



GE Energy

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MFN 07-196

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

Subject: **Response to Portion of NRC Request for Additional Information
Letter No. 69 – Safety Analysis – RAI Number 15.3-13**

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

If you have any questions or require additional information regarding the information provided here, please contact me.

Sincerely,

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

James C. Kinsey
Project Manager, ESBWR Licensing

Reference:

1. MFN 06-381, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 69 Related to the ESBWR Design Certification Application*, October 11, 2006

Enclosures:

1. MFN 07-196– Response to Portion of NRC Request for Additional Information Letter No. 69 – Safety Analysis – RAI Number 15.3-13

cc: AE Cubbage USNRC (with enclosures)
GB Stramback GE/San Jose (with enclosures)
BE Brown GE/ Wilmington (with enclosures)
eDRF 0064-6819

Enclosure 1

MFN 07-196

**Response to Portion of NRC Request for
Additional Information Letter No. 69
Related to ESBWR Design Certification Application**

Safety Analysis

RAI Numbers 15.3-13

NRC RAI 15.3-13:

RAI Summary: Explain the control rod withdrawal at startup.

Text: DCD Tier 2, Rev. 1, Section 15.3.8.1 states that "...the SRNM has a period based trip function ... by initiating a rod block ... for a period shorter than 20 seconds." Section 15.3.8.3.2 states that "... the control rod withdrawal speed is 30 mm/s, the nominal speed..." The analysis results show that the rod assembly (gang) withdrawal generates a period of about 4 seconds. Does this mean that normal startup creates a 4 second period liable to rod block (this section description seems to be incomplete)?

GE Response:

Similar to the startup rod patterns in operating plants, rods will be pulled continuously for some amount of time prior to criticality and in a fashion to keep the reactor period and flux below rod block set points. As the reactor approaches criticality, the rod movements will be at smaller increments while monitoring neutron monitoring system indications, including reactor period. For the purposes of the safety analysis, it was assumed that the rods were inadvertently continuously withdrawn due to a procedural error by the operator or a malfunction of the automated rod movement control system. The short (4 second) period is not expected in a normal startup.

Affected Documents:

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