

Supplemental RAI 6.2-36

In GEs response to RAI 6.2-36, MFN 06-264, GE concluded that No DCD changes will be made in response to this RAI. While DCD Rev. 3 does contain the M&E tables for the various breaks, there is no analysis of record (AOR) for the M&Es - they just appear without explanation.

A. The staff finds that the information provided in the response, except for the proprietary comparison of ABWR vs. ESBWR mass and energy release data for case 1 (bounding case), belongs in the DCD so that staff can reach a reasonable assurance finding that the M&Es are consistent with the SRP and that GDC 4 is met. In addition, Table 6.2-11 needs to be updated to reflect the break size for each break to ensure that the building ITAAC will confirm the validity of the assumptions used for these calculations.

B. The SAFER04V computer code is not mentioned in the ABWR DCD, Revision 4, yet your RAI response states that SAFER04V Computer Code was used for the mass and energy blowdown calculations for the ABWR. ABWR, DCD, Revision 4, Section 6.2.3.3.1.3, Design Evaluation, states that, for the postulated high energy line break, the blowdown mass and energy release rates from the break were determined using Moodys homogeneous equilibrium model for critical flow described in Reference 6.2-2, F.J. Moody, Maximum Discharge Rate of Liquid-Vapor Mixtures from Vessels, General Electric Company, Report No. NEDO-21052, September 1975. The SAFER04V computer code is a LOCA analysis code and it is not apparent that it was used for the mass and energy analysis of the ABWR. Please confirm that the SAFER04V code did generate the ABWR M&Es and provide the appropriate references for the analyses (to support, if necessary, a staff audit). Provide a reference were the staff has accepted this code for this purpose.

C. The dynamics of a break response is not provided. This type of information was presented in ABWR DCD, for example page 6.2-54, Section 6.2.3.3,1.3.1, and page 6.2-55, Section 6.2.3.3.1.3.2. This type of information needs to be captured in the ESBWR DCD as changes to valve types, process signals, etc could change the M&Es. For each break in Table 6.2-11, update the DCD description to include the narrative of the event, including such items as timing of valve movements (open and close), process and safety signal and delay set point assumptions, and other relevant information (initial condition, such as pressures and temperatures) which will enable the staff to determine if a plant design change will require a new licensing analysis.