

October 5, 2006

APPLICANT: Westinghouse

SUBJECT: SUMMARY OF THE AUGUST 29 AND 30, 2006, CATEGORY 1 MEETING WITH WESTINGHOUSE TO DISCUSS THE AP1000 TECHNICAL REPORTS RELATED TO LEAK BEFORE BREAK AND PIPING ANALYSIS

On August 29 and 30, 2006, a public meeting and audit were held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of Westinghouse, at the Westinghouse Office in Monroeville, PA. The purpose of the meetings and audit were to discuss the AP1000 technical reports related to leak before break (LBB) and piping analysis. A list of meeting attendees is included as Enclosure 1, and the agenda is included as Enclosure 2. Enclosures 3, 4, and 5 contain Westinghouse's meeting handouts, and Enclosure 6 contains the audit plan, which can be accessed through the Agencywide Documents Access and Management System (ADAMS). This system provides text and image files of NRC's public documents. The enclosures mentioned above may be accessed through the ADAMS system under Accession No. ML062550537. If you do not have access to ADAMS or if there are problems in accessing the handouts located in ADAMS, contact the NRC Public Document Room reference staff at 1-800-397-4209, 301-415-4737 or by e-mail to [pdr@nrc.gov](mailto:pdr@nrc.gov). A summary of the meeting is included below.

Westinghouse started the meeting by discussing their AP1000 licensing approach, which includes the submission of a Design Certification Revision Application in May 2007. The revision would be based on technical reports including Design Control Document (DCD) markups, which have and will be submitted to the NRC for review. Westinghouse stated that the technical reports will address 90 of the 166 combined license (COL) information items. They also discussed that some of the technical reports will address the AP1000 Piping Design Acceptance Criteria (DAC), and that Westinghouse and the NRC need to establish a process to eventually conclude that the DAC is satisfied and can be removed. Westinghouse discussed the various sections in the DCD and the associated COL information items and DAC which were addressed by the technical reports related to LBB and piping analysis.

During the audit closeout, the NRC discussed the fact that they had found the LBB methodology acceptable, but accepting the LBB evaluation results as part of the COL information item review depended on the revised piping analysis results considering the seismic spectrum change. The NRC stated that Westinghouse should submit a white paper explaining the methodology, evaluation and analysis to account for any piping design change. Also, the paper should explain how the piping DAC table will be revised and which inspections, tests, analysis and acceptance criteria will be covered as-built. Lastly, the paper will need to explain how the seismic spectra will be incorporated into the piping analysis. Westinghouse and NRC discussed the need for future meetings on piping analysis and DAC.

Please direct any inquires concerning this meeting to Steven Bloom at 301-415-1313, or sdb1@nrc.gov.

***/RA/***

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Office of Nuclear Reactor Regulation

Project No. 740

Enclosures:

1. List of Attendees
2. Agenda
3. Westinghouse Handout - Overview (ML062550528)
4. Westinghouse Handout - LBB and Piping Analysis (ML062550533)
5. Westinghouse Handout - Regulatory Issues (ML062550529)
6. Audit Plan

cc: See next page

Please direct any inquires concerning this meeting to Steven Bloom at 301-415-1313, or sdb1@nrc.gov.

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**Meeting with Westinghouse Related  
Technical Reports Related to Leak Before Break and Piping Analysis**

**Tuesday, August 29, and Wednesday, August 30, 2006  
8:30 a.m. to 5:00 p.m., and 8:30 a.m. to 11:00 a.m.  
Westinghouse Office, Monroeville, PA**

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Agenda for Public Meeting with Westinghouse Regarding  
Technical Reports Related to Leak Before Break and Piping Analysis  
August 29 - 30, 2006, Westinghouse Office, Monroeville, PA

Tuesday, August 29, 2006

8:30 - 8:45	Introduction – Scope and Goals of Meeting	Westinghouse/NRC
8:45 - 9:15	Licensing approach and activities	Westinghouse
9:15 - 11:15	Analysis and Evaluation Activities	Westinghouse
11:15 - 11:45	Other Regulatory Issues	Westinghouse
11:45 - 12:00	Initial Identification of items to be reviewed	NRC
12:00 - 12:10	Public comments	Public/NRC
12:10 - 1:10	Lunch	
1:10 - 5:00	Detailed review of evaluations, analysis and calculations (Closed Proprietary Meeting)	

Wednesday, August 30, 2006

8:30 - 10:00	Detailed review of evaluations, analysis and calculations (Closed Proprietary Meeting)	
10:00- 10:50	Initial Summary of review activities.	NRC
10:50 - 11:00	Public comments	Public/NRC
11:00	Adjourn	

Enclosure 3:

Westinghouse Handout - Overview

ML062550528

Enclosure 4:

Westinghouse Handout - LBB and Piping Analysis

ML062550533

Enclosure 5:

Westinghouse Handout - Regulatory Issues

ML062550529



LIST OF AUDIT ACTIVITIES  
AP1000 STANDARD COMBINED LICENSE TECHNICAL REPORT APP-GW-GLR-021  
“AP1000 AS-BUILT COL INFORMATION ITEMS” AND APP-GW-GLR-022  
“AP1000 LEAK-BEFORE-BREAK EVALUATION OF AS-DESIGNED PIPING”

1. Audit Related to an Request for Additional Information (RAI) Regarding Report APP-GW-GLR-021:

- 1.1. Audit the relevant inspection, test, analysis, and acceptance criteria items regarding leak-before-break (LBB) piping systems to determine whether they contain similar requirements as in combined operating license Information Item 3.6-3 regarding the as-built evaluation of LBB piping systems.

2. Audit Related to RAI TR8-1, TR8-2, and TR8-3 Regarding Report APP-GW-GLR-022:

- 2.1. Audit the calculation leading to a new bounding analysis curve (BAC), as shown in the proposed Design Control Document (DCD) Figure 3B-22 for the 8-inch automatic depressurization system stages 2 and 3 piping, that replaces the current approved DCD Figure 3B-16 for the same piping. The change is due to a revision of the operating temperature of the piping system from 653 °F to 250 °F.
- 2.2. Audit the process of using the pertinent results from the piping stress analyses to perform the evaluation of LBB piping systems using BAC (LBB-BAC). This audit consists of auditing line by line two post processing software by different Westinghouse subcontractors. In addition to this, one set of LBB-BAC calculations has been audited for each post processing software:
- Automatic Depressurization System Stage 2,3 (Upper and Lower Tier)
  - A sample PXS line
- 2.3. Audit to clarify piping system changes regarding the reactor coolant system as depicted in DCD Figure 3E-3 - sheet 2 of 2.

3. Documents Reviewed During Audit:

- 3.1 APP-RCS-PLR-010, Revision 0, AP1000 Piping Analysis Report for Pressurizer Safety and Automatic Depressurization System PSADS APP-RCS-PLR-010 Package.
- 3.2 APP-PXS-PLR-020, Revision 0, AP1000 Direct Vessel Injection (DVI) Line B: APP-PXS-PLA-020, Piping Stress Analysis Report.
- 3.3 APP-GL-PLC-001, Revision 0, pipeLBB Version 3.02 - Pipestress Post Processor For Leak Before Break Piping Analysis User and Verification Manual.

cc:

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