

Supplemental RAI 6.3-46

- A. 10 CFR 50.46(a)(1)(i) states in part that:

“emergency core cooling system (ECCS) cooling performance must be calculated in accordance with an acceptable evaluation model and must be calculated for a number of postulated loss-of-coolant accidents of different sizes, locations, and other properties sufficient to provide assurance that the most severe postulated loss-of-coolant accidents are calculated.”

In response to RAI 6.3-46, MFN 07-049, GE provides the minimum chimney static head for additional break locations that are not presented in the DCD. GE states that “[t]he results show that the limiting cases are the main steam line (MSL) and gravity drain line (GDL) breaks.” Table 6.3-46-1 indicates that the IC return line break has a lower chimney static head than the GDL line break. Provide additional information justifying that the GDL is more limiting than the Isolation Condenser (IC) return line break.

- B. GE analyzes a break spectrum for the GDL break. For the nominal conditions, the 80% size break was the most limiting. GE then analyzes the 100% and the 80% cases using bounding assumption and determined that the 100% was more limiting. Explain why when using bounding assumptions the 80% case is not limiting like in the nominal. Explain why GE did not perform calculations for the rest of the spectrum using the bounding conditions. Provide the plots of the static head in the chimney versus time for this break spectrum study.
- C. Justify the selection of the GDL break for the size study. Since the IC return line break includes a loss of an additional high pressure injection source, a small break in this line may be more limiting than a small GDL break.
- D. The break spectrum analyzed only goes down to 20% of the maximum size. In a teleconference with the NRC staff regarding this RAI response, GE stated that they would provide a qualitative argument on why very small breaks are not limiting. Please provide this.