

April 29, 2015

Mr. Kiyoshi Okamura
Vice President
Nuclear Energy Systems & Services Division
Toshiba Corporation Power Systems Company
1-1, Shibaura 1-Chome, Minato-ku
Tokyo 105-80001, Japan

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NUMBER 1
RELATED TO CHAPTER 6 FOR TOSHIBA ADVANCED BOILING-WATER
REACTOR DESIGN CERTIFICATION RULE RENEWAL APPLICATION

Dear Mr. Okamura:

By letter dated October 27, 2010, Toshiba 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.

Sincerely,

/RA/

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

Docket No.: 52-044

eRAI Tracking Nos. 7800

Enclosure: Request for Additional Information

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

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Request for Additional Information 1
Application Title: Toshiba ABWR DC Renewal
Operating Company: Toshiba Corporation
Docket No. 05200044
Review Section: 06.02.01 - Containment Functional Design

QUESTION 06.02.01-1

10 CFR 52.57(a) requires that an application for design certification renewal contain all information necessary to bring up to date the information and data contained in the previous application. The NRC staff views this requirement as including the correction of known errors.

In a letter, dated March 31, 2014, GE Hitachi Nuclear Energy (GEH), another applicant for Advanced Boiling Water Reactor (ABWR) Design Certification Renewal, provided the U.S. Nuclear Regulatory Commission (NRC) a "10 CFR Part 21.21(a)(2) 60-Day Interim Report Notification: Containment Loads Potentially Exceed Limits with High Suppression Pool Water Level in the ABWR Design" (ML14090A068). Attachment 1 to this letter states the following:

Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply:

ABWR hydrodynamic loads have been calculated with the Suppression Pool water level defined at the Technical Specification Suppression Pool High Water Level (HWL). The Suppression Pool level during the postulated LOCA vessel blowdown may be greater than the Suppression Pool HWL during the pertinent timeframe for hydrodynamic loads because vessel coolant inventory is transferred into the suppression pool during blowdown. Additionally, certain containment structures previously thought uncovered may be submerged with the higher Suppression Pool water level. Increased hydrodynamic loads may correspondingly increase the totals in the design load combinations for which containment structures are designed to withstand.

In a letter, dated August 29, 2014, GEH informed the NRC that "[t]he GEH assessment has concluded that the predicted increase in the suppression pool water level above the value used for defining the ABWR loads and applied in the structural analysis will not result in the creation of a Substantial Safety Hazard nor will it lead to exceeding a Technical Specification Safety Limit for the US ABWR Certified Design." (ML14241A306)

This may have implications for the Toshiba ABWR Design Certification renewal application. To aid the NRC staff, please determine the impact of this error on the Toshiba ABWR DC renewal application:

- a) State whether Toshiba is aware of the above mentioned GEH letters referencing this error.
- b) State whether Toshiba's hydrodynamic loading analysis is affected by this error.
- c) Describe the impact of the error on loads on suppression pool wall boundaries, the access tunnel, and structures submerged in the suppression pool in term of loads from pool swell, condensation oscillation, chugging, and safety relief valve discharge.
- d) Identify any DCD changes, if needed.
- e) If any documents are being changed, identify them and state when they will be available for staff audit, if needed.

Enclosure