GE Hitachi Nuclear Energy

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Subject: **GE-Hitachi Nuclear Energy Advanced Boiling Water Reactor Design Certification Rule Renewal Application – Redesign of ABWR Containment Overpressure Protection System (COPS) Pipe Diameter – Revision 1, Supplement 3**

Reference:

1. Letter from R.E. Kingston, GEH to USNRC, Subject: ABWR Standard Plant Design Certification Renewal Application Design Control Document, Revision 5, Tier 1 and Tier 2, December 7, 2010.
2. Letter from J. G. Head GEH to USNRC, Subject: GE-Hitachi Nuclear Energy Advanced Boiling Water Reactor Design Certification Rule Renewal Application – Redesign of ABWR Containment Overpressure Protection System (COPS) Pipe Diameter, January 9 2016.
3. Letter from J. G. Head GEH to USNRC, Subject: GE-Hitachi Nuclear Energy Advanced Boiling Water Reactor Design Certification Rule Renewal Application – Redesign of ABWR Containment Overpressure Protection System (COPS) Pipe Diameter – Revision 1, February 19, 2016.
4. Letter from J. G. Head, GEH to USNRC, Subject: GE-Hitachi Nuclear Energy Advanced Boiling Water Reactor Design Certification Rule Renewal Application – Redesign of ABWR Containment Overpressure Protection System (COPS) Pipe Diameter – Revision 1, Supplement 1, April 19, 2016
5. Letter from J. G. Head, GEH to USNRC, Subject: GE-Hitachi Nuclear Energy Advanced Boiling Water Reactor Design Certification Rule Renewal Application – Redesign of ABWR Containment Overpressure Protection System (COPS) Pipe Diameter – Revision 1, Supplement 2, June 22, 2016

GEH reviewed with the NRC in a public teleconference the redesign of ABWR Containment Overpressure Protection System (COPS) pipe diameter (Reference 2). During the teleconference, the NRC Staff requested additional supplemental information on the COPS redesign, as well as identifying possible typographical errors to equations in Reference 2.

Reference 3 responded to the Staff's request for supplemental information, provided editorial corrections to identified equations and more thoroughly covered the effects of the redesign of COPS on the ABWR DCD Revision 5, which was transmitted in Reference 1.

In a public phone call with the NRC on February 5, 2016 and again on April 6, 2016 the Staff's PRA team requested that GEH review and confirm that ABWR DCD formula 19E.2-41k is correct.

In a public phone call with the NRC on June 13 2016, the Staff's PRA team provided feedback on Reference 4 and requested that GEH review the ABWR DCD Tier 2, Chapter 6 for additional changes related to the modifications of the COPS discharge pipe and rupture disks sizing.

Reference 5 transmitted GEH's response to the staff's supplemental information request # 2 dealing with changes to ABWR DCD Revision 6 formula 19E.2-41k and additional ABWR DCD Revision 6, Tier 2, Chapter 6 changes related to the modifications of the COPS discharge pipe and rupture disks sizing.

In a public phone call with the NRC on September 22, 2016, the Staff questioned the resistance values used to calculate the pipe loss for the ABWR DCD COPS sizing evaluation. After GEH provided the NRC with the values during the call, the NRC requested that this information be provided in a supplemental response.

Enclosure 1 of this letter provides GEH's response to the NRC's request for the resistance values used to calculate the pipe loss for the ABWR DCD COPS sizing evaluation.

If you have any questions concerning this letter, please contact Hugh Upton at (408) 314-8499.

Sincerely,

Jerald G. Head
Senior Vice President, Regulatory Affairs

Commitments: No additional commitments are made in the responses.

Enclosures:

1. GEH Response to NRC's Request for Supplemental Information #3 on ABWR COPS Redesign.

cc: Adrian Muniz, NRC
DBR – 0015963