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Your ref: Project Number 740
Our ref: DCP/NRC1793

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Subject: AP1000 Piping Design Acceptance Criteria Completion and Deletion

In support of Combined License application pre-application activities, Westinghouse is providing information to outline the approach to be used to support completion and deletion of piping design acceptance criteria in COL applications referencing the AP1000. This letter is submitted a part of the NuStart Bellefonte COL Project (NRC Project Number 740). The information included in this letter is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification.

The AP1000 Design Certification includes criteria identified as design acceptance criteria (DAC) that are included in the design control document (DCD) to assure that the detailed piping designs are in compliance with commitments in the DCD. Table 1-2 in the DCD Introduction lists 28 commitments that constitute the piping design acceptance criteria (DAC). The design certification requires that the piping designs satisfy these DAC prior to loading fuel in plants referencing the AP1000 design certification. Westinghouse has been and is continuing to complete the piping design activities that are the subject of the DAC. It is our intention to satisfy the piping DAC prior to submittal of COL applications referencing the AP1000 design certification. Outlined below is the process expected to demonstrate completion of AP1000 piping design activities sufficient to support deletion of the piping DAC from the AP1000 Design Certification.

The commitments listed in the piping DAC are identified as Tier 2* in the referenced subsections of the DCD. Tier 2* information is designated with italicized text and brackets and an asterisk in Tier 2 of the AP1000 design control document. An applicant who references the AP1000 design certification rule may not depart from Tier 2* information without NRC approval. Therefore including this information in the DAC is not required to control changes to the criteria referenced in the DAC.

The commitments listed in the DAC are included in the piping design specifications used to perform the design analysis for the ASME Code, Section III piping. There are two design specifications written for the safety-related piping. One design specification is written for the ASME Code, Section III Class 1 lines and the second is written for the ASME Code, Section III Class 2 and 3 lines. Since the DAC commitments are included in the design specification (the basic criteria document) used to establish the piping analysis requirements, the DAC function to verify that the piping design follows the commitments in the DCD. In addition, the penultimate commitment in the DAC table states that a design report will be

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provided for ASME Class 1, 2, and 3 piping. Design reports are stamped by a professional engineer as meeting the requirements of the design specification. When the design reports meet the requirements of the design specification, we are again documenting that all of the necessary piping DAC commitments are met.

The DAC commitment for a design report is the same as an ITAAC requirement. A typical ITAAC design commitment (2b) states: "The piping identified in Table 2.1.2-2 as ASME Code Section III is designed and constructed in accordance with ASME Code Section III requirements." A typical ITAAC acceptance criteria states: "The ASME code Section III design reports exist for the as-built piping identified in Table 2.1.2-2 as ASME Code Section III." Because of the way that the design report is generated, meeting the ITAAC requirement also meets one of the DAC to have a design report. The redundant DAC criterion for a design report is not required to assure that a design report is prepared for the final design.

As noted above Westinghouse is completing piping design activities prior to COL application in support of COL applications. Design reports for the as-designed condition are being prepared for the piping. Review of these reports and supporting analyses provides additional verification that the design of the AP1000 piping satisfies the piping DAC.

Based on the information provided above it is expected that the piping design being completed by Westinghouse, subject to review by the NRC, supports the deletion of the piping DAC from the AP1000 in an amended design certification once Part 52 is revised to include acceptable language to permit this and in COL applications referencing the AP1000 design certification. Westinghouse requests a NRC review and audit of the Design Specifications and selected design reports.

The upcoming activities expected to be completed by Westinghouse to support deletion of the DAC are as follows:

Westinghouse Actions:

- Identify piping systems addressed by completed design specs and piping analysis.
- Provide a schedule for completion of additional ASME Code Section III Class 1, 2, and 3 lines.
- Prepare a technical report recommending removal of piping DAC from the Introduction to the DCD
- Support NRC review/audit of the design specs used for the ASME Code Section III Class 1, 2, and 3 piping analyses
- Support NRC review/audit acceptability of work completed on ASME Code Section III Class 1, 2, and 3 lines
- Support NRC review/approve proposed DCD changes pertaining to the removal of the piping DAC from the Introduction to the DCD

These activities may be discussed during the meeting requested for review of the Design Specifications & Design Reports.

Very truly yours,

A. Sterdis, Manager
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