

NRCREP Resource

From: Schlaseman, Caroline [cschlaseman@mpr.com]
Sent: Wednesday, October 27, 2010 9:33 AM
To: NRCREP Resource; Burke, John
Cc: Yukitaka Yamazaki; Koichi Kondo
Subject: Toshiba Comments on DG-1234 (Docket ID NRC-2010-0249)
Attachments: Toshiba Comments on DG-1234.doc

Please accept for consideration the attached Toshiba Corporation comments on Draft Regulatory Guide DG-1234, "Water Sources for Long-Term Recirculation Cooling Following a Loss-of-Coolant Accident."

If you have any questions about these comments, please let me know.

Thank you.

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TOSHIBA CORPORATION COMMENTS ON DG-1234

Comment 1

The proposed changes to RG 1.82, Rev. 3 as stated in Draft Regulatory Guide DG-1234 include combining regulatory positions for PWRs and BWRs into common positions compared to the organization of RG 1.82 Rev. 3. As a result of the combined regulatory position for determination of available NPSH for ECC and containment heat removal pumps, Section 1.3.1.1 in DG-1234, appears to change the regulatory position for BWRs given in RG 1.82, Rev. 3. The first paragraph of DG-1234 Section 1.3.1.1 is consistent with Section 2.1.1.1 of RG 1.82, Rev. 3 guidance that there should be “no increase in containment pressure from that present prior to the postulated LOCA.” That is the end of the guidance on assumptions of containment pressure for BWRs in RG 1.82, Rev. 3. Section 1.3.1.1 in DG-1234, however, adds an additional paragraph and statement that “it is conservative to assume that the containment pressure equals the vapor pressure of the pool water.” This is likely more conservative than the typical BWR assumption of the containment being at atmospheric pressure. Therefore, DG-1234 Section 1.3.1.1 appears to change the regulatory position from that stated in RG 1.82, Rev. 3 Section 2.1.1.1 for BWRs, and to require an overly conservative assumption in the calculation of ECC and containment heat removal system pumps’ available NPSH.

Comment 2

Proposed Section 1.1.1.1 in Draft Regulatory Guide DG-1234 states that “A minimum of two independent ECCS suction strainers should be provided, each with sufficient capacity to accommodate the full plant debris loading while providing sufficient flow to one train of ECCS and containment heat removal pumps. To the extent practical, the redundant suction strainers should be physically separated from each other by structural barriers to preclude damage resulting from a LOCA, such as whipping pipes or high-velocity jet impingement.” These statements appear to be revisions of PWR regulatory positions 1.1.1.1 and 1.1.1.2 in RG 1.82, Rev. 3. The terminology used in Section 1.1.1.1 in DG-1234 does not match well with the typical configurations in BWRs. For example, ECC suction from the suppression pool are often fitted with two strainers (e.g., on the ends of a common tee), so the independence and separation is between the different ECC suction, not between pairs of strainers. Additionally, the redundancy for debris loading is achieved by sizing the strainers such that all debris is shared between the operating trains of the ECC systems, assuming at least one train is out of operation for a given system. For the ABWR, there are three independent trains of low pressure ECC (via the Residual Heat Removal system), but two of the three trains are assumed to be operating, so the postulated debris is shared among two (of three) low pressure ECC suction and one (of three) high pressure ECC suction for long-term recirculation cooling following a LOCA. This type of configuration, which is clearly acceptable for the ABWR, does not seem to be included as an acceptable configuration the way that DG-1234 Section 1.1.1.1 is written.