



GE Energy

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Subject: Response to Portion of NRC Request for Additional Information Letter No. 73
Related to ESBWR Design Certification Application ESBWR Probabilistic
Risk Assessment RAI Number 19.1-63.

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 contact me.

Sincerely,

James C. Kinsey
Project Manager, ESBWR Licensing

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Reference:

MFN 06-385, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 73 for the ESBWR Design Certification Application*, October 8, 2006.

Enclosures:

1. Response to Portion of NRC Request for Additional Information Letter No. 73 Related to ESBWR Design Certification Application ESBWR Probabilistic Risk Assessment RAI Number 19.1-63.

cc: AE Cabbage USNRC (with enclosures)
 George Stramback GE/San Jose (with enclosures)
 RE Brown GE/Wilmington (with enclosures)

EDRF Section 0067-7348

Enclosure 1

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Response to Portion of NRC Request for

Additional Information Letter No. 73

Related to ESBWR Design Certification Application

ESBWR Probabilistic Risk Assessment

RAI Number 19.1-63

NRC RAI 19.1-63

Justify the bounding probability values based on "engineering judgment." Table 5.4-1 lists the probabilities of "special events" used in the PRA. A number of these probabilities are assumed to be bounding values and are based on "engineering judgment." The staff needs additional information showing that such values are indeed bounding.

GE Response

In general, special events are used in applications where typical component or human error failure rates do not apply. An undeveloped event that represents the failure of an independent function may be designated as a special event. In some cases, specific design details are not available, so the function is represented by a point estimate failure probability that is bounding. Assumptions of this type are typically analyzed in sensitivity studies. Specific special events that demonstrate sensitivity to their assumed values are further analyzed to ensure the values are appropriate.

Specifically, the three special events in Revision 1 of Table 5.4-1 that are based on engineering judgment no longer apply in Revision 2 of NEDO-33201.

C41-SYS-FF-MAKEUP represented a failure probability for manually boring the core following an automatic failure of SLCS. This manual action is not credited in Revision 2 of the ESBWR PRA.

N21-SYS-FF-BYPASS represented an undeveloped event for turbine bypass failure. In Section 4, revision 2 of the NEDO-33201, this event is developed in a fault tree.

T11-SYS-FF-OPEN represented an undeveloped event for all SRVs to fail to open for vessel over-pressure protection. In Section 4, revision 2 of the NEDO-33201, this event is developed in a fault tree.

DCD Impact

There is no change to the DCD from this RAI response.

Changes to NEDO-33201 have been made in response to the RAI as described above.