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Project Number 691

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Attention: Mr. Joe Golla (NRC)

Subject: Submittal of BWROG Technical Reports Addressing the NRC Guidance Document on the Use of Containment Accident Pressure (CAP) in Analyzing Emergency Core Cooling System (ECCS) and Containment Heat Removal System Pump Performance in Postulated Accidents – CVIC Pumps

- References:
1. NRC Guidance Document for the Use of Containment Accident Pressure in Reactor Safety Analysis (ADAMS Accession No. ML102110167)
 2. Submittal of GEH BWROG Topical Reports NEDC-33347P Revision 0 (Proprietary Version) and NEDO-33347 Revision 0 (Non-Proprietary Version), "Containment Overpressure Credit for Net Positive Suction Head (NPSH)" (ADAMS Accession No. ML080520268)
 3. NRC Letter dated September 29, 2009, from Stacy Rosenberg to Doug Coleman, "Draft Safety Evaluation of Boiling Water Reactors Owners' Group (BWROG) Topical Report NEDC-33347, Revision 0, 'Containment Overpressure Credit for Net Positive Suction Head (NPSH)' (TAC No. MD8146)" (ADAMS Accession No. ML092440176)
 4. Submittal Letter BWROG-12051 dated October 24, 2012, "Submittal of BWROG Technical Reports Addressing the NRC Guidance Document on the Use of Containment Accident Pressure (CAP) in Analyzing Emergency Core Cooling System (ECCS) and Containment Heat Removal System Pump Performance in Postulated Accidents" (ADAMS Accession No. ML12300A286)

The attached technical reports are being submitted to address several topics in the NRC guidance document for the use of CAP contained in Reference 1, which is Enclosure 1 of Staff Requirements Memorandum SECY-11-0014 (ADAMS Accession No. ML102780586). These technical reports evaluate a Sulzer CVIC model pump typical of single stage single suction centrifugal pumps used in BWR ECCS and containment heat removal systems. The reports are supplementary information for the BWROG Licensing Topical Report previously submitted in

Reference 2 and the corresponding Draft NRC Safety Evaluation issued in Reference 3. The reports evaluate the following topics.

- Task 1 - CFD Report and Combined NPSHr Uncertainty for Browns Ferry/ Peach Bottom CVIC RHR Pumps
- Task 2 - Equation for Pump Speed Correction (CVIC Pump)
- Task 3 – Pump Operation at Reduced NPSHa (CVIC Pump)
- Task 4 – Operation in Maximum Erosion Rate Zone (CVIC Pump)
- Task 5 – Effects of Non-Condensable Gases on Seals (CVIC Pump)
- Task 6 – NPSHr Test Instrument Accuracy Effect on the Published Results (CVIC Pump)

In part, the BWROG is submitting these reports to address pump NPSH uncertainties for Design Basis Accident (DBA) Loss-of-Coolant Accident calculations as described in Reference 1. As noted in Reference 1 (section 6.5), calculations for non-DBA events do not require consideration of NPSH uncertainties. This set of reports is a companion to the reports submitted in Reference 4, and completes the planned scope of work for the BWROG on this topic.

Attachment 1 contains an affidavit requesting withholding of Attachments 2 through 7. The affidavit states that information in Attachments 2 through 7 has been handled and classified as proprietary to the BWROG. The BWROG hereby requests that Attachments 2 through 7 be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390 and 9.17. Attachments 8 through 13 are redacted versions of Attachments 2 through 7 for public disclosure. Inquiries regarding BWROG proprietary information may be directed to Kenneth Welch, BWROG Containment Accident Pressure Committee Project Manager, at 910-819-7904 (Kenneth.Welch@ge.com).

If you have questions or desire further discussion, feel free to contact me or Kenneth Welch, BWROG Committee Project Manager, at 910-819-7904.



Lesa P. Hill
Chairman
BWR Owners' Group

cc: K. A. McCall, BWROG Program Manager
BWROG Primary Representatives

Attachments

Item	Report	Attachment
1	Proprietary Information Affidavit	
2	Task 1 – CFD Report and Combined NPSHr Uncertainty for Browns Ferry/ Peach Bottom CVIC RHR Pumps	
3	Task 2 – Equation for Pump Speed Correction (CVIC Pump)	
4	Task 3 – Pump Operation at Reduced NPSHa conditions (CVIC Pump)	
5	Task 4 – Operation in Maximum Erosion Rate Zone (CVIC pump)	
6	Task 5 – Effects of Non-Condensable Gases on Seals (CVIC pump)	
7	Task 6 – NPSHr Test Instrument Accuracy Effect on the Published Results (CVIC Pump)	
8	Task 1 – CFD Report and Combined NPSHr Uncertainty for Browns Ferry/ Peach Bottom CVIC RHR Pumps (Redacted Version)	

Item	Report	Attachment
9	Task 2 – Equation for Pump Speed Correction (CVIC Pump) (Redacted Version)	
10	Task 3 – Pump Operation at Reduced NPSHa conditions (CVIC Pump) (Redacted Version)	
11	Task 4 – Operation in Maximum Erosion Rate Zone (CVIC Pump) (Redacted Version)	
12	Task 5 – Effects of Non-Condensable Gases on Seals (CVIC Pump) (Redacted Version)	
13	Task 6 – NPSHr Test Instrument Accuracy Effect on the Published Results (CVIC Pump) (Redacted Version)	

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