

June 8, 2016

Mr. Jerald G. Head  
Senior Vice President, Regulatory Affairs  
GE Hitachi Nuclear Energy  
3901 Castle Hayne Road MC A-18  
Wilmington, NC 28401

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NUMBER 10  
RELATED TO CHAPTER 13 FOR GE-HITACHI NUCLEAR ENERGY  
ADVANCED BOILING-WATER REACTOR DESIGN CERTIFICATION RULE  
RENEWAL APPLICATION

Dear Mr. Head:

By letter dated December 7, 2010, GE Hitachi Nuclear Energy submitted for approval an application to renew the Advanced Boiling-Water Reactor design certification rule pursuant to Title 10 of the *Code of Federal Regulations* (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 whether to grant the renewal application.

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. You are requested to respond within 30 days of the date of this letter.

If changes are needed to the design control document, the staff requests that the RAI response include the proposed wording changes. If you have any questions or comments concerning this matter, I can be reached at 301-415-4093 or by e-mail at [adrian.muniz@nrc.gov](mailto:adrian.muniz@nrc.gov).

Sincerely,

/RA/

Adrian Muñiz, Project Manager  
Licensing Branch 3  
Division of New Reactor Licensing  
Office of New Reactors

Docket No.: 052-45

eRAI Tracking No. 8606

Enclosure: Request for Additional Information

June 8, 2016

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**NRO-002**

OFFICE	DSRA/SCVB/TR	DSRA/SCVB/BC	DNRL/LA	DNRL/LB3/LPM
NAME	BMusico	JAnderson	SGreen**	AMuñiz
DATE	5/5/16*	5/5/16*	6/8/16	6/8/16

\*Approval captured electronically in the electronic RAI system. \*\*via e-mail

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Letter to Jerald G. Head from Adrian Muñiz dated June 8, 2016

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NUMBER 10 RELATED  
TO CHAPTER 13 FOR GE-HITACHI NUCLEAR ENERGY ADVANCED  
BOILING-WATER REACTOR DESIGN CERTIFICATION RULE RENEWAL  
APPLICATION

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**Request for Additional Information 10**  
Application Title: GEH ABWR DC Renewal  
Operating Company: GEH  
Docket No. 52-045  
Review Section: 13.03 - Emergency Planning

QUESTION 13.03-1

10 CFR 50.47(b)(8) (1997) requires that “[a]dequate emergency facilities and equipment to support the emergency response are provided and maintained.” Also, Paragraph IV.E.8 of Appendix E to 10 CFR Part 50 (1997) requires “[a] licensee onsite technical support center and a licensee near-site emergency operations facility from which effective direction can be given and effective control can be exercised during an emergency.” Section 2.6, “Habitability,” of NUREG-0696 states in part that the Technical Support Center (TSC) shall have the same radiological habitability as the control room under accident conditions, and the TSC ventilation system shall function in a manner comparable to the control room ventilation system. For the control room, General Design Criteria (GDC) 19 specifies an exposure acceptance criteria of 5 rem total effective dose equivalent (TEDE) (0.05 Sievert (Sv)) for the duration of design basis accidents (DBAs). The DBAs are discussed in Chapter 15 of the ABWR DCD. In addition, Section 8.2, “Technical Support Center (TSC),” of NUREG-0737 (Suppl. 1) addresses various TSC requirements, including radiological protection in Subsection 8.2.1.f.

GEH Design Control Document (DCD), Tier 2, Revision 6, February 2016, Chapter 13, “Conduct of Operations,” Section: 13.3, “Emergency Planning,” addresses the TSC and states in Table 13.3-1 (fourth column) that, for the TSC, “[t]he necessary facilities and equipment are called for in Section 2 of NUREG-0696.” The TSC and OSC (Lunch Room) are both located in the Service Building. DCD Tier 2 Section 9.4.8, “Service Building HVAC System,” describes the ventilation system for the TSC. DCD Tier 2 Section 9.4.8, does not appear to describe TSC radiological habitability capability under accident conditions that is the same as the radiological habitability capability of the main control room.

Please address this apparent conflict within the DCD with respect to the TSC habitability and ventilation system guidance provided by Section 2.6 of NUREG-0696 and Section 8.2 of NUREG-0737 (Suppl. 1) by providing the following information:

- a. Describe how the TSC ventilation system (to the extent not addressed in DCD Tier 2 Section 9.4.8), will function in a manner comparable to the control room ventilation system. For example, Section 2.6 of NUREG-0696 states that a TSC ventilation system that includes high-efficiency particulate air (HEPA) and charcoal filters are needed as minimum design features.
- b. Describe how the TSC radiological habitability is the same as the control room under accident conditions, including the ABWR TSC radiological consequence analyses for the postulated DBAs.
- c. Revise the ABWR DCD, as appropriate, to be consistent with the TSC habitability criteria in NUREG-0696 and NUREG-0737 (Suppl. 1).
- d. Add an additional ITAAC in DCD Tier 1 Table 2.17.1, “Emergency Response Facilities,” to address TSC habitability, or explain why this is not necessary in this instance.