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MFN 07-622

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**Subject: Response to Portion of NRC Request for Additional
Information Letter No. 85 - Emergency Core Cooling Systems -
RAI Numbers 6.3-68, 6.3-70, and 6.3-72**

Enclosure 1 contains the GE Hitachi Nuclear Energy (GEH) response to the
subject NRC RAIs transmitted via the Reference 1 letter.

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

Sincerely,

Kathy Sedney for

James C. Kinsey
Vice President, ESBWR Licensing

DOB
NRO

Reference:

1. MFN 07-054, Letter from U.S. Nuclear Regulatory Commission to Robert Brown, *Request for Additional Information Letter No. 85 Related to ESBWR Design Certification Application*, January 19, 2007

Enclosure:

1. MFN 07-622 - Response to Portion of NRC Request for Additional Information Letter No. 85 - Emergency Core Cooling Systems - RAI Numbers 6.3-68, 6.3-70, and 6.3-72

cc: AE Cabbage USNRC (with enclosures)
GB Stramback GEH/San Jose (with enclosures)
RE Brown GEH/Wilmington (with enclosures)
eDRF 0000-0075-8998

Enclosure 1

MFN 07-622

**Response to Portion of NRC Request for
Additional Information Letter No. 85
Related to ESBWR Design Certification Application
Emergency Core Cooling Systems
RAI Numbers 6.3-68, 6.3-70, and 6.3-72**

NRC RAI 6.3-68:

Include figures of reactor power vs time for the breaks in Chapter 6.3 of the DCD.

GEH Response:

New Figure 6.3-39, "Normalized Shutdown Power," was included in DCD Tier 2, Revision 4, to provide decay heat (in terms of normalized power ratio) versus time that applies to the plant transients (either normal or bounding cases) caused by postulated loss-of-coolant accident (LOCA) pipe breaks inside containment that are analyzed to verify Emergency Core Cooling Systems (ECCS) capability. No additional figures are necessary.

DCD Impact:

The DCD changes described in the above response to this RAI were made in DCD Tier 2, Revision 4.

NRC RAI 6.3-70:

Update the DCD to state that the figures represented on pages 6.3-48 through 6.3-79 are nominal or bounding cases.

GEH Response:

Figures 6.3-7a through 6.3-38b were revised to show as "Nominal Case" in DCD Tier 2, Revision 4. No additional changes are required.

DCD Impact:

The DCD changes described in the above response to this RAI were made in DCD Tier 2, Revision 4.

NRC RAI 6.3-72:

In DCD, Revision 2, the x-axis on Figures 6.3-8a, 6.3-9a, 6.3-16a, 6.3-17a, 6.3-25a is labeled as time in hours. The staff believes this to be a typographical error. If so, please correct these typographical errors in the next revision of the DCD.

GEH Response:

The typographical errors as identified in DCD Tier 2, Revision 2, were corrected in DCD Tier 2, Revision 4. The "Time" label was identified and noted in seconds (not hours) along the x-axis for Figures 6.3-8a, 6.3-9a, 6.3-16a, 6.3-17a, and 6.3-25a. No further discrepancies in these figures were noted.

DCD Impact:

The DCD changes described in the above response to this RAI were made in DCD Tier 2, Revision 4.