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Your ref: Docket No. 52-006
Our ref: DCP_NRC_002791

February 23, 2010

Subject: AP1000 Response to Proposed Open Item (Chapter 7)

Westinghouse is submitting the following responses to the NRC open item (OI) on Chapter 7. These proposed open item response are submitted in support of the AP1000 Design Certification Amendment Application (Docket No. 52-006). The information included in these responses is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification and the AP1000 Design Certification Amendment Application.

Enclosure 1 provides the response for the following proposed Open Item(s):

OI-SRP7.2-ICE-07

Questions or requests for additional information related to the content and preparation of this response should be directed to Westinghouse. Please send copies of such questions or requests to the prospective applicants for combined licenses referencing the AP1000 Design Certification. A representative for each applicant is included on the cc: list of this letter.

Very truly yours,

D. A. Lindgren /FOR

Robert Sisk, Manager
Licensing and Customer Interface
Regulatory Affairs and Standardization

/Enclosure

1. Response to Proposed Open Item (Chapter 7)

D063
NRO

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ENCLOSURE 1

AP1000 Response to Proposed Open Item (Chapter 3)

AP1000 TECHNICAL REPORT REVIEW

Response to SER Open Item (OI)

RAI Response Number: OI-SRP7.2-ICE-07
Revision: 0

Question:

In Revision 17 of AP1000 DCD Tier 1, Section 2.5.2, WEC describes its entire SLC process, which it will implement during the planning, design, construction, testing, and operational phases for the AP1000 I&C safety systems. In Revision 17 of AP1000 DCD Tier 1, Section 2.5.2, Design Commitment No. 11, WEC deleted the design requirements phase and system definition phase. WEC based this removal on the cumulative amount of both docketed and proprietary documentation it has provided the staff as of this date.

The staff reviewed the information on the docket and conducted several site visits related to the review of the PMS design process at WEC's Twinbrook facility, and in both Monroeville and Cranberry, PA. The primary purpose of the Twinbrook visits (April 8–10, 2008, October 15– 16, 2008, January 29–30, 2009 and July 30, 2009) was to conduct an engineering review of the proprietary documents for the design requirements and system definitions phases (conceptual phase and system definition phase by WCAP-15927, and the planning activities and requirements activities phases of SRP BTP 7-14 SLC Process). Additionally, the NRC staff conducted an audit on April 20–22, 2009, of the Phase 1 and Phase 2 AP1000 PMS SLC proprietary material at the WEC facility in Cranberry, PA, which replaced the Monroeville, PA, facility (ADAMS Accession No. ML091560352). The October 3–5, 2006, trip report (Enclosure 4 of ADAMS Accession No. ML062910491) lists the design requirements phase documents associated with the staff's visit to the Monroeville, PA, facility. WEC based its conclusion, that its design requirements and systems definition phases were complete, on the proprietary information listed in the April 2009 audit report and the docketed information related to the AP1000 I&C safety systems design process. WEC desires to close these two phases as part of its DAC closure process.

The staff finds that, once the requirements for each phase of the PMS (SLC) are met, "completion" rather than "elimination" of these and all phases described in the text of Section 2.5.2, Item 11, is appropriate, provided the staff finds the information contained within those phases sufficiently addressed. When the staff arrives at that conclusion for each given design process phase, WEC may remove the given SLC phase(s) in AP1000 DCD Tier 1, Table 2.5.2-8, Item 11. Those tables describe specific ITAAC activities that will be completed during the given facility's inspection process, rather than the process undertaken to ensure that WEC has included sufficient quality in the overall design process for AP1000 I&C safety systems. However WEC may not remove the design process description from the text-based portion of the design process description in Section 2.5.2, Item 11. WEC is to restore all AP1000 PMS design process phases to the text-based portion of Section 2.5.2, Design Commitment No. 11. **The NRC staff identified this as OI-7.2-07.**

10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," Appendix D, "Design Certification Rule for the AP1000 Design," Section II.D, defines Tier 1 information as

that information explaining design descriptions, along with ITAAC information. Until WEC restores all phases of the PMS SLC design process in the textbased portion of Item 11 in SRP Section 2.5.2, "Protection and Safety Monitoring System," that issue remains open. **The NRC staff identified this as OI-SRP-7.2-ICE-07.**

Westinghouse Response:

Westinghouse deleted the design requirements phase and system definition phase of the PMS Software lifecycle in the AP1000 Design Control Document Revision 17, Tier 1 Section 2.5.2 Design Commitment No. 11. Per the request of the Staff, WEC will reinstate the deleted phases, but add the word "Complete" as an identifier at the end of the design requirements and system definitions phase statements. The word "Complete" will signify that the phase has been evaluated as sufficient by the NRC.

The DCD Revision listed (below) in this response assumes that the Staff technical evaluation will find the PMS Design Requirements and System Definition DAC Phases complete. If the Staff ultimately evaluates the design phases as insufficient, Westinghouse would issue a supplemental RAI that removes the word "Complete" from the DCD description of the impacted DAC phase.

Westinghouse also removed the design requirements phase and system definition phases from the ITAAC tables in Tier 1, Table 2.5.2-8, Item 11. Westinghouse believes that the technical reviews of the Rev 17 design will demonstrate that these PMS DAC are complete and, as such, do not need to be included in the ITAAC tables. Westinghouse will also reinstate those phases in the ITAAC table if the Staff evaluates the design phases as insufficient.

OI-SRP7.2-ICE-07 is the basis for this Tier 1 change.

Reference:

1. ADAMS "Chapter 7 SER," ML092800266

Design Control Document (DCD) Revision:

Tier 1 Material

2.5.2 Protection and Safety Monitoring System

Design Description

11. The PMS hardware and software is developed using a planned design process which provides for specific design documentation and reviews during the following life cycle stages:
    a) Design requirements phase, may be referred to as conceptual or project definition phase (Complete)
    b) System definition phase (Complete)
    c) Hardware and software development phase, consisting of hardware and software design and implementation
    d) System integration and test phase
    e) Installation phase

PRA Revision:
None

Technical Report (TR) Revision:
None