GE Hitachi Nuclear Energy

Richard E. Kingston
Vice President, ESBWR Licensing

P.O. Box 780 M/C A-65
Wilmington, NC 28402-0780
USA

T 910.675.6192
F 910.362.6192
rick.kingston@ge.com

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Subject: **Transmittal of ESBWR DCD Tier 2, Chapter 5 Markup Related to Tier 2* Indication for ASME B&PV Code, Section III**

The purpose of this letter is to submit a markup to the ESBWR DCD, Tier 2, Chapter 5 to remove Tier 2* indication to a reference to the ASME Boiler and Pressure Vessel Code, Section III, 1992 Edition with 1993 Addenda. This allows design flexibility as stated in Reference 1. The markup page is contained in Enclosure 1.

If you have any questions or require additional information, please contact me.

Sincerely,

Richard E. Kingston

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Vice President, ESBWR Licensing

Reference:

1. E-mail, Amy Cubbage (NRC) to Charles Bagnal (GEH), “Tier 2* Versus NCA-1140 for ASME Code Changes”, dated August 23, 2010.

Enclosure:

1. Transmittal of ESBWR DCD Tier 2, Chapter 5 Markup Related to Tier 2* Indication for ASME B&PV Code, Section III – DCD Markup

cc: AE Cubbage USNRC (with enclosure)
JG Head GEH/Wilmington (with enclosure)
DH Hinds GEH/Wilmington (with enclosure)
TL Enfinger GEH/Wilmington (with enclosure)
eDRF Section 0000-0116-8737, Revision 1

Enclosure 1

MFN 10-290

Transmittal of ESBWR DCD Tier 2, Chapter 5 Markup Related to Tier 2* Indication for ASME B&PV Code, Section III

DCD Markup

5.2 INTEGRITY OF REACTOR COOLANT PRESSURE BOUNDARY

This section discusses measures employed to provide and maintain the integrity of the RCPB.

5.2.1 Compliance with Codes and Code Cases

5.2.1.1 Compliance with 10 CFR 50.55a

The ESBWR meets the relevant requirements of the following regulations:

- 10 CFR 50, Appendix A, General Design Criterion (GDC) 1, as it relates to the requirement that safety-related structures, systems, and components are designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety function to be performed.
- 10 CFR 50.55a, as it relates to establishing minimum quality standards for the design, fabrication, erection, construction, testing and inspection of components within the RCPB and other safety-related fluid systems, by requiring conformance with appropriate editions of specified published industry codes and standards as indicated in Table 1.9-22.

  Note: ~~[~~For seismic design of piping, the ESBWR conforms to Articles NB-3200, NB-3600, NC-3600, and ND-3600 of the ASME Boiler and Pressure Vessel Code, Section III, 1992 Edition with 1993 Addenda. For weld leg dimensions, when applying paragraph NB-3683.4(c)(1), or applying Footnote 11 to Figure NC-3673.2(b)-1, or applying Figure ND-3673.2(b)-1, the ESBWR conforms to the ASME Boiler and Pressure Vessel Code, Section III, 1989 Edition with no Addenda. All limitations and modifications specified in 10 CFR 50.55a(b)(1) are met.~~]*~~

To meet the requirements of GDC 1 and 10 CFR 50.55a, Regulatory Guide (RG) 1.26, "Quality Group Classification and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants," is used. This regulatory guide describes an acceptable method for determining quality standards for Quality Group B, C, and D water- and steam-containing safety-related components of water-cooled nuclear power plants.

Tables 3.2-1 and 3.2-3 show the ASME B&PV Code applied to components. Code edition, applicable addenda, and component dates are in accordance with 10 CFR 50.55a.

~~*Text sections that are bracketed and italicized with an asterisk following the brackets are designated as Tier 2*. Prior NRC approval is required to change~~.

5.2.1.2 Applicable Code Cases

The ESBWR meets the relevant requirements of the following regulations:

- 10 CFR 50, Appendix A, GDC 1, as it relates to the requirement that safety-related structures, systems and components are designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety function to be performed.
- 10 CFR 50.55a, as it relates to the rule that establishes minimum quality standards for the design, fabrication, erection, construction, testing, and inspection of certain components