



GE Energy

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MFN 06-128
Supplement 1

Docket No. 52-010

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U.S. Nuclear Regulatory Commission
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Washington, D.C. 20555-0001

Subject: **Response to Portion of NRC Request for Additional Information
Letter No. 14 – Reactor Pressure Vessel System – RAI Numbers 5.3-4
and 5.3-7 – Supplement 1**

Enclosure 1 contains GE's response to the subject NRC RAIs transmitted via the
Reference 1 letter.

If you have any questions about the information provided here, please let me know.

Sincerely,

A handwritten signature in cursive script that reads "Kathy Sedney for".

David H. Hinds
Manager, ESBWR

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Reference:

1. MFN 06-093, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 14 Related to ESBWR Design Certification Application*, March 22, 2006

Enclosure:

1. MFN 06-128, Supplement 1 – Response to Portion of NRC Request for Additional Information Letter No. 14 – Reactor Pressure Vessel System – RAI Numbers 5.3-4 and 5.3-7 – Supplement 1

cc: AE Cabbage USNRC (with enclosures)
GB Stramback GE/San Jose (with enclosures)
eDRF 0059-8599

ENCLOSURE 1

MFN 06-128, Supplement 1

Response to Portion of NRC Request for

Additional Information Letter No. 14

Related to ESBWR Design Certification Application

Reactor Pressure Vessel System

RAI Numbers 5.3-4 and 5.3-7

Supplement 1

NRC RAI 5.3-4

Regarding the reactor vessel (RV) surveillance capsule/holders, define the surveillance capsule lead factors and azimuthal locations in the DCD. Alternatively, add a combined operating license (COL) action item specifying that this information will be submitted in the COL application.

Response to RAI 5.3-4

As stated in DCD Section 5.3.1.6.4, the lead factor will exceed 1.0. To achieve a lead factor exceeding 1.0 is relatively easy in the ESBWR because there are no obstructions in the annulus that restrict placement of the capsule holders. The location of the axial and circumferential flux peaks are known from fluence calculations, and the capsule holders can be placed precisely at these peak locations (there are a total of eight peak locations). Since the capsule holder is mounted somewhat inboard of the vessel wall, a lead factor greater than 1.0 is assured.

An analysis defining the lead factors will be performed and the azimuth locations of the surveillance holders will be defined as a COL action item. A description of the neutron fluence calculation is given in DCD Section 4.1.4.5.

The COL action information is given in DCD Tier 2, Revision 01, Section 5.3.4, "Materials and Surveillance Capsule"

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

NRC RAI 5.3-7

The applicant stated that the P/T limit curves for the RV will be provided by the COL applicant. The staff requests that the applicant commit, in the ESBWR DCD, that P/T limits will be generated using plant-specific data (materials, fluence etc). Also, please clarify if the P/T limit curves will be submitted by the COL applicant or holder.

Response to RAI 5.3-7

The commitment to provide the P/T- Limit curves generated using plant specific data as a COL action is given in the response to RAI 5.3-13.

No additional DCD change will be made in response to this RAI.