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MFN 06-137
Supplement 2

Docket No. 52-010

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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. 76 Related to ESBWR Design Certification Application -
DCD Section 7.5 - Instrumentation and Controls - RAI Number 7.5-4
Supplement 1**

Enclosure 1 contains a supplemental response to RAI 7.5-4 resulting from NRC request in Reference 1. GHNEA's original response was transmitted via the Reference 2 letter.

If you have any questions or require additional information, please contact me.

Sincerely,



James C. Kinsey
Project Manager, ESBWR Licensing

DOG

Reference:

1. MFN 06-388 – Letter from U.S. Nuclear Regulatory Commission to David H. Hinds, *Request for Additional Information Letter No. 76 Related to ESBWR Design Certification Application*, dated October 11, 2006
2. MFN 06-137 - *Response to RAI Letter No. 19 Related to ESBWR Design Certification Application – Instrumentation and Controls – RAI Numbers 7.5-3 and 7.5-4*, dated May 17, 2006
3. MFN 06-114 - Letter from U.S. Nuclear Regulatory Commission to David H. Hinds, *Request for Additional Information Letter No. 19 Related to ESBWR Design Certification Application*, dated April 24, 2006

Enclosure:

1. MFN 06-137 Supplement 2, Response to NRC Request for Additional Information Supplement Related to ESBWR Design Certification Application – DCD Section 7.5 – RAI Number 7.5-4 Supplement 1

cc: AE Cubbage USNRC (with enclosures)
GB Stramback GHNEA/San Jose (with enclosures)
RE Brown GHNEA/Wilmington (with enclosures)
eDRF 0000- 0060-6256

**MFN 06-137
Supplement 2**

Enclosure 1

**Response to NRC Request for Additional Information
Supplements Related to
ESBWR Design Certification Application –
DCD Section 7.5**

RAI Number 7.5-4 Supplement 1

For historical purposes, the original text of RAI 7.5-4 (Reference MFN 06-137) and the GE response is included preceding the supplemental response. Any original attachments or DCD mark-ups are not included to prevent confusion.

NRC RAI 7.5-4

When digital systems are used for the post accident monitoring (PAM) function, the staff will follow review process described in the standard review plan (SRP) chapter 7, Appendix 7.0-A, "Review Process for Digital Instrumentation and Control Systems." Discuss the ESBWR PAM systems software development process with respect to follow the SRP Chapter 7, BTP-14, "Guidance on Software Reviews for Digital Computer-Based Instrumentation and Control Systems." If the PAM system design is being deferred to the COL applicant, please provide the proposed design acceptance criteria (DAC) including the Inspection, Tests, Analyses, and Acceptance Criteria (ITAAC) for staff review.

GE Response

The PAM (Post Accident Monitoring) function will be part of various systems and will follow the requirements of the associated systems. Therefore the systems providing a PAM function will have the software development process as described in 7B of Tier 2 of the DCD.

NRC RAI 7.5-4 S01

Provide the post accident monitoring (PAM) systems design acceptance criteria (DAC) and ITAAC for staff review.

To follow up Staff RAI question 7.5-4, when digital systems are used for the post accident monitoring (PAM) function, the staff will follow the review process described in the Standard Review Plan (SRP), Revision 4 - 06/1997, Chapter 7, Appendix 7.0-A, "Review Process for Digital Instrumentation and Control Systems." Discuss the ESBWR PAM systems software development process with respect to SRP Chapter 7, BTP- 14, "Guidance on Software Reviews for Digital Computer-Based Instrumentation and Control Systems." GE's response in enclosure 1 to MFN 06-137: The PAM (Post Accident Monitoring) function will be part of various systems and will follow the requirements of the associated systems. Therefore the systems providing a PAM function will have the software development process as described in 7B of Tier 2 of the DCD.

As requested by RAI question 7.5-4, please provide the proposed design acceptance criteria (DAC) including the Inspection, Tests, Analyses, and Acceptance Criteria (ITAAC) for PAM systems.

GHNEA Response

The Design Acceptance Criteria (DAC) including the Inspection, Tests, and Acceptance Criteria (ITAAC) for PAM Instrumentation are located in DCD Tier 1 Revision 3 Section 3.2 "Software Development", Section 3.7 "Accident Monitoring Instrumentation", and Section 3.3 "Human Factors Engineering."

DCD/LTR Impact

No changes will be made to the DCD as a result of this RAI.