RAI Number	Reviewer	Full Text
Supplemental RAI 6.2-15	Wagage H Notafrancesco A	GE's response to RAI 6.2-15, MFN 06-159, and DCD, Tier 2, Rev. 3, Section 6.2.1.2.1, states that "[a]t least 15% margin above the analytically determined pressure is applied for structural analysis." DCD ,Tier 2, Rev. 3, Section 6.2.1.2, notes that a factor of 1.4 is applied to the peak differential pressure calculated for the subcompartment, structure, and the enclosed components. Please explain this apparent discrepancy.
Supplemental RAI 6.2-18	Wagage H Notafrancesco A	GE's response to RAI 6.2-18, and DCD, Tier 2, Rev. 3, Section 6.2.1.2.3 states that "[t]he mass release rates are determined with Moody's Frictionless Critical Flow Model" and "Analyzed with TRACG, the peak subcompartment pressure responses were found to be below the design pressure for all postulated pipe break accidents." A. Please explain how the statement "subcompartment pressure responses were found to be below the design pressure" relates to the "factor of 1.4" margin stated in Section 6.2.1.2 and the "at least 15% margin" in Section 6.2.1.2.1. B. In GE's response to RAI 6.2-18, GE stated that it did not use computer codes to calculate mass and energy release for containment subcompartment analysis. Please confirm this statement and include it in DCD, Tier 2. C. Please provide the design pressure in DCD, Tier 2.

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Supplemental RAI 6.2-23	Wagage H Notafrancesco A	In RAI 6.2-23 the staff requested for subcompartment nodalization information in accordance with the formats of Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants (LWR Edition) Rev. 3, Section 6.2.1.2. In GE's response, MFN 06-159, GE provided nodal data but stated without specifics that it calculated large pipe and vessel support structure volumes and hydraulic diameters and accounted for the additional obstructions by applying a 10% reduction factor in the annulus volume for cells where a specific obstruction is not modeled. Please provide the following information needed to perform a confirmatory subcompartment analysis of the vessel/shield wall annular volume: A. The TRACG input for the reactor shield wall subcompartment analysis. B. The results of a sensitivity analysis on the number and size of the control volumes used in the shield wall subcompartment analysis. This information is needed to verify the appropriateness of the control volume nodalization used in the final reported analysis. C. A copy of the calculation used to obtain the break mass and energy releases. This information is needed to confirm the appropriateness of the assumptions used in this calculation. D. Detailed information and/or drawings describing the space between the reactor vessel and shield wall to include the following: 1. The outer diameter of the reactor vessel. 2. A description of the upper and lower heads of the reactor vessel. 3. A description of the shield wall including inner diameter and the volumes surrounding the upper and lower vessel heads. 4. The type and thickness of the reactor vessel insulation, and information on how the insulation is treated in the subcompartment analysis (i.e., whether the insulation is assumed to stay in place or blown away and its affect on the calculated volume and nodalization of the annular volume). 5. A description of the flow obstructions in the reactor vessel/shield wall annular volume: flow area, flow resistance, and flow obstructions providing boundaries for the control volume nodalization. 6. A description of the flow connections (i.e., flow area and flow resistance) between the reactor vessel/shield wall annulus and the upper part of the drywell.

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Supplemental RAI 6.2-25	Wagage H Notafrancesco A	In RAI 6.2-25 the staff requested for mass and energy release data for postulated pipe breaks. In GE's response, MFN 06-159, GE provided methodology used for calculating mass and energy release rates but not the release rate values. Please provide the release rate values and include them in DCD, Tier 2.
Supplemental RAI 6.2-46	Goel R Notafrancesco A	A. In GE's response to RAI 6.2-46, MFN 06-264, GE provided a generalized CONTAIN input file of the reactor building subcompartments. Please explain the following discrepancies that exist between the information provided in this file and DCD Tier 2, Rev. 3: (1) Vent flow path No.13 is active in the input file but DCD Table 6.2-12 notes that it is deleted. (2) The inertial length for the vent flow paths (area of the flow path divided by its length) do not match. For example, the inertial length of flow path no. 4 is given as 0.44 m in the input file but the staff calculated it as 5.7 m using an area of 4 m^2 and a length of 0.7 m listed for this flow path in DCD Table 6.2-12. (3) The volumes of cell nos. 12 through 15 are given as 197 m^3 in the input file but 565 m^3 in DCD Table 6.2-12a. (4) The volume of cell no. 11 is listed as 151.49 m^3 in the input file but 94 m^3 in DCD Figure 6.2-18 and 152 m^3 in DCD Table 6.2-12a. (5) Flow path nos. 23 through 31 are listed in DCD Table 6.2-12 but not in the input file. B. The input file shows that the heat transfer to the heat sinks were credited, which was not stated in the DCD. Revise the DCD to state this. C. DCD, Tier 2, Rev. 3, DCD Tables 6.2-12 and 6.2-12a provides input values used for GENE's the reactor building subcompartment analysis. However, the key assumptions used for deriving the input values and in performing the analysis is not provided. For example, (1) the initial parameters for each flow path, area and length are listed in DCD Tables 6.2-12 without noting how they were derived and (2) whether the liquid dropout is modeled is not

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		mentioned in the DCD. D. DCD, Tier 2, Rev. 3, Section 6.2.3.1"[b]lowout panels between compartments provide flow paths to relieve pressure." Please identify whether the blowout panels are passive or active. If they are active, please describe the maintenance and surveillance that are planned to assure that they function properly over the life of the plant. E. DCD, Tier 2, Rev. 3, DCD Tables 6.2-12 lists the blowout pressure of blowout panels of the subcompartments in the reactor building. In response to a staff's question at a teleconference on March 15, 2007, GENE stated that the blowout pressure listed is the upper bound. Please add this information to the DCD. F. DCD Tier 2, Rev. 3, Section 3G.1.5.2.1.11 states that "[f]or ESBWR, the Reactor Water Cleanup/Shutdown Cooling (RWCU/SDC) system is considered high energy during normal operation. The maximum design pressure inside the affected subcompartments from the high energy line break (HELB) of the system is 34.5 kPag (5.0 psig)." Please clarify what you mean by "affected subcompartments" in the DCD.
Supplemental RAI 6.3-41	Wagage H	In response to RAI 6.3-41, GE added the following to DCD, Tier 2, Rev. 3, Section 6.3.2.7.2: "The GDCS pool airspace opening to DW will be covered by a perforated steel plate to prevent debris from entering pool and potentially blocking the coolant flow through the fuel. The holes in the perforated steel plate will smaller than the orifice holes in the fuel support castings." However, the GDCS injection system consists of one 200-mm (8-inch) pipe mounted with a temporary strainer, which can be clogged with debris, reducing the GDCS injection flow (DCD, Tier 2, Rev. 3, Section 6.3.2.7.2). Please explain the effect of the temporary strainer on the GDCS injection flow.