Castillo	Compliance with EPRI Report NP-4947–SR.	Clarify whether the Condensate Purification System complies with EPRI NP-49-47-SR “BWR Hydrogen Water Chemistry Guidelines,” (1987 Revision, October 1988).

ESBWR

cc:

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