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Subject: **Response to Portion of NRC Request for Additional Information Letter No. 70 Related to ESBWR Design Certification Application – Plant Service Water System – RAI Number 14.3-69**

Enclosure 1 contains GE's response to the subject NRC RAI transmitted via the Reference 1 letter.

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

Sincerely,

Kathy Sedney for

James C. Kinsey
Project Manager, ESBWR Licensing

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Reference:

1. MFN 06-382, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 70 Related to ESBWR Design Certification Application,* October 10, 2006

Enclosure:

1. MFN 07-205 – Response to Portion of NRC Request for Additional Information Letter No. 70 Related to ESBWR Design Certification Application – Plant Service Water System – RAI Number 14.3-69

cc:

AE Cubbage	USNRC (with enclosures)
DH Hinds	GE (with enclosures)
RE Brown	GE (w/o enclosures)
eDRF	0000-0062-8453

Enclosure 1

MFN 07-205

Response to Portion of NRC Request for

Additional Information Letter No. 70

Related to ESBWR Design Certification Application

Plant Service Water System

RAI Number 14.3-69

NRC RAI 14.3-69

Plant Service Water System (PSWS) is included in the DCD Tier 1, Revision 1. However, it does not include a system drawing, or an inspection, test and analyses, and acceptance criteria (ITAAC) table. Provide a simplified schematic of the PSWS system in DCD Tier 1, Section 2.12.7 and provide proposed ITAACs.

GE Response

The following is based on GE response to RAI 19.1.0-2:

The ESBWR is a passive, advanced light water reactor. Within the ESBWR design, passive systems perform all required safety function for 72 hours after an initiating event. After 72 hours, nonsafety-related systems, either passive or active, replenish the passive systems or perform safety functions directly. These active systems provide defense-in-depth and are designated nonsafety-related.

The criteria of SECY-94-084 are applied to the ESBWR design to determine which defense-in-depth systems are candidates for Regulatory Treatment of Non-Safety Systems (RTNSS) consideration. The candidate systems are then evaluated to determine whether they are RTNSS and what regulatory oversight is appropriate.

Following the objectives and criteria of SECY-94-084, the PSWS was evaluated and determined to be RTNSS by the following criteria:

> Under Criterion B, Long-Term Safety Assessment, determination was based on the need to support post-accident monitoring functions by the Distributed Control and Instrumentation System (DCIS), which requires cooling from HVAC. Therefore, PSWS is required to provide cooling functions to RCCWS and TCCWS to support HVAC cooling.
>
> Under Criterion C, PRA Mitigating Systems Assessment, FAPCS provides a backup source of low pressure injection and suppression pool cooling. PSWS is required to support the operation of FAPCS by providing cooling functions to the RCCWS and TCCWS systems.

The safety significance of the PSWS RTNSS functions were evaluated and determined to be not significant. Therefore, the PSWS will require Low Regulatory Oversight with respect to the RTNSS functions it provides.

Because the PSWS is not safety significant and requires Low Regulatory Oversight, the PSWS will be described in Regulatory Availability Specifications and in DCD Tier 2. Therefore, an ITAAC is not required for PSWS. Additionally, a simplified schematic is not required since DCD Tier 1, Subsection 2.12.7, has been provided as a design description for completeness.

DCD Impact

No change to the DCD is required in response to this RAI.