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MFN 07-139

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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. 70 Related to ESBWR Design Certification Application – Testing Programs – RAI Numbers 14.2-25, 14.2-28, and 14.2-33**

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,

Kathy Sedney for

James C. Kinsey
Project Manager, ESBWR Licensing

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Reference:

1. MFN 06-382, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 70 Related to ESBWR Design Certification Application,* October 10, 2006

Enclosure:

1. MFN 07-139 – Response to Portion of NRC Request for Additional Information Letter No. 70 Related to ESBWR Design Certification Application – Testing Programs – RAI Numbers 14.2-25, 14.2-28, and 14.2-33

cc:	AE Cubbage	USNRC (with enclosures)
	DH Hinds	GE (with enclosures)
	RE Brown	GE (w/o enclosures)
	eDRF	0000-0063-7394

Enclosure 1

MFN 07-139

Response to Portion of NRC Request for

Additional Information Letter No. 70

Related to ESBWR Design Certification Application

Testing Programs – RAI Numbers 14.2-25, 14.2-28, and 14.2-33

NRC RAI 14.2-25

DCD Tier 2, Revision 1, Section 14.2.8.1.42, does not contain sufficient information relative to the applicant's review of operating and testing experiences at other reactor facilities. The applicant is requested to provide a summary of the principal conclusions or findings from the applicant's review of operating and testing experience at other reactor facilities and their effect on the expansion, vibration and dynamic effects pre-operational test program.

GE Response

The primary objective of the preoperational test program (i.e., prior to fuel loading) strictly within the scope of determining effects of "Thermal", and " vibration and dynamic on designed features is to ensure that:

a) The thermal expansion of a component being tested meets the analytically predicted thermal displacements. During thermal excursions, the as-built configuration is to be assured free from any thermal bindings and the test results meet the acceptance criteria.

b) There is no undue vibration that may cause an additional loading on components. If the effects of vibration are significant, or, any other source of dynamic motion that may exist, the effects of vibration and/or dynamic motion on the feature require a further evaluation. The results of the evaluations are compared against the acceptance criteria for acceptance, or, a resolution is required to mitigate the cause of vibration, and/or of the effects of the other sources of dynamic motions on the component.

For the earlier preoperational test programs conducted in conjunction with GE at other BWR facilities for thermal and vibration/dynamic effects, it has been concluded that the tests were successful in that the as-built configurations compared well to the design, and the analytical results/models validated the correctness of the system design. In conclusion, following the preoperational tests, the plant piping systems were declared to be functional and operable. The results of the startup tests that were performed for the ABWR plants in Japan were in conformance with the acceptance criteria.

Affected Documents

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

NRC RAI 14.2-28

DCD Tier 2, Revision 1, Section 14.2.8.2.9, does not contain sufficient information relative to the applicant's review of operating and testing experiences at other reactor facilities. The applicant is requested to provide a summary of the principal conclusions or findings from the applicant's review of operating and testing experiences at other reactor facilities and their effect on the systems expansion test program.

GE Response

Please see response to RAI 14.2-25

Affected Documents

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

NRC RAI 14.2-33

DCD Tier 2, Revision 1, Section 14.2.8.2.10, does not contain sufficient information relative to the applicant's review of operating and testing experience at other reactor facilities. The applicant is requested to provide a summary of the principal conclusions or findings from the applicant's review of operating and testing experience at other reactor facilities and their effect on the system vibration test program.

GE Response

Please see response to RAI 14.2-25

Affected Documents

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

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