

NRC-AP1000 DCWG Meeting

Process and Schedule for the Completion of As-designed Pipe Break Hazard Analysis Report

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Purpose:

Continue discussion regarding the process and the schedule for completion of as-designed pipe break hazard analysis reports.

Background:

- By a letter dated December 5th, 2008, Westinghouse proposed to revise the DCD Revision 17 Section 3.6.2.5 and 3.6.4.1
- The proposed revision included a description of the as-designed pipe break hazard analysis activity that will be completed by COL Holders.

Westinghouse proposed DCD revision:

(In the response dated Dec 5th, 2008 for RAI-SRP3.6.2-EMB2-01 Rev.2 (page 4 of 4))

3.6.4.1 Pipe Break Hazard Analysis

After a Combined License is issued, the following activity will be completed by the COL holder:

Combined License applicants referencing the AP1000 certified design will provide an as-designed pipe rupture hazard evaluation. This evaluation will be based on a completed piping layout and will be completed to support the combined license. A pipe rupture hazard analysis is part of the piping design. It is used to identify postulated break locations and layout changes, support design, whip restraint design, and jet shield design. A report addressing environmental, spray, and flooding effects of cracks in moderate energy piping is also completed for the as-designed condition. The as-designed pipe rupture hazard evaluation reports are prepared on a generic basis to address all COL applications referencing the AP1000 Design Certification.

The final piping design includes the properties and characteristics of procured components connected to the piping and target characteristics and locations. The final design for these activities will be completed prior to fabrication and installation of the piping and connected components. The as-built reconciliation of the pipe break hazards analysis in accordance with the criteria outlined in subsections 3.6.1.3.2 and 3.6.2.5 will be completed prior to fuel load.

NRC Staff Concerns:

- It is not clear that the as-designed pipe break hazard analysis report will include all piping systems within the scope of SRP 3.6.2
- It is not clear that the report will contain all the information as outlined in AP 1000 DCD Subsections 3.6.1.3.2 and 3.6.2.5.
- It did not clearly address the process including the milestone for the completion of the as-designed pipe break hazard analysis reports for all piping systems within the scope of SRP 3.6.2.

To resolve as-designed Pipe Break Hazard Analysis:

Design Certification:

A - Perform Pipe Break Hazard Analysis now in DC application

B – Provide Methodology and COL item with the scope to cover DC application

C – Provide Methodology, ITAAC for as-designed Pipe Break Hazard Analysis review covering scope and milestone (could be COL Item for applicant to provide)

Combined License:

A – No action (IBR)

B – Provide ITAAC/License Conditions and Milestone

C – IBR and Milestone