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U.S. Nuclear Regulatory Commission
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Washington, D.C. 20555-0001

Subject: **Response to Portion of NRC Request for Additional Information Letter No. 252 Related to ESBWR Design Certification Application RAI Number 14.3-433**

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 252, dated September 16, 2008 (Reference 1).

Enclosure 1 contains the GEH response to RAI Number 14.3-433.

Verified DCD changes associated with this RAI response are identified in the enclosed DCD markups by enclosing the text within a black box. The marked-up pages may contain unverified changes in addition to the verified changes resulting from this RAI response. Other changes shown in the markup(s) may not be fully developed and approved for inclusion in DCD Revision 6.

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

Sincerely,

Richard E. Kingston

Richard E. Kingston
Vice President, ESBWR Licensing

D068
NRO

Reference:

1. MFN 08-722, Letter from U.S. Nuclear Regulatory Commission to Mr. Robert E. Brown, GEH, *Request For Additional Information Letter No. 252 Related to ESBWR Design Certification Application*, dated September 16, 2008.

Enclosures:

1. Response to Portion of NRC Request for Additional Information Letter No. 252 Related to ESBWR Design Certification Application DCD Tier 1 RAI Number 14.3-433.
2. Attachment 1, DCD Tier 1 Revision 6 Markups

cc:	AE Cubbage	USNRC (with enclosure)
	RE Brown	GEH/Wilmington (with enclosure)
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Enclosure 1

Response to Portion of NRC Request for Additional Information Letter No. 252 Related to ESBWR Design Certification Application

DCD Tier 1

RAI Number 14.3-433

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NRC RAI 14.3-433

In Table 2.2.14-1 the DPS scram initiation logic is "energize-to-actuate" applied at the power return side of the control circuit going to the scram pilot valve solenoids." And; "DPS logic is "energize-to-actuate". These functional arrangements should be reduced to one or explain the need for both.

GEH Response

GEH agrees with the NRC request. The DPS uses "energize-to-actuate" logic. The additional discussion related to the control circuit going to the scram pilot valve solenoids will be removed from Tier 1 as excess detail.

DCD Impact

DCD Tier 1, Subsection 2.2.14, Table 2.2.14-1 will be updated as shown on the enclosed markup page in DCD Revision 6.

Attachment 1

RAI Number 14.3-433

Tier 1 – DCD Markups

Table 2.2.14-1

DICS Functional Arrangement

ATWS/SLC system is safety-related.
ATWS/SLC system is housed within each of the divisional safety-related reactor trip and isolation function (RTIF) cabinets on a separate chassis from the other equipment within the cabinet.
RTIF cabinets housing the ATWS/SLC system are located within the divisional electrical rooms in the control building (CB) in a mild environment.
ATWS/SLC system logic is designed to provide a trip initiation by requiring coincident trip of at least two divisions to cause the trip output.
Each ATWS/SLC system is powered by a divisionally separated safety-related power supply.
ATWS/SLC has RPV dome pressure sensors and RPV water level sensors that are hardwired to their respective divisional controller.
DPS uses a triple redundant, digital controller, powered from nonsafety-related load group power supplies.
DPS triple redundant digital controllers require agreement in at least two channels out of three channels for a coincident trip actuation.
DPS is housed in a cabinet located in a mild environment in the CB.
~~DPS scram initiation logic is "energize-to-actuate" applied at the power return side of the control circuit going to the scram pilot valve solenoids.~~ Deleted
DPS logic is "energize-to-actuate".
DPS process variable sensors are different from those used by the RPS and SSLC/ESF.
The DPS logic platform uses diverse hardware and software that is separate and independent from that used by the RPS and SSLC/ESF.