Enclosure 1

MFN 07-069

Response to Portion of NRC Request for Additional Information Letter No. 68 Related to ESBWR Design Certification Application

Containment Systems and Engineered Safety System Materials

RAI Numbers 6.2-99 and 6.3-42

NRC RAI 6.2-99:

Provide the vacuum breaker (VB) opening and closing differential pressure settings used in the TRACG calculations for the bounding FWLB (1SRV failure) scenario.

GE Response:

Vacuum breaker (VB) opening and closing differential pressure settings used are 3068 Pa and 2206 Pa, respectively.

DCD Impact:

No DCD changes will be made in response to this RAI.

NRC RAI 6.3-42:

During a LOCA, if the passive containment cooling system (PCCS) heat exchanger inlets are within the zone of influence (ZOI), debris ingress is expected. Please provide the maximum steam velocity at the inlet of the PCCS suction line calculated by the TRACG code for all design basis LOCA cases. Discuss the impact of the debris on the heat transfer performance of the heat exchanger.

GE Response:

The Passive Containment Cooling System (PCCS) heat exchanger inlet pipe is provided with a debris filter with holes no greater than 25 mm (1 inch) to prevent entrance of missiles into the pipe and protection from fluid jets during a loss-of-coolant accident (LOCA) condition. These holes are smaller than the size of the heat exchanger tubes (50 mm (2 inch) nominal diameter), which have the smallest diameter of the piping components in the PCCS. Therefore, if there is any debris that enters the PCCS it cannot become lodged in the vertical heat exchanger tubes where the heat transfer function is performed. Therefore, the debris will not impact heat exchanger performance. The maximum inlet velocity during a LOCA condition is estimated to be 106 m/s.

DCD Impact:

No DCD changes will be made in response to this RAI.