

Enclosure 2

MFN 16-065, Supplement 1

GEH's Response to NRC's Request for Additional Information – ABWR DCD Revision 6 Markups

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Experiences related to identified regulatory or industry developed resolutions were eliminated to avoid repetition except for selected experiences that have a nuisance potential for reoccurring. Lead system engineers classified the more complex experiences.

Reference to t	GEH also reviewed international operating experience related to the ABWR plants built overseas to determine if any design changes were required. Recent ABWR plant design, licensing, preoperational and startup experiences were also reviewed for applicability to the ABWR Certified Design. It was determined that the previously submitted changes for the ABWR DCD Certification Renewal addressed the international operating experience and there are no additional changes required for the ABWR Certified Design.
Feature	
Fine Moti	
Internal R	
Multiplexing	7A.2
Digital/Solid-State Control	7A.7

Add: GEH also reviewed international operating experience related to the ABWR design. Experiences related to the ABWR licensing effort in the UK were reviewed for applicability to the ABWR Certified design. The UK Office of Nuclear Regulations (ONR) issued Regulatory Issues (RI) and Regulatory Observations (RO) as a result of the UK's Generic Design Assessment (GDA) of the ABWR during UK licensing review. These RIs and ROs were systematically reviewed and evaluated by ABWR subject matter experts for applicability to the ABWR standard design. The conclusion of the evaluation is that none of the RIs and ROs requires a design change to the ABWR standard design. The RIs and ROs are either unique to the UK licensing process, are already addressed in the ABWR standard design, or are the result of unique UK licensing regulations.

Lower Drywell Flooded 7.5.1.2

1.8.4 COL License Information

1.8.4.1 SRP Deviations

The SRP sections to be addressed by the COL applicant are indicated in the comments column of Table 1.8-19 as “COL Applicant”. Where applicable the COL applicant will provide the information required by 10CFR50.34(g) similar to Tables 1.8-1 through 1.8-18 (see Subsection 1.8.1).

1.8.4.2 Experience Information

The experience information to be addressed by the COL applicant are indicated in the comment column of Table 1.8-22 as “COL Applicant” (see Subsection 1.8.3).

**Editorial Note: Replace the original text in MFN 16-065,
Enclosure 2, Insert 10 with the following:**

19B.2.77 193: BWR ECCS Suction Concerns

Issue

This issue addressed the possible failure of low pressure emergency core cooling systems due to unanticipated, large quantities of entrained gas in the suction piping from suppression pools in BWR Mark I containments.

The swell/exclusion zone in the BWR Mark I torus after a LOCA is considered to be limited to less than one diameter of the down-comer pipe. The ABWR Containment is not as limiting as the Mark I and therefore this condition ~~may~~ **is** not ~~be~~ present in the ABWR.

Acceptance Criteria

Not applicable. The ABWR containment differs from the Mark I Containment and the arrangement of the horizontal vents alleviates the problem identified for the Mark I Containment Down-comers. **Additionally, there is sufficient distance in the ABWR Design between the SRV Discharge Quencher and the ECCS suction filters to prevent steam ingestion into the ECCS Suction Piping (Figure 1.2-13i).** This issue is resolved for ABWR renewal application.

Resolution

~~For containment suppression pool LOCA analyses, an NRC SER for two GE topical reports (NEDO-30832 and NEDO-31695-A) accepts the elimination of suppression pool local temperature limits with the proviso that the ECCS suction strainer inlet be below the quencher outlet.~~

Horizontal vent full scale testing for Mark III containments (Reference 19B.2.77-2) showed that the bubbles formed following vent clearing do not reach the containment outside wall during pool swell.

There is also sufficient distance between SRV Discharge Quencher and the ECCS suction filters to prevent steam ingestion into the ECCS Suction Piping (Figure 1.2-13i).

Tier 1, Tables 2.4.1, 2.4.2 and 2.4.4 (ITAAC) include a requirement for the respective ECCS pump suction Strainer for a verification of adequate vertical and horizontal separation between the ECCS suction strainer and the SRV quencher to prevent the potential effect of air and or steam ingestion. **The acceptance criterion is based on Figure 1.2-13i.**

Therefore, Issue 193 is resolved for ABWR **with the addition of the ITAACs for verification of the distances in the as-built conditions.** ~~actions identified for the COL~~

~~Holder.~~

References

- 19B.2.77-1 NUREG-0933, “Resolution of Generic Safety Issues (Formerly entitled “A Prioritization of Generic Safety Issues” with Supplements 1-34),” U.S. NRC, June 2016.
- ~~19B.2.77-2 NEDC-32721P-A, “Application Methodology for the General Electric Stacked Disk ECCS Suction Strainer”, Revision 2, March 2003~~
- ~~19B.2.77-3 NEDO-30832, “Elimination of Limit on BWR Suppression Pool Temperature For SRV Discharge with Quenchers”, Revision 0, December 1984~~
- ~~19B.2.77-4 NEDO-31695-A, “BWR Suppression Pool Temperature Technical Specification Limits”, Revision 0, May 1995~~
- 19B.2.77-2 NEDE-25273, “Scaling Study of the General Electric Pressure Suppression Test Facility Mark III Long-Range Program Task 2.2.1”, Revision 0, March 1980.