



GE Energy

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**Subject: Partial Response to NRC Request for Additional Information Letter
No. 26 Related to ESBWR Design Certification Application –
Technical Specifications – RAI Number 5.3-13**

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

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

Sincerely,

Kathy Sedney for

David H. Hinds
Manager, ESBWR

Reference:

1. MFN 06-141, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 26 Related to ESBWR Design Certification Application*, May 3, 2006

Enclosure:

1. MFN 06-152 – Partial Response to NRC Request for Additional Information Letter No. 26 for the ESBWR Design Certification Application – Technical Specifications – RAI Number 5.3-13

cc: WD Beckner USNRC (w/o enclosures)
AE Cabbage USNRC (with enclosures)
LA Dudes USNRC (w/o enclosures)
GB Stramback GE/San Jose (with enclosures)
eDRF 0000-0053-8269

Enclosure 1

MFN 06-152

**Partial Response to NRC Request for Additional Information
Letter No. 26 for the ESBWR Design Certification Application
Technical Specifications – RAI Number 5.3-13**

NRC RAI 5.3-13

In DCD Tier 2, Chapter 16, Technical Specification 3.4.4, the applicant stated that "[reactor coolant system (RCS)] pressure, RCS temperature, and RCS heatup and cooldown rates shall be maintained with the limits specified in [the PTLR]." However, the applicant did not submit any pressure-temperature (P-T) limits methodology for staff's review. The DCD also stated that P-T limits will be provided by the COL applicant. The staff requests that the applicant clearly state in the DCD that:

(1) the COL applicant will provide a pressure-temperature methodology for the staff's review and approval along with a request that the plant specific P-T limits will be located in the Pressure and Temperature Limits Report (PTLR).

or (2) the COL applicant will provide the P-T limits as a part of their Technical Specification submittal.

GE Response

The general methodology for establishing the pressure-temperature limits has been provided in the response to RAI 5.3-6. A more detailed description of the methodology, and a submittal of plant specific P-T limits will be provided by the COL applicant as shown in the attached marked up sheet for DCD Tier 2, Section 5.3.4.

5.3.4 COL Information

~~Fracture Toughness Data~~

~~Fracture toughness data based on the limiting reactor vessel materials will be provided by the COL applicant (Subsection 5.3.1.5). Pressure/temperature limit curves for the RPV will also be provided (Subsection 5.3.2).~~

Pressure/Temperature Limits and Fracture Toughness Data

The COL applicant will provide the pressure-temperature methodology in a Pressure and Temperature Limits Report (PTLR) for NRC review and approval with the plant specific P-T limits (Subsection 5.3.2) and fracture toughness data (Subsection 5.3.1.5) provided in a revised PTLR prior to criticality.

Materials and Surveillance Capsule

The following will be identified by the COL holder: (1) specific materials in each surveillance capsule; (2) capsule lead factors; (3) withdrawal schedule for each surveillance capsule; (4) neutron fluence to be received by each capsule at the time of its withdrawal; and, (5) vessel end-of-life peak neutron fluence (Subsection 5.3.1.6.4).

5.3.5 References

- 5.3-1 GE Nuclear Energy, "GE Methodology to RPV Fast Neutron Flux Evaluations," Licensing Topical Report NEDC-32983P-A, Class III (Proprietary), August 2000, and NEDO-32983-A, Class I (Non-proprietary), December 2001.