

November 20, 2003

MEMORANDUM TO: Laura A. Dudes, Section Chief
New Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs, NRR

FROM: Joseph Colaccino, Senior Project Manager */RA/*
New Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs, NRR

SUBJECT: OCTOBER 8, 2003, AP1000 TELEPHONE CONFERENCE CALL
SUMMARY CONCERNING OPEN ITEM 9.5.1-1

On Wednesday, October 8, 2003, a telephone conference call was held with Westinghouse Electric Company (Westinghouse) representatives and Nuclear Regulatory Commission staff and contractors to discuss AP1000 draft safety evaluation report Open Item 9.5.1-1. The call participants are listed in Attachment 1.

The NRC staff sent Westinghouse, via electronic mail dated September 22, 2003, comments concerning their July 3, 2003, response to this open item (ADAMS Accession Number ML031920202). These comments are included in Attachment 2. A summary of Westinghouse actions to address the NRC staff's comments is included in Attachment 3.

Docket No. 52-006

Attachments: As stated

cc w/atts: See next page

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OCTOBER 8, 2003
TELEPHONE CONFERENCE CALL SUMMARY
LIST OF PARTICIPANTS

Nuclear Regulatory Commission

N. Iqbal
J. Colaccino

Westinghouse

M. Corletti
J. Winters
T. Johnson

Staff Comments on Westinghouse's Response to DSER Open Item 9.5.1-1

By the letter dated July 3, 2003, the applicant responded to draft safety evaluation report (DSER) Open Item 9.5.1-1 concerning proposed fire barrier material (concrete/steel composite material manufactured by DuraSystems Barriers Inc.) for the auxiliary, turbine, and annex buildings stairwells in lieu of concrete or masonry towers with a minimum fire rating of 2 hours as specified in Regulatory Position C.5.a.6 of Branch Technical Position (BTP) CMEB 9.5.1. The applicant stated in its response that, "The fire resistance test of the base design concrete/steel composite material is documented in Underwriters Laboratories, Inc., File R11164-1, Project 84NK1877 of October 26, 1984. The report states that the test was conducted in accordance with Standard UL 263 (ASTM E119, NFPA No. 251 and ANSI A2.1). This UL listing responds to Section 3.1.6 of GL 86-10 and a copy of the test report is available for NRC audit at Westinghouse or DuraSystems offices."

On August 22, 2003, the staff visited the Westinghouse Office in Rockville, Maryland, to audit the fire resistance test File R11164-1, Project 84NK1877 of October 26, 1984. The staff noted that the fire test was performed according to the UL Test Assembly Design No. U031, Assembly Rating for 3 hours for Nonbearing Wall with a panel thickness of 3/8 in. (9.5 mm). The test was conducted in accordance with ASTM E119 requirements and included hose stream tests, temperature measurements on the unexposed side, and inspection for passage of flame or ignition to the unexposed side. The test was rated for UL Test Assembly Design No. U031 for 3 hours. The staff agrees with the test results and details of the documentation. The staff believes that this rating is adequate and acceptable because the Regulatory Position C.5.a.6 of BTP CMEB 9.5.1 required a minimum fire rating of 2 hours for concrete or masonry construction.

The staff reviewed Westinghouse's response to Open Item 9.5.1-1 and needs the following items clarified to complete the review:

- a. Fire resistance rating of stairwell doors installed throughout the auxiliary, turbine, and annex buildings is not provided in the response.
- b. Specify what UL design is used in stairwells throughout the auxiliary, turbine, and annex buildings in all drawings. The fire resistance test File R11164-1, Project 84NK1877 of October 26, 1984, refers to UL Test Assembly Design No. U031 for 3 hours.
- c. On page 3 of the DSER OI 9.5.1-1 response dated July 3, 2003, the applicant states that, "Stairwells S03 and S06 provide access to the PCS valve room. As noted in the Open Item, the PCS valve room does contain safety-related equipment. Access is not required to any of this equipment to respond to an accident."

BTP CMEB 9.5.1, Position C.5.a.6 required "Personnel access routes and escape routes should be provided for each fire area. Stairwells outside primary containment serving as escape routes, access routes for firefighting, or access routes to areas containing equipment necessary for safe shutdown be enclosed in masonry or concrete towers with a minimum fire rating of 2 hours and self-closing Class B fire doors".

Clarify why access is not required to the PCS valve room, even though this room contains safety-related equipment, and discuss how the fire brigade will approach the PCS valve room for manual firefighting and/or safe shutdown operations.

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Westinghouse stated that they understood NRC staff comments a and c and would revise their open item response to address these comments.

With regard to comment b, Westinghouse stated that in all the locations where the proposed fire barrier material (concrete/steel composite material manufactured by DuraSystems Barriers, Inc.) would be used, it will be qualified to the UL standard. This applies for each configuration that would be used in the AP1000 design. Westinghouse did not believe it was an appropriate design certification activity to perform the test qualification. Westinghouse also pointed to a discussion concerning the 2-hour fire barrier in the AP1000 design control document. After additional discussion, Westinghouse agreed to revise their open item response to address NRC staff comment b.

AP 1000

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