Enclosure 1

MFN 16-062

Introduction to Revised Supplement to

ABWR Design Certification Environmental Report

Introduction to Revised Supplement to ABWR Design Certification Environmental Report

The original environmental report, submitted December 21, 1994 (ADAMS Accession No. ML100210563), performed for the Advanced Boiling Water Reactor (ABWR) design certification focused on the assessment of severe accident mitigation design alternatives (SAMDA). The NRC issued a Final Environmental Assessment (ADAMS Accession No. ML11231A786) for the ABWR design certification. GEH prepared a supplemental environmental report (ER), which was submitted with the ABWR design certification renewal application on December 7, 2010 (ADAMS Accession No. ML110040176; MFN 10-342, Enclosure 6).

A revision to the supplemental ER addresses certain changes to the ABWR Design Control Document (DCD). In the report, the DCD amendments are grouped by the general subject of the DCD changes. Except for certain administrative changes, the DCD changes are described in a series of letters that address (1) items that the NRC indicated should be addressed in the renewal (ADAMS Accession No. ML12125A385), (2) responses to NRC requests for additional information, (3) corrections of errors, or (4) the requirements in 10 CFR 50.150 for assessing the impacts of a large aircraft crash.

This supplemental environmental report is being provided to satisfy the requirements of 10 CFR 51.55(b), and evaluates the impact of the DCD design changes as part of the renewal application on the assessment of SAMDAs. Section 51.55(b) states:

> Each applicant for an amendment to a design certification shall submit with its application a separate document entitled, “Applicant's Supplemental Environmental Report-Amendment to Standard Design Certification.” The environmental report must address whether the design change which is the subject of the proposed amendment either renders a severe accident mitigation design alternative previously rejected in an environmental assessment to become cost beneficial, or results in the identification of new severe accident mitigation design alternatives that may be reasonably incorporated into the design certification.

This supplemental environmental report provides the results of a review to determine whether any of the SAMDAs previously rejected is rendered cost-beneficial by the design changes or results in the identification of a new SAMDA that reasonably may be incorporated into the ABWR design certification. As discussed in the report, the design changes do not cause a previously rejected SAMDA to become cost beneficial or result in the identification of new SAMDAs that may be reasonably incorporated into the ABWR design.

This report is formatted similar to other supplemental environmental reports for amendments to standard design certifications: (1) “AP1000 Standard Combined License Technical Report, AP1000 Design Change Proposal Review for PRA and Severe Accident Impact,” APP-PRA-GER-001 (Rev. 0 September 2007; NRC ADAMS Accession Number ML072670541), (2) “ABWR Design Change Proposal Review for Impacts to the Assessment of Severe Accident Mitigation Design Alternatives,” ABWR-LIC-09-621 (Rev. 0, November 2009; ML093170455), and (3) Toshiba’s supplemental environmental report for its ABWR design certification renewal application (ML103080158). The NRC Environmental Assessments for the amendment to the AP1000 standard design certification and for the amendment to the ABWR standard design certification reference these reports as the applicant’s assessment of the impacts of the proposed design changes on the PRA and the SAMDA for the respective certified design (see

ML113480019 and ML110970669). These examples of an environmental report for an amendment to a design certification filed under 10 CFR 51.55(b) provide a reasonable approach to document the SAMDA review of amendments to a certified design. Accordingly, GEH has followed these examples for documenting amendments for design changes that are included in the ABWR renewal application. In addition, the process set forth in these reports is used as a model performing the technical reviews. This ensures consistency by following the approach that has already been used by other applicants and reviewed by the NRC staff for implementing the requirements of 10 CFR 51.55(b).

In addition, the supplemental environmental report follows NRC guidance regarding the content of an application for renewal of a design certification (ML103140050), which states that:

> *Environmental Report*
> The staff intends to review the DC Renewal application to ensure that it includes a separate ER in accordance with 10 CFR 51.55(b). The ER must address whether any proposed design change included in the ABWR DC renewal application either renders a severe accident mitigation design alternative previously rejected in the environmental assessment to become cost beneficial, or results in the identification of new severe accident mitigation design alternatives that may be reasonably incorporated into the ABWR design.

As described in the supplemental ER, none of the design changes included in the DCD amendments for the renewal application impact the ABWR standard design PRA and, thus, do not impact the original SAMDA analysis or the risk of the ABWR standard design.

DCD Impacts

None.