

April 30, 2009

Mr. Jerald G. Head
Senior Vice President, Regulatory Affairs
GE Hitachi Nuclear Energy
3901 Castle Hayne Road MC A18
Wilmington, NC 28401

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 335 RELATED TO
ESBWR DESIGN CERTIFICATION APPLICATION

Dear Mr. Head:

By letter dated August 24, 2005, GE Hitachi Nuclear Energy 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 U.S. 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.

If you have any questions or comments concerning this matter, you may contact me at 301-415-2375 or leslie.perkins@nrc.gov, or you may contact Amy Cubbage at 301-415-2875 or amy.cubbage@nrc.gov.

Sincerely,

/RA/

Leslie Perkins, Project Manager
ESBWR/ABWR Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-010

Enclosure:
Request for Additional Information

cc: See next page

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Distribution: See next page

ADAMS ACCESSION NO. ML091180758 NRO-002

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SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO.335 RELATED TO
ESBWR DESIGN CERTIFICATION APPLICATION DATED APRIL 30, 2009

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**Requests for Additional Information (RAIs)
ESBWR Design Control Document (DCD), Revision 5**

RAI Number	Reviewer	Question Summary	Full Text
14.3-405 S01	Li H Wheeler L Caruso M	ITAAC Road Map	The staff reviewed GEH response to RAI 14.3-405 and identified issues below that still need to be addressed by GEH. A. In Table 14.3-1a, item 12 - Distributed Control and Information System (safety-related) refers to ITAAC Table 2.2.10-1, and item 13 - Distributed Control and Information System (nonsafety-related) refers to ITAAC Table 2.2.11-1. Both Tables 2.2.10-1 and 2.2.11-1 are not providing ITAAC information. These Tables only provide "software project" of related "Platform". The actual ITAAC information for these software projects are documented in Table 3.2-1, "ITAAC For Software Development." Table 14.3-1a should provide a note to direct the reader to ITAAC Table 3.2-1. B. In Table 14.3-1a, item 34 - Main Control Room Panel refers to ITAAC Table 2.2.13-1. Table 2.2.13-1, "SSLC/ESF Functional Arrangement" does not provide ITAAC information. Table 14.3-1a for this item should provide a note that the development of safety-related VDU is the ITAAC for Main Control Room Panel. C. In Table 14.3-1a, item 36 - Local Control Panels and Racks refers to ITAAC Table 2.2.6-1, "RSS Functional Arrangement," Table 2.3.2-1, "ARM locations," and Table 2.5.10-1, "ITAAC for Fuel Transfer System." A note should be provided what is the intended ITAAC for Local Control Panels and Racks.

Enclosure

RAI Number	Reviewer	Question Summary	Full Text
			D. In Table 14.3-1b, "Design Basis Accident Analysis Critical Parameters," many parameters listed in Tier 2 Table 15.2-1, "Input Parameters, Initial Conditions and Assumptions" need to be verified by Tier 1, ITAAC Table 2.2.15-2, "ITAAC for IEEE Std. 603 Compliance Confirmation." Table 2.2.15-2 is a very large table that involves 46 ITAAC items. Any design feature, that needs to be verified by ITAAC Table 2.2.15-2, should specifically identified which item in the Table 2.2.15-2 is relevant to that design feature. E. The reference on page 14.3-48 (Table 14.3-1c) for PSWS, DCD Tier 1 reference should be Item 2 and not Item 1. F. It is not clear what "the valve" refers to in the following item from Table 14.3-1c. "A pneumatic accumulator and check valve are required to support the remote-manual and ADS-activated functions of the valve. The accumulator and check valve ensures that the valve opens via the pneumatic operator following a failure of the pneumatic pressure source." G. The tier 1 reference (i.e., Table 2.2.2-3) in Rev. 6 for the following item appears to be for something unrelated to the item: "Power operated equipment and valves on lines attached to the RPV that require maintenance have maintenance valves installed such that freeze seals will not be required."

RAI Number	Reviewer	Question Summary	Full Text
14.3-436 S02	Peiringer P	Tier 1 Section 3.3	The staff finds that the changes made to the ITAAC/DAC in Tier 1 Section 3.3 are acceptable, except for the concerns that are identified below. • The last bullet in the acceptance criteria for ITAAC item 2 limits the RSS to safety function allocations. The scope and methodology of NEDO-33220, Rev 2 is not limited to safety functions. Human performance is impacted by the integration of all responsibilities allocated to personnel. Thus, the RSS should identify the full scope of allocations as the plan does. Bullets should also be added for “A summary of AOF results” and “the process for refining and updating function allocations.” • The bullets in the acceptance criteria column for ITAAC item 5 do not agree with what was found to be acceptable in the IP NEDO-33267, Rev. 3, Section 5.1. The new bullets are not fully clear or complete. Thus, the bullets should be revised to match the IP. • The bullet that deals with laydown area in the acceptance criteria column for ITAAC item 7, should mention the MCR, RSSs and risk significant LCSs, as does the IP section for the results summary report.
14.3-452	Li H Peiringer P	Tier 2* designation	The staff request that subsections 14.3A.3, Digital Instrumentation and Control Design Acceptance Criteria Closure and 14 3A.4, Human Factors Engineering Design Acceptance Criteria Closure are marked as Tier 2* information. Also, in section 14.3A.3, GEH states that “It is expected that information will be made available (e.g., Topical Report) for the NRC review, audit,” Staff requests that GEH explain the content of information and level of detail that will be made available to the NRC as it pertains to the document requirements of RG 1.206, Section C.III.5.

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(Revised 04/01/2009)

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