



HITACHI

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MFN 07-474 Supplement 1

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**Subject: Response to Portion of NRC Request for Additional Information
Letter No. 104 – Related to ESBWR Design Certification
Application – RAI Number 3.11-14 Supplement 1**

The purpose of this letter is to submit the GE Hitachi Nuclear Energy (GEH) response to the U.S. Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) sent by the Reference 1 NRC letter. GEH response to RAI Number 3.11-14 S01 is addressed in Enclosures 1 and 2.

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

Sincerely,

James C. Kinsey
Vice President, ESBWR Licensing

D068
NRO

Reference:

1. MFN 07-409, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 104 Related to the ESBWR Design Certification Application*, July 18, 2007.

Enclosure:

1. MFN 07-474 Supplement 1 – Response to Portion of NRC Request for Additional Information Letter No. 104 – Related to ESBWR Design Certification Application – RAI Number 3.11-14 S01
2. MFN 07-474 Supplement 1 – Response to Portion of NRC Request for Additional Information Letter No. 104 – Related to ESBWR Design Certification Application – RAI Number 3.11-14 S01 – DCD Markup

cc: AE Cabbage USNRC (with enclosure)
GB Stramback GEH/San Jose (with enclosure)
RE Brown GEH/Wilmington (with enclosure)
eDRF 0000-0077-5557

Enclosure 1

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Response to Portion of NRC Request for

Additional Information Letter No. 104

Related to ESBWR Design Certification Application

RAI Number 3.11-14 S01

NRC RAI 3.11-14 S01

Per 9/20/07 Telecon with Chandu Patel.

In response to RAI 3.11-14, GEH did not address the incorporation of NUREG-0588 as a reference to the DCD. Please include it as a reference in the DCD.

GEH Response

NUREG-0588 will be added as a reference to DCD Tier 2, Revision 5, Subsection 3.11.6

DCD Impact

DCD Tier 2, Revision 5 will be updated as shown in the attached markup.

Enclosure 2

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Response to Portion of NRC Request for

Additional Information Letter No. 104

Related to ESBWR Design Certification Application

RAI Number 3.11-14 S01

DCD Markup

maximum heat loads assuming operation of all operable equipment regardless of safety-related classification.

3.11.4 Estimated Chemical and Radiation Environment

Chemical Environment

Equipment in the lower portions of the containment is potentially subject to submergence. The chemical composition and resulting pH to which safety-related equipment is exposed during normal operating and accident conditions is reported in Appendix 3H.

Sampling stations are provided for periodic analysis of reactor water, refueling and fuel storage pool water, and suppression pool water to assure compliance with operational limits of the plant technical specifications.

Radiation Environment

Safety-related systems and components are designed to perform their safety-related function when exposed to the normal operational radiation levels and accident radiation levels.

The normal operational exposure is based on the radiation sources provided in Chapter 12.

The radiation sources associated with the Design Basis Accident (DBA) and developed in accordance with NUREG-1465 are used. Dose rates and integrated doses of radiation that are associated with normal plant operation and the DBA condition for various plant compartments are presented in Appendix 3H; these parameters are presented in terms of time-based profiles where applicable.

3.11.5 Combined Operating License Information

3.11-1-A Environmental Qualification Document (EQD)

The COL applicant will provide a milestone for implementation of the environmental qualification program that includes completion of the plant-specific EQD per Subsection 3.11.2.2.

3.11-2-H Environmental Qualification Records

(Deleted)

3.11.6 References

- 3.11-1 USNRC, SRP 3.11 Draft 3 (04/1996), "Environmental Qualification of Mechanical and Electrical Equipment," NUREG-0800.
- 3.11-2 USNRC, Code of Federal Regulations, Title 10, Chapter I, Part 50, Paragraph 50.49, "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plant."
- 3.11-3 General Electric Co., "General Electric Environmental Qualification Program," NEDE-24326-1-P, Proprietary Document, January 1983.
- 3.11-4 USNRC, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment," NUREG-0588, December 1979.