



HITACHI

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MFN 07-599

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U.S. Nuclear Regulatory Commission
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Subject: **Response to Portion of NRC Request for Additional Information
Letter No. 98 – Related to ESBWR Design Certification
Application – RAI Number 4.4-58**

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 4.4-58 is addressed in Enclosure 1.

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

Sincerely,

James C. Kinsey
Vice President, ESBWR Licensing

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NRO

Reference:

1. MFN 07-317, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 98 Related to the ESBWR Design Certification Application*, May 29, 2007.

Enclosure:

1. MFN 07-599 – Response to Portion of NRC Request for Additional Information Letter No. 98 – Related to ESBWR Design Certification Application – RAI Number 4.4-58

cc: AE Cabbage USNRC (with enclosure)
GB Stramback GEH/San Jose (with enclosure)
RE Brown GEH/Wilmington (with enclosure)
eDRF 0000-0076-4640

Enclosure 1

MFN 07-599

Response to NRC Request for

Additional Information Letter No. 98

Related to ESBWR Design Certification Application

RAI Number 4.4-58

NRC RAI 4.4-58

Chimney fine nodalization

The stability calculations to support the DCD should be performed with the fine nodalization chimney model of TRACG to guarantee that chimney oscillations do not affect the core stability.

GEH Response

GEH's response to RAI 4.4-11 in MFN 06-339 dated September 22, 2006 concludes with the statement:

"In summary, the finely nodalized chimney allows for a more accurate representation of void propagation through the chimney, but has no effect on the stability results. The original nodalization used for the stability calculations in Reference 4.4-11-1 and the DCD is adequate for stability analysis."

The calculation discussed in the response to RAI 4.4-11 applies to ESBWR and shows that results are insensitive to the nodalization model. Therefore, GEH does not believe it is necessary to perform stability calculations in support of the DCD with the fine nodalization chimney model of TRACG to guarantee that chimney oscillations do not affect the core stability. As stated in GEH's response to RAI 4.4-11, the original chimney nodalization used for stability calculations is adequate.

DCD Impact

No DCD changes will be made in response to this RAI.