



GE Energy

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MFN 07-169

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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. 65 – Safety Analysis – RAI Number 8.5-6**

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,

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

James C. Kinsey
Project Manager, ESBWR Licensing

Reference:

1. MFN 06-353, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 65 Related to the ESBWR Design Certification Application*, September 27, 2006

Enclosures:

1. MFN 07-169– Response to Portion of NRC Request for Additional Information Letter No. 65 – RAI Number 8.5-6

cc: AE Cubbage USNRC (with enclosures)
B.E. Brown GE/Wilmington (with enclosures)
GB Stramback GE/San Jose (with enclosures)
EDRF: 0000-0066-1365

Enclosure 1

MFN 07-169

**Response to Portion of NRC Request for
Additional Information Letter No. 65**

RAI Number 8.5-6

NRC RAI 8.5-6

Justify why there are no degraded voltage alarms on the 480 volt buses that are the direct power feed to the safety-related battery chargers and inverters or the indirect feed to the inverter bus through the regulating transformer. These voltage sensors and alarms should be in the RTNSS program.

GE Response

The (safety related) Isolation Power Centers, which feed the battery chargers, UPS (rectifiers) and the UPS bypass feed through the regulating transformers, are protected by degraded voltage (DGV) protection. This is as stated in DCD Tier 2, Revision 3 Subsections 8.1.5.2.4 (PSB 1), 8.3.1.1.2 and 8.3.1.1.6. The DGV protection relays will sense the voltage on the line side of each of the two 480 VAC feeder circuit breakers on each of the isolation power buses, thus preventing a degraded feed from feeding the UPS (rectifiers), battery charger and regulating transformer by automatically tripping its respective feeder to the isolation power bus when a DGV is sensed. Additionally, each DGV event will alarm in the main control room when it occurs.

The DGV function is considered safety-related; therefore, the alarms will not be subject to the RTNSS program. The voltage sensors are part of the IPC system, which is safety related and therefore is not RTNSS.

DCD Impact

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