

September 11, 2003

APPLICANT: WESTINGHOUSE ELECTRIC COMPANY

PROJECT: AP1000 STANDARD PLANT DESIGN

SUBJECT: SUMMARY OF FEBRUARY 26, 2003, CATEGORY 1 MEETING WITH WESTINGHOUSE ELECTRIC COMPANY TO DISCUSS UNRESOLVED PROBABILISTIC RISK ASSESSMENT ISSUES ASSOCIATED WITH THE AP1000 DESIGN CERTIFICATION REVIEW

On February 26, 2003, a public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of Westinghouse Electric Company (Westinghouse, the applicant), at NRC Headquarters, Rockville, MD. The purpose of this meeting was to discuss issues associated with the probabilistic risk assessment (PRA) for the AP1000 design certification, including requests for additional information (RAIs) that were sent to Westinghouse.

A list of meeting attendees is included as Enclosure 1. The applicant did not make any presentations during this meeting.

Enclosure 2 contains the NRC staff's unresolved issues on specific RAIs in the PRA area. These unresolved issues were transmitted to Westinghouse via electronic mail dated February 20 and 24, 2003. Enclosure 2 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 handout mentioned may be accessed through the ADAMS system under Accession No. ML031110234. If you do not have access to ADAMS or if there are problems in accessing the handout located in ADAMS, contact the NRC Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737 or by e-mail to pdr@nrc.gov. The NRC and Westinghouse discussed each RAI unresolved issue during the meeting. A summary of the discussions is included as Enclosure 3.

Members of the public were in attendance. Public meeting forms were not received from any of the meeting participants.

Please direct any inquiries concerning this meeting to Joseph Colaccino at 301-415-2753, or jxc1@nrc.gov.

/RA/

Joseph Colaccino, Senior Project Manager
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New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No. 52-006

- Enclosures:
1. List of attendees
 2. Specific unresolved issues from NRC staff's RAIs concerning PRA (ADAMS Accession No. ML031110234)
 3. Summary of public meeting discussions concerning unresolved RAIs

cc w/encls: See next page

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ADAMS ACCESSION NUMBER: ML031130643-Pkg.

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DATE	9/2/2003	9/3/2003	9/4/2003	9/10/2003

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Distribution for Meeting Summary dated September 11, 2003

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SBajorek

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SRubin

CAder

**NRC Public Meeting Attendance List
AP1000 Structural Design Issues
April 3, 2003**

<u>Name</u>	<u>Organization</u>
L. Burkhart	U. S. Nuclear Regulatory Commission (NRC)
J. Scobel	Westinghouse Electric Corporation (Westinghouse)
T. Schulz	Westinghouse
F. Talieu	Electricity de France (EDF)
M. Corletti	Westinghouse
N. Saltos	NRC
M. Pohida	NRC
J. Segala	NRC
M. Snodderly	NRC
B. Palla	NRC
J. Starefos	NRC
S. Sancalitar	Westinghouse
A. Drozd	NRC
J. Colaccino	NRC
A. Behbahani	NRC
R. Lee	NRC
S. Basu	NRC
G. Twachtman	McGraw Hill
N. Chapman	SERCH/Bechtel
Z. Yuan	ERI
M. Zavisca	ERI
M. Khatie-Rahbar	ERI

Summary of Public Meeting Discussions

Background

The NRC provided Westinghouse with requests for additional information (RAIs) in the area of probabilistic risk assessment (PRA) in the following letters:

August 16, 2002 (ADAMS Accession No. ML022280379)
September 18, 2002 (ADAMS Accession No. ML022610042)
September 25, 2002 (ADAMS Accession No. ML022620614)
September 27, 2002 (ADAMS Accession No. ML022670315)

Westinghouse provided responses to these RAIs in the following letters:

September 10, 2002 (ADAMS Accession No. ML022560265)
October 2, 2002 (ADAMS Accession No. ML022810450)
October 18, 2002 (ADAMS Accession No. ML022980577)
November 1, 2002 (ADAMS Accession No. ML023080378)
November 8, 2002 (ADAMS Accession No. ML023170535)
November 15, 2002 (ADAMS Accession No. ML023230385)
November 26, 2002 (ADAMS Accession No. ML023360097)
December 2, 2002 (ADAMS Accession No. ML023400058)

The NRC staff provided unresolved issues on certain RAIs via electronic mail dated February 20 and 24, 2003. Each of the RAIs were discussed during the public meeting. A summary of actions for each RAI unresolved issue is provided below in the order that it was discussed during the meeting.

RAI Action Summary

RAI 720.038

- a) Westinghouse stated that they would revise the PRA to perform a sensitivity analysis.
- b) Westinghouse stated that they would revise the PRA.
- c) Westinghouse stated that they would revise the PRA.

(Items 2 and 3 from Page 1 of Enclosure 2 were identified as new issues and are discussed below)

- 2) This comment was identified as a new issue. After some discussion, it was determined that this comment was related to RAI 440.119 and the resolution of this issue would be tracked under that RAI.

- 3) This issue was identified as a new issue. After some discussion, it was decided to designate this as new RAI 720.099. Westinghouse stated that they would address this RAI separately.

RAI 720.065

Westinghouse stated that they would revise the RAI response and design control document (DCD).

RAI 720.070

- a & c) Westinghouse stated that they would revise the RAI response to provide a qualitative assessment and to provide the dominant fire sequences. The PRA would also be updated.
- b) Westinghouse would confirm that this issue is addressed as a combined license (COL) action item. This issue will also be discussed during the fire protection conference call.
- d) Westinghouse stated that they would provide a qualitative assessment on shutdown floods.
- e) NRC stated that they would like to see documentation of the dominant scenarios (addressed by c).

RAI 720.027

- 1) Westinghouse stated that the discussion on modeling uncertainties is in the regulatory treatment of non-safety systems (RTNSS) WCAP. Westinghouse stated that they would revise the RAI response and possibly the WCAP to address this issue.
- 2) Westinghouse stated that they would revise the RAI response regarding steam generator tube rupture (SGTR) events and would either provide a calculation and/or provide a sensitivity study.

RAI 720.028

- 1) Westinghouse stated that they would revise the RAI response to address the staff's concerns.
- 2) After some discussion, it was determined that no action was required on this issue.

RAI 720.029

Westinghouse stated that they understood Questions 1-5 and would revise the RAI response.

RAI 720.030

Westinghouse stated that they would revise the RAI response addressing how RTNSS is impacted and will consider revising the PRA.

RAI 720.033

Westinghouse stated that they would revise the RAI response.

RAI 720.035

This issue is related to Common Q. Westinghouse stated that they would revise the RAI response to address the issue and include PRA insights.

RAI 720.037

- 1) This issue is tied to the resolution of RAI 720.027 (thermal-hydraulic uncertainty RAIs).
- 2) Westinghouse stated that they would revise the RAI response and the PRA.
- 3) Westinghouse stated that they have submitted a WCAP on adverse systems interactions. Westinghouse will assess if they have missed important insights in the WCAP. The NRC will review the WCAP.
- 4) The NRC previously had a call with Westinghouse on this issue. The response to this RAI will be discussed in the response to RAI 720.012.
- 5) The NRC stated the question they were interested in having addressed was what is the probability that the containment has failed. This issue is also raised in other RAIs and would be tracked through the resolution of RAIs 720.013 and 720.027.
- 6) Westinghouse stated that they did not perform this analysis. They further stated that 20 minutes was required for manual automatic depressurization system (ADS) timing which is incorporated into the uncertainty. Westinghouse stated that they would perform a sensitivity study for key sequences by reducing the time for manual initiation of ADS and revise their RAI response.
- 7) Westinghouse stated that this issue would be tracked by responses to RAIs 720.013, 720.021, and 720.024.
- 8) Westinghouse stated that they would revise their RAI response and update the PRA as necessary to show that credit was being taken for the passive residual heat removal (PRHR) system.
- 9) Westinghouse stated that this issue would be tracked by the responses to RAI 720.013.

RAI 720.038

The NRC concluded that additional review was required by the staff and no additional information was required from Westinghouse at this time.

RAI 720.039

Westinghouse stated that this issue would be tracked by response to RAI 720.027 and WCAP-15985, AP1000 Implementation of the Regulatory Treatment of Non-safety Systems (RTNSS) Process.

RAI 720.042

Westinghouse stated that the in-vessel retention (IVR) timing analysis for the AP1000 is independent from the AP600. After significant discussion, Westinghouse stated that they would revise their RAI response to address hydrogen generation for the dominant sequences in PRA, and a discussion of how the AP1000 IVR progression and relocation compares with the AP600.

RAI 720.043

The NRC stated that a review of Table 35-6 in the PRA revealed that there were certain times that were shorter for the AP1000 than for the AP600. Westinghouse stated that they would revise their RAI response and update the tables in the PRA.

RAI 720.046

The NRC provided editorial comments. Westinghouse stated that they would revise their RAI response and correct Chapter 24 of the PRA.

RAI 720.048

Westinghouse stated that they would revise their RAI response to include AP1000 specific assessments for each of the alternate debris configurations identified for AP600.

RAI 720.050

Westinghouse stated that they would update the RAI response to clarify the COL requirement to use ULPU configuration V data in designing the reactor vessel thermal insulation.

RAI 720.053

Westinghouse stated that they would revise their RAI response to identify that severe accident analysis for the containment appropriately bounds other analyses.

RAI 720.055

Westinghouse stated that they did not believe that this analysis was required. After additional discussion, it was determined that no additional information was required.

RAI 720.056

Westinghouse stated that they would update their RAI response to address the inconsistencies between the offsite consequence estimates between the AP600 and the AP1000.

RAI 720.058

Westinghouse stated that they would revise their RAI response to reference the appropriate section in the PRA to support its position.

RAI 720.060

- 1 & 2) Westinghouse stated that they would revise their RAI response.
- 3) Westinghouse stated that they would revise their RAI response to address shutdown and fire PRA.
- 4 & 5) Westinghouse stated that they would revise their RAI response to explain the process used to identify plant specific AP1000 cutsets.

AP 1000

cc:

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