HITACHI

GE Hitachi Nuclear Energy

James C. Kinsey
Vice President, ESBWR Licensing

PO Box 780 M/C A-55
Wilmington, NC 28402-0780
USA

T 910 675 5057
F 910 362 5057
jim.kinsey@ge.com

MFN 07-648

Docket No. 52-010

December 6, 2007

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. 111 Related to ESBWR Design Certification Application - Heating, Ventilation, and Air Conditioning - RAI Numbers 9.4-51 and 9.4-52**

The purpose of this letter is to submit the GE Hitachi Nuclear Energy (GEH) response to the U.S. Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) sent by NRC letter dated October 15, 2007, Reference 1. GEH response to RAI Numbers 9.4-51 and -52 are addressed in Enclosure 1.

If you have any questions or require additional information, please contact me.

Sincerely,

James C. Kinsey

James C. Kinsey
Vice President, ESBWR Licensing

D068
NRO

Reference:

1. MFN 07-556, Letter from U.S. Nuclear Regulatory Commission to Robert E. Brown, Senior Vice President, Regulatory Affairs, *Request For Additional Information Letter No. 111 Related To ESBWR Design Certification Application*, dated October 15, 2007

Enclosure:

1. Response to Portion of NRC Request for Additional Information Letter No. 111 Related to ESBWR Design Certification Application – Heating, Ventilation, and Air Conditioning – RAI Numbers 9.4-51 and 9.4-52

cc: AE Cubbage USNRC (with enclosure)
GB Stramback GEH/San Jose (with enclosure)
RE Brown GEH/Wilmington (with enclosure)
eDRF 0000-0076-6330

Enclosure 1

MFN 07-648

Response to Portion of NRC Request for

Additional Information Letter No. 111

Related to ESBWR Design Certification Application

Heating, Ventilation, and Air Conditioning

RAI Numbers 9.4-51 and 9.4-52

NRC RAI 9.4-51

In DCD, Tier 2, Section 9.4.2, the applicant states the safety-related Fuel Building boundary isolation dampers automatically close in the event of a fuel handling accident or other radiological accident. Identify whether the fuel handling building is isolated during the movement of irradiated fuel or can it be open for maintenance or other refueling activities such that closure of these valves would be ineffective at containing radioactive release? If so clarify the purpose of the isolation dampers.

GEH Response

The fuel building is not isolated during the movement of irradiated fuel. The ventilation system is in service and the building process radiation monitor system (PRMS) is continuously in service, including during fuel handling activities. As described in DCD Section 11.5, the following PRMS subsystems provide signals that initiate automatic safety function (isolation) for the Fuel Building HVAC system: Fuel Building General Area HVAC RMS and Fuel Building Fuel Pool HVAC RMS. The PRMS system is continuously in service whether refueling or not to ensure the ventilation isolation dampers close when radiological conditions exceed predetermined setpoints. DCD subsection 15.4.1.2 states that the Fuel Building doors are locked after an accident occurs, and subsection 15.4.1.4.1 states that no credit is taken for Control Room emergency filter unit (EFU) mitigation nor is the Reactor Building or Fuel Handling Building integrity assumed.

DCD Impact

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

NRC RAI 9.4-52

In DCD, Tier 2, Section 9.4.2, the applicant states that the Fuel Building HVAC System (FBVS) is not required to operate during an SBO. Are there any components in the FB that could be affected by increases in temperature? Are there any provisions to providing cooling to areas of the FB when the FBVS is isolated? Has the impact of over heating and failure of any component been evaluated for the SBO condition?

GEH Response

There are no components in the Fuel Building that would be affected by increased temperature during a station blackout. As reflected in DCD Tier 2, Appendix 9A, Table 9A.5-2, Fuel Building Fire Hazard Analysis, there is no safety related equipment or cabling located in the Fuel Building. Following a SBO event, there are no components operating in the Fuel Building. Therefore, even though the FBVS is not available, no adverse affects occur following a SBO event.

DCD Impact

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