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MFN 07-549

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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. 100 – Related to ESBWR Design Certification Application – RAI Number 20.0-14**

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 the reference 1 NRC letter. GEH response to RAI Number 20.0-14 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 07-327, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 100 Related to the ESBWR Design Certification Application*, May 30, 2007.

Enclosure:

1. MFN 07-549 – Response to Portion of NRC Request for Additional Information Letter No. 100 – Related to ESBWR Design Certification Application – RAI Number 20.0-14

cc: AE Cubbage USNRC (with enclosure)
GB Stramback GEH/San Jose (with enclosure)
RE Brown GEH/Wilmington (with enclosure)
eDRF 0000-0075-6978

Enclosure 1

MFN 07-549

Response to Portion of NRC Request for

Additional Information Letter No. 100

Related to ESBWR Design Certification Application

RAI Number 20.0-14

NRC RAI 20.0-14

Addressing Bulletins 93-02, 93-02 Supplement 1, 95-02, 96-03, and Generic Letter 98-04 is inconsistent with RTNSS identification.

ESBWR relies on the passive containment cooling system (PCCS) for providing water to the gravity driven cooling system (GDCS) for core cooling and for providing containment heat removal for 72 hours after a loss of coolant accident. Beyond 72 hours, in addition to relying on the PCCS, the ESBWR relies also on the fuel and auxiliary pools cooling system (FAPCS). DCD Tier 2, Revision 3, Table 19A-2 identifies that FAPCS operating in suppression pool cooling and low pressure coolant injection modes is a Regulatory Treatment of Non-Safety Systems function (RTNSS).

However, DCD, Tier 2, Revision 3, Table 1C-1 states that NRC Bulleting 95-02, "Unexpected Clogging of a Residual Heat Removal (RHR) Pump Strainer While Operating in Suppression Pool Cooling Mode," is not applicable to ESBWR because it does not have a safety-related suppression pool cooling system. The same table states that the following NRC Bulletins and Generic Letter do not apply to ESBWR because it provides emergency core cooling by GDCS and that the GDCS pools do not have the debris transport mechanisms that the suppression pool is subject to:

- *Bulletin 93-02, "Debris Plugging of Emergency Core Cooling Suction Strainers"*
- *Bulletin 93-02 Supplement 1, "Debris Plugging of Emergency Core Cooling Suction Strainers"*
- *Bulletin 96-03, 'Potential Plugging of Emergency Core Cooling Suction Strainers by Debris in Boiling-Water Reactors"*
- *Generic Letter 98-04, "Potential for Degradation of the Emergency Core Cooling System and the Containment Spray System After a Loss-of-Coolant Accident Because of Construction and Protective Coating Deficiencies and Foreign Material in Containment."*

Please explain why debris plugging issues described in the above bulletins and generic letter should not be applied to the debris plugging of the suppression pool suction strainer for operation of the FAPCS 72 hours after a loss-of-coolant accident.

GE Response

This RAI is similar to RAI 6.2-173. Please refer to that response.

GEH notes that these bulletins are intended to address strainer issues for safety-related functions, however in this case they have been conservatively applied to a nonsafety-related system with RTNSS classifications.

DCD Impact

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