GE Hitachi Nuclear Energy

Richard E. Kingston
Vice President, ESBWR Licensing

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

T 910 675 6192
F 910 362 6192
rick.kingston@ge.com

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Subject: Response to Portion of NRC Request for Additional Information Letter No. 226, Related to ESBWR Design Certification Application - Auxiliary Systems - RAI Number 9.5-76

The purpose of this letter is to submit the GE Hitachi Nuclear Energy (GEH) response to the U.S. Nuclear Regulatory Commission Request for Additional Information (RAI) sent by NRC Letter 226, dated July 21, 2008 (Reference 1). The GEH response is addressed in Enclosure 1.

Should you have any questions or require additional information regarding the information provided here, please contact me.

Sincerely,

for

Richard E. Kingston
Vice President, ESBWR Licensing

D068
NRO

Reference:

1. MFN 08-589, Letter from U.S. Nuclear Regulatory Commission to Robert E. Brown, *Request for Additional Information Letter No. 226 Related to ESBWR Design Certification Application,* July 21, 2008.

Enclosure:

1. Response to Portion of NRC Request for Additional Information Letter No. 226 Related to ESBWR Design Certification Application -Auxiliary Systems - RAI Number 9.5-76

cc:	AE Cubbage	USNRC (with enclosures)
	DH Hinds	GEH (with enclosures)
	RE Brown	GEH (with enclosures)
	eDRF	0000-0089-5141

Enclosure 1

MFN 08-716

Response to Portion of NRC Request for

Additional Information Letter No. 226

Related to ESBWR Design Certification Application

Auxiliary Systems

RAI Number 9.5-76

NRC RAI 9.5-76

DCD Tier 2, Subsection 9.5.1.6 refers to jacket-lined fire hose. This description should be revised to "woven jacket, lined fire hose."

GEH Response

GEH concurs that the word "woven" was left off the description of the fire hose. The DCD will be modified in Revision 6 to add this description to be in conformance with Regulatory Guide 1.189.

DCD Impact

DCD Tier 2, Subsection 9.5.1.6 will be revised in Revision 6 to reflect the addition of the word "woven" to describe fire hoses as shown in the attached markup.

9.5.1.6 Manual Suppression Means

Manual suppression means are provided for all plant areas. The sprinkler systems and the hose station standpipes have separate connections to the firewater main; therefore, no single failure can impair both systems.

Standpipe and Hose Systems (Wet)

Standpipes and hose stations are provided in all major buildings. Standpipes in areas adjacent to stairways and other locations provide sufficient hose coverage. Minimum standpipe size is 102 mm (4 inch). Standpipe size for building heights exceeding 30.5 meters (100 feet) is 152 mm (6 inch).

The wet standpipes and hose stations are designed to NFPA 14 Class III Service.

Each Class III hose station is provided with a 64 mm (2.5 inch) hose valve with cap and a 38 mm (1.5 inch) hose valve. 64 mm (2.5 inch) to 38 mm (1.5-inch) reducer is utilized on the 64 mm (2.5-inch) hose valve.

Each Class III hose rack has 30.5m (100 ft) of 38 mm (1.5-inch) woven jacket,- lined fire hose.

The water supply pressure maintains a gauge pressure of 448.2 kPaG (65 psig) at the most hydraulically remote 38 mm (1.5 inch) hose station and 689 kPaG (100 psig) at the most hydraulically remote 64 mm (2.5 inch) hose station. If the gauge pressure at a 38 mm (1.5 inch) hose station exceeds 689 kPaG (100 psig), orifice discs installed in the hose couplings reduce the reaction force at the hose end.

Areas containing equipment required for safe shutdown, standpipes and hose connections for manual firefighting remain functional following an SSE. Provisions are made to supply water to at least two standpipes and hose connections for manual firefighting in areas containing equipment required for safe plant shutdown in the event of an SSE. The piping system serving such hose stations is analyzed for SSE loading and is provided with supports to ensure system pressure integrity. The piping and valves for the portion of the hose standpipe system affected by this functional requirement, as a minimum, satisfy ASME B31.1 requirements.

All rooms within the plant buildings are within the reach of at least one effective hose stream from a Class III hose station. A hose station covers each room not covered by a fixed fire suppression system. Effective hose streams from two separate hose stations cover each room that contains equipment required for safe shutdown that is not protected by a fixed fire suppression system. The need for two hose station coverage is also based upon the fire hazard present. Rooms not covered by a fixed fire suppression system and with coverage by only one hose station are furnished with portable fire extinguishers for secondary coverage.

Hose stations also provide secondary coverage for fixed suppression systems.

Hose stations are located outside of highly radioactive areas where possible; however, hose stations are located such that any location that contains or could present a hazard to safe shutdown equipment can be reached by at least one effective hose stream 9.1 meters (30 feet) with a maximum of 30.5 meters (100 feet) of hose.

Standpipes and hose stations external to containment and portable extinguishers provide protection during refueling and maintenance operations. Hose stations are located such that any