



GE Energy

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**Subject: Partial Response to NRC Request for Additional Information Letter
No. 18 Related to ESBWR Design Certification Application –
Containment Design – RAI Numbers 6.2-4 through 6.2-8 and 6.2-10**

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 let me know.

Sincerely,

David H. Hinds
Manager, ESBWR

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Enclosure:

1. MFN 06-131 - Partial Response to NRC Request for Additional Information Letter No. 18 Related to ESBWR Design Certification Application – Containment Design – RAI Numbers 6.2-4 through 6.2-8 and 6.2-10

Reference:

1. MFN 06-113, Letter from U. S. Nuclear Regulatory Commission to Mr. David H. Hinds, *Request for Additional Information Letter No. 18 Related to ESBWR Design Certification Application*, April 24, 2006

cc: WD Beckner USNRC (w/o enclosures)
AE Cabbage USNRC (with enclosures)
LA Dudes USNRC (w/o enclosures)
GB Stramback GE/San Jose (with enclosures)
eDRF 0000-0053-3417

MFN 06-131
Enclosure 1

ENCLOSURE 1

MFN 06-131

**Partial Response to NRC Request for Additional
Information Letter No. 18 Related to
ESBWR Design Certification Application
Containment Design
RAI Numbers 6.2-4 through 6.2-8 and 6.2-10**

NRC RAI 6.2-4

DCD Sections 6.2.1.1.5.4.1 and 6.2.1.1.5.4.2 refer to Section 6.2.1.1.5.7.3. Section 6.2.1.1.5.7.3 does not exist in Chapter 6 of the DCD. Correct and clarify intent.

GE Response

In DCD Sections 6.2.1.1.5.4.1 and 6.2.1.1.5.4.2 reference to Section 6.2.1.1.5.7.3 will be corrected to 6.2.1.1.5.4.3.

NRC RAI 6.2-5

DCD Section 6.2.1.1.5.4.3 refers to Section 6.2.1.1.5.4 which does not provide the leakage area. Is 6.2.1.1.5.1 the correct reference? Correct and clarify intent.

GE Response

In DCD Sections 6.2.1.1.5.4.3 reference to Section 6.2.1.1.5.4 will be corrected to 6.2.1.1.5.1.

NRC RAI 6.2-6

*The following paragraph from page 6.2-5 of the DCD needs clarification:
"There is sufficient water volume in the suppression pool to provide adequate submergence over the top of the upper row of horizontal vents, as well as the PCCS return vent, when water level in RPV reaches at one meter above the top of active fuel and water is removed from the pool during post-LOCA equalization of pressure between RPV and the WW. Water inventory, including the GDCS, is sufficient to flood the RPV to at least one meter above the top of active fuel."*

GE Response

These two sentences provide a description of sufficient water inventory in the suppression pool in the post-LOCA period when the water is transferred from suppression pool to the RPV. During this period, when the equalization line from the suppression pool to the RPV is open, the water from the suppression pool flows into the RPV, the wetwell and RPV pressure equalizes, the suppression pool water (along with the GDCS pool water) transfer to the RPV submerges the top of active fuel by at least one meter and at same time the PCCS vents and the upper row of horizontal vents remain adequately submerged in the suppression pool. No change in the DCD is required.

NRC RAI 6.2-7

On page 6.2-7 of the DCD, SRP 6.2.1.1.C Rev. 2 is provided as the reference used to address applicable guidance employed by GE for the ESBWR design. The currently version of this SRP is Rev. 6 dated August 1984. Why has GE chosen to use the earlier version of this SRP? (Also note that the page numbering in DCD section 6.2 needs to be fixed. Page 6.2-6 should be 6.1-6, 6.2-7 should be 6.2-1 etc.)

GE Response

In Section 6.2.1.1, "SRP 6.2.1.1.C R2" will be revised to "SRP 6.2.1.1.C Rev. 6" in Revision 2 of the DCD. Chapter 1, Table 1.9-20 lists revision 6 of this SRP applied in the DCD. The page numbering will be corrected in Revision 2 of the DCD.

NRC RAI 6.2-8

On page 6.2-7 of the DCD, SRP 6.2.1.1.C Rev. 2 is provided as the reference used to address applicable guidance employed by GE for the ESBWR design. Provide a discussion of the variances in the GE application of this SRP to the ESBWR with respect to Rev. 6 of this SRP.

GE Response

GE has applied SRP 6.2.1.1.C Rev 6 in the DCD as per Table 1.9-20. See response to RAI # 6.2-7. No change in the DCD is required.

NRC RAI 6.2-10

Explain how are the wetwell air-space and suppression pool pressure and temperature maintained during normal operations.

GE Response

DCD Section 9.1.3 describes the Fuel and Auxiliary Pools Cooling System (FAPCS) which performs suppression pool cooling function and maintains the pool temperature during normal operation.

DCD Section 9.4.9 describes Containment Inerting System (CIS) which maintains the wetwell pressure during normal operation. No change in the DCD is required.