



GE Energy

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MFN 06-364

Docket No. 52-010

October 3, 2006

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. 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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eDRF 0000-0055-8855