



**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 07-592, Supplement 2

Docket No. 52-010

November 23, 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. 103 Related to ESBWR Design Certification Application - Heating, Ventilation, and Air Conditioning - RAI Number 9.4-47**

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 July 23, 2007, Reference 1. GEH response to RAI Number 9.4-47 is addressed in Enclosure 1.

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

Sincerely,

James C. Kinsey  
Vice President, ESBWR Licensing

*DOB8*  
*NRO*

Reference:

1. MFN 07-414, Letter from U.S. Nuclear Regulatory Commission to Robert E. Brown, Senior Vice President, Regulatory Affairs, *Request For Additional Information Letter No. 103 Related To ESBWR Design Certification Application*, dated July 23, 2007

Enclosure:

1. Response to Portion of NRC Request for Additional Information Letter No. 103 Related to ESBWR Design Certification Application - Heating, Ventilation, and Air Conditioning - RAI Number 9.4-47

cc: AE Cabbage      USNRC (with enclosure)  
GB Stramback      GEH/San Jose (with enclosure)  
RE Brown          GEH/Wilmington (with enclosure)  
eDRF                0000-0076-3520

**Enclosure 1**

**MFN 07-592, Supplement 2**

**Response to Portion of NRC Request for**

**Additional Information Letter No. 103**

**Related to ESBWR Design Certification Application**

**Heating, Ventilation, and Air Conditioning**

**RAI Number 9.4-47**

**NRC RAI 9.4-47**

*DCD, Tier 2, Revision 3, Figure 9.4-9 shows that the reactor building clean air sub system exhaust air directly outdoors.*

*How is the release monitored for radiation? What assurance is there that this release is clean and does not have to be monitored? Are there barriers that separate the clean area from the contaminated areas of the reactor building other than air pressure differential?*

**GEH Response**

The Clean Area HVAC Subsystem (CLAVS) which is described in DCD Tier 2 Subsection 9.4.6 and outlined in DCD Tier 2 Figure 9.4-9 serves the clean (non-radiological controlled) areas of the Reactor Building, and therefore its exhaust does not contain any contaminants during CLAVS operation. The CLAVS ventilation subsystem is a recirculation ventilation system kept at a slightly positive pressure with respect to the other building ventilation subsystems. There are walls and internal barriers within the reactor building, which keep the clean areas (served by CLAVS) separate from either of the potentially contaminated RB areas (served by CONAVS or REPAVS), which additionally are maintained at a slightly negative pressure. The building separation design and the pressure differential maintained ensure that any exhaust from this subsystem is clean.

**DCD Impact**

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