



GE Energy

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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. 59 Related to ESBWR Design Certification Application -
ESBWR Probabilistic Risk Assessment - RAI Number 19.1-39**

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

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

Sincerely,

Kathy Sedney for

James C. Kinsey
Project Manager, ESBWR Licensing

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Reference:

1. MFN 06-329, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 59 Related to ESBWR Design Certification Application*, September 13, 2006

Enclosures:

1. MFN 07-149, Response to Portion of NRC Request for Additional Information Letter No. 59 Related to ESBWR Design Certification Application - ESBWR Probabilistic Risk Assessment - RAI Number 19.1-39.

cc: AE Cabbage USNRC (with enclosures)
David Hinds GE/Wilmington (with enclosures)
Bob Brown GE/Wilmington (with enclosures)

eDRF 0000-0059-3005

Enclosure 1

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Response to Portion of NRC Request for

Additional Information Letter No. 59

Related to ESBWR Design Certification Application

ESBWR Probabilistic Risk Assessment

RAI Number 19.1-39

NRC RAI 19.1-39

The following statements are made in NEDO-33201, Section 3.3.2: "The decay heat removal function preferred for ATWS is accomplished by FAPCS in suppression pool cooling mode, if FAPCS is not previously actuated," and "This operational mode of FAPCS initiates automatically upon high temperature in the suppression pool, and if the FAPCS in the injection mode is not previously actuated." These two statements appear to imply that the FAPCS could have actuated previously in the injection mode, which conflicts with the ATWS event tree modeling (e.g., ADS inhibition). Please clarify.

GE Response

FAPCS in suppression cooling mode is asked only after successful injection from CRD or FDW in the ATWS event tree modeling. The initiation of FAPCS in LPCI mode is a manual action and includes a permissive for low reactor pressure. Failure of ADS Inhibition leads to core damage in the ATWS event tree modeling. The status of suppression pool cooling after a failure to inhibit ADS is not asked in the ATWS event trees.

DCD Impact

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