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U.S. Nuclear Regulatory Commission
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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 9.4-42**

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 9.4-42 is addressed in Enclosure 1.

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

Sincerely,

Kathy Sedney for

James C. Kinsey
Vice President, ESBWR Licensing

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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 9.4-42

cc: AE Cubbage 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

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 9.4-42

NRC RAI 9.4-42

DCD, Tier 2, Revision 3, Table 9.4-9 does not list safety-related isolation dampers. Please add this item to the table with appropriate information. Figure 9.4-9 has a variety of dampers. Please identify the isolation dampers that are safety-related and coordinate with Table 9.4-9.

GEH Response

Table 9.4-9 corresponds to the Clean Area HVAC Subsystem that serves the clean (non-radiologically controlled) areas of the Reactor Building. This clean area has Safety-related isolation dampers at the RB wall. Figure 9.4-9 and Table 9.4-9 will be updated to include these dampers.

DCD Impact

DCD Tier 2 Figure 9.4-9 and Table 9.4-9 will be revised in the Revision 5, to include the building isolation dampers, as indicated on the attached mark-ups.

Table 9.4-9

Major Equipment for CLAVS

Supply air handling units	Quantity:	2 - 100% capacity (one running and one standby)
	Capacity:	Normal flow – 27,250 l/s (57,739 cfm) per unit
		Filtration - medium efficiency
		Cooling – approximately 686,400 watts (2,344,203 Btu/hr)
		Heating – approximately 100,500 watts (343,406 Btu/hr)
AHU Supply fans	Quantity:	2 - 100% capacity (one running and one standby)
	Capacity:	Normal flow - 27,250 l/s (57,739 cfm) per fan
	Type:	Centrifugal or Axial with variable inlet vanes or Variable Speed Drive, approximately 75 kW (100 hp)
Return/exhaust fans	Quantity:	2 - 100% capacity (one running and one standby)
	Capacity:	Flow – 24,800 l/s (52,548 cfm) per fan
	Type:	Centrifugal or Axial with variable inlet vanes or Variable Speed Drive, approximately 30 kW (40 hp)
Smoke exhaust fans	Quantity:	2 - 100% capacity (both standby)
	Capacity:	Flow – 17,600 l/s (37,292 cfm) per fan
	Type:	Centrifugal or Axial with Variable Speed Drive or with inlet vanes, approximately 18.6 kW (25 hp)
Battery Room exhaust fan	Quantity:	2 - 100% capacity (one running and one standby)
	Capacity:	Flow – 2,050 l/s (4,345 cfm) per fan
	Type:	Centrifugal or Axial with Variable Speed Drive or with inlet vanes, approximately 2.2 kW (3 hp)
Safety-related Building Isolation Dampers	Quantity:	4 (2 redundant dampers for each CLAVS supply and exhaust duct) 4 (2 redundant dampers for each CLAVS Smoke and Battery Room Exhaust Fans/Ducts)
ASME AG-1	SeatLeakage Class	I – Low Leakage
	Actuator Type	Pneumatic, fail close

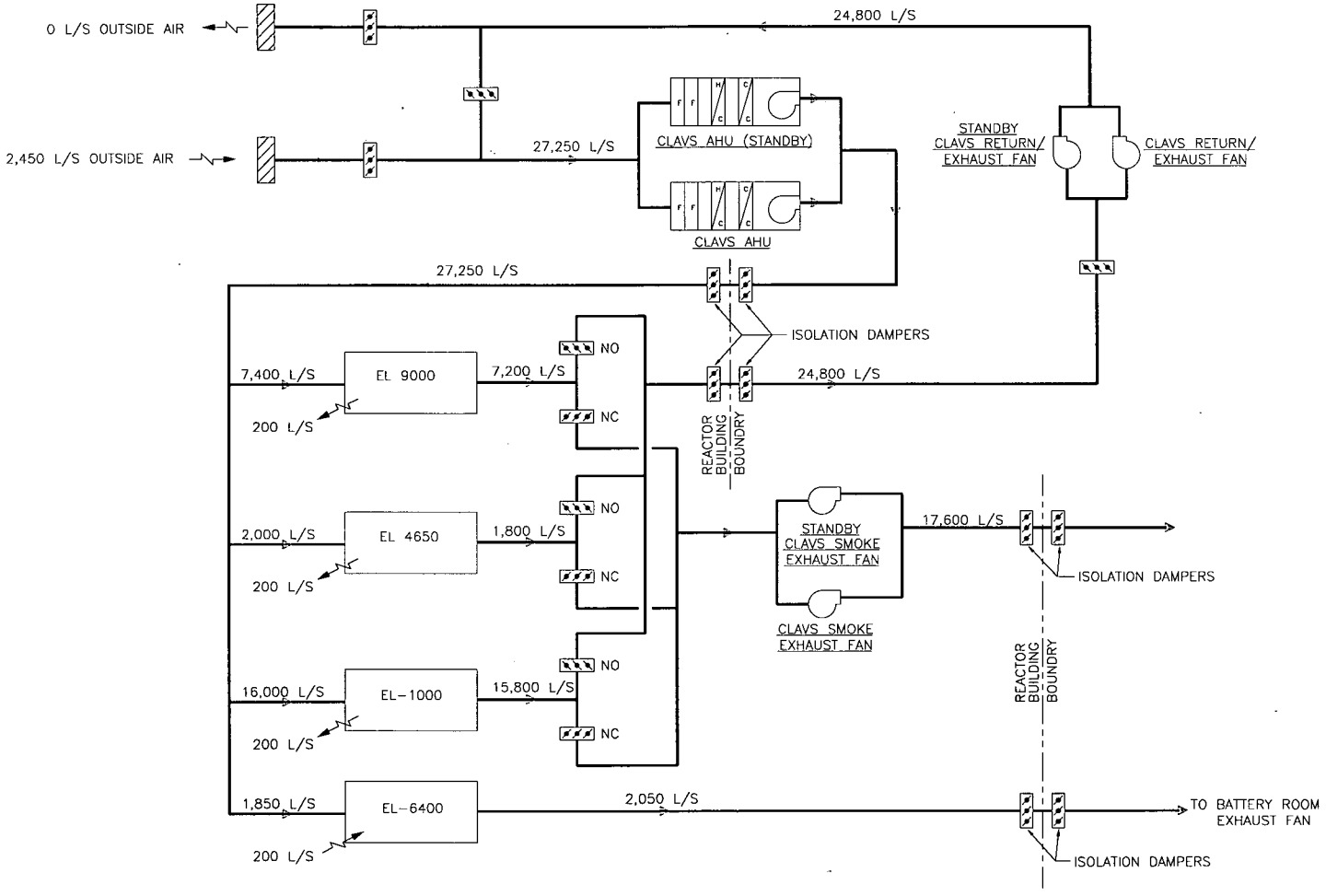

Figure 9.4-9 CLAVS Simplified System Diagram