



GE Energy

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**Subject: Response to Portion of NRC Request for Additional Information
Letter No. 33 Related to ESBWR Design Certification Application –
Engineered Safety Features – RAI Numbers 6.2-59 through 6.2-63**

Enclosure 1 contains GE's responses to the subject NRC RAIs transmitted via the Reference 1 letter. Enclosures 2 through 33 contain the figures and related information identified in the Enclosure 1 responses. A CD, with the electronic files for Enclosures 2 through 33, also is provided to facilitate the NRC's review.

If you have any questions about the information provided here, please let me know.

Sincerely,

David H. Hinds
Manager, ESBWR

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Rec'd
w/o CD

Reference:

1. MFN 06-167, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 33 Related to ESBWR Design Certification Application*, June 1, 2006

Enclosures:

1. MFN 06-364 – Response to Portion of NRC Request for Additional Information Letter No. 33 Related to ESBWR Design Certification Application – Engineered Safety Features – RAI Numbers 6.2-59 through 6.2-63
2. Graphical results for Feedwater Line Break (FWL), file “RAI 6.2-59_FWL.pdf”
3. Graphical results for Main Steam Line Break (MSL), file “RAI 6.2-59_MSL.pdf”
4. Graphical results for Gravity Drain Line Break (GDL), file “RAI 6.2-59_GDL.pdf”
5. Graphical results for Bottom Drain Line Break (BDL), file “RAI 6.2-59_BDL.pdf”
6. Graphical results for FWL (80% break size), file “RAI 6.2-60_FWLP8.pdf”
7. Graphical results for FWL (60% break size) case: RAI 6.2-60_FWLP6.pdf”
8. Graphical results for FWL (40% break size), file “RAI 6.2-60_FWLP4.pdf”
9. Graphical results for MSL (80% break size), file “RAI 6.2-60_MSLP8.pdf”
10. Graphical results for MSL (60% break size), file “RAI 6.2-60_MSLP6.pdf”
11. Graphical results for MSL (40% break size), file “RAI 6.2-60_MSLP4.pdf”
12. Graphical results for MSL (Level 31), file “RAI 6.2-60_MSLL31.pdf”
13. Graphical results for MSL (Level 25), file “RAI 6.2-60_MSLL25.pdf”
14. Graphical results for MSL (Level 23), file “RAI 6.2-60_MSLL23.pdf”
15. Graphical results for FWL (base case), file “RAI 6.2-61_Part 1_FWL.pdf”
16. Graphical results for MSL (base case), file “RAI 6.2-61_Part 1_MSL.pdf”
17. Graphical results for FWL (base case), file “RAI 6.2-61_Part 2_A_FWL.pdf”
18. Graphical results for MSL (base case), file “RAI 6.2-61_Part 2_A_MSL.pdf”
19. Graphical results for FWL (base case), file “RAI 6.2-61_Part 2_B_FWL.pdf”
20. Graphical results for MSL (base case), file “RAI 6.2-61_Part 2_B_MSL.pdf”
21. Graphical results for FWL (base case), file “RAI 6.2-61_Part 2_C_FWL.pdf”
22. Graphical results for MSL (base case), file “RAI 6.2-61_Part 2_C_MSL.pdf”
23. Graphical results for FWL (base case), file “RAI 6.2-61_Part 2_D_FWL.pdf”
24. Graphical results for MSL (base case), file “RAI 6.2-61_Part 2_D_MSL.pdf”
25. Transient output data (2000s) of void fraction (ALP) for FWL (base case), ASCII file “FWL-8D_1SRV-2000s_RPV-DW-WW_ALP.GRA”

26. Transient output data (2000s) of pressure (PRES) for FWL (base case), ASCII file "FWL-8D_1SRV-2000s_RPV-DW-WW_PRES.GRA"
27. Transient output data (2000s) of temperature (TSAT) for FWL (base case), ASCII file "FWL-8D_1SRV-2000s_RPV-DW-WW_TSAT.GRA"
28. Transient output data (2000s) of void fraction (ALP) for MSL (base case), ASCII file "MSL-8F_1DPV-2000s_RPV-DW-WW_ALP.GRA"
29. Transient output data (2000s) of pressure (PRES) for MSL (base case), ASCII file "MSL-8F_1DPV-2000s_RPV-DW-WW_PRES.GRA"
30. Transient output data (2000s) of temperature (TSAT) for MSL (base case), ASCII file "MSL-8F_1DPV-2000s_RPV-DW-WW_TSAT.GRA"
31. RPV, DW and WW tabular volumes, ASCII file "RPV-DW-WW_VOLUME.txt"
32. RPV heat slab temperature profile and transient data for FWL (base case), file "RAI 6.2-63_FWL.pdf"
33. RPV heat slab temperature profile and transient data for MSL (base case), file "RAI 6.2-63_MSL.pdf"

cc: AE Cabbage USNRC (with enclosures)
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