September 12, 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: JULY 30, 2003, AP1000 TELEPHONE CONFERENCE CALL SUMMARY

On Wednesday, July 30, 2003, a telephone conference call was held with Westinghouse Electric Company (Westinghouse) representatives and Nuclear Regulatory Commission (NRC) staff to discuss AP1000 draft safety evaluation report open items (DSER OIs) 3.6.3.4-1 and 3.6.3.4-2. The call participants are listed in Attachment 1. Talking points for the conference call were provided to Westinghouse via electronic mail on July 29, 2003. A copy of that E-mail is included as Attachment 2. A summary of the conference call is included below.

With regard to Section A of Attachment 2 (leak-before-break (LBB) bounding analysis curve (BAC) approach), the NRC staff presented an alternative approach to that described in the amended potential OI letter dated June 16, 2003 (ADAMS Accession Number ML031671368) for DSER OI 3.6.3.4-2. This approach includes NRC staff review of the results of the direct vessel injection line 'A' analysis. In addition, the NRC staff would review, if necessary, a qualitative assessment of additional limiting subsystems to assess that there is reasonable assurance that the AP1000 LBB final analysis results for these subsystems will be within their respective BACs. The NRC staff emphasized that they were interested in a qualitative comparison between the AP1000 LBB inputs and the AP600 LBB inputs that would impact the AP1000 piping stresses in the LBB systems.

The NRC staff also proposed a meeting with Westinghouse once Westinghouse develops its analysis approach. Westinghouse proposed to perform a single qualitative LBB subsystem analysis and discuss this with the NRC staff prior to the proposed meeting. The NRC staff agreed with this approach and stated that Westinghouse could submit to the NRC this single qualitative LBB analysis as a partial response to OI 3.6.3.4-2.

With regard to Section B of Attachment 2 (PWSCC - primary water stress corrosion cracking), Westinghouse stated that they will perform the sensitivity study on available LBB margins using a stress corrosion cracking flaw morphology as a surrogate for PWSCC as discussed in Item 1. Westinghouse also stated that they will respond to OI 3.6.3.4-1 as discussed in Item 2 of Attachment 2.

Docket No. 52-006

Attachments: As stated

cc w/atts: See next page

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With regard to Section B of Attachment 2 (PWSCC - primary water stress corrosion cracking), Westinghouse stated that they will perform the sensitivity study on available LBB margins using a stress corrosion cracking flaw morphology as a surrogate for PWSCC as discussed in Item 1. Westinghouse also stated that they will respond to OI 3.6.3.4-1 as discussed in Item 2 of Attachment 2.

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ACCESSION NUMBER: ML032120371 *See previous concurrence

OFFICE	RNRP/PM	EMCB*	EMEB*	RNRP/SC*
NAME	JColaccino	ESullivan	DTerao	LDudes
DATE	9/12/03	9/2/03	9/3/03	9/11/03

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JULY 30, 2003
TELEPHONE CONFERENCE CALLS SUMMARY
LIST OF PARTICIPANTS

Nuclear Regulatory Commission	Westinghouse
E. Sullivan	M. Corletti
D. Terao	D. Bhowmick
Y. Sheng	E. Cummins
J. Starefos	R. Orr
J. Colaccino	D. Wiseman
	W. Bamford

Attachment 1

NUCLEAR REGULATORY COMMISSION STAFF
TALKING POINTS THAT WERE SENT TO WESTINGHOUSE TO
FACILITATE DISCUSSIONS OF OPEN ITEMS 3.6.3.4-1 AND 3.6.3.4-2
FOR CALL HELD ON JULY 30, 2003

E-mailed July 29, 2003:

DISCUSSION POINTS TO RESOLVE AP1000 LEAK BEFORE BREAK (LBB) ISSUES

A. BAC [Bounding Analysis Curve] Approach

Objective: In the amended open items letter on leak before break (LBB), the staff proposed that Westinghouse perform preliminary LBB analyses of several subsystems. Westinghouse may be able to use the following alternative approach to assess whether combined license (COL) construction will conform to the design with respect to LBB.

1. Finalize the AP1000 piping stress analysis for the direct vessel injection line A (DVI-A) subsystem and submit a summary of the analysis performed and the results for staff review.

   Include in the submittal the technical basis for the determination that the DVI-A subsystem represents a limiting analysis for AP1000 LBB. By limiting in this context, we mean that the analysis a) is difficult and challenging to demonstrate that it satisfies LBB margins and b) bounds many other subsystems with respect to demonstrating LBB margins. If Westinghouse can technically demonstrate that the DVI-A analysis is bounding with respect to LBB margins for all other subsystems, no further assessment should be necessary.

2. If it cannot be technically demonstrated that the DVI-A analysis bounds all other subsystems with respect to LBB margins, identify additional limiting subsystems for qualitative assessment (per the discussion in the next paragraph). Provide the basis for why these subsystems would be expected to be a sufficient set for this purpose. The basis for choosing these additional limiting subsystems should discuss each of the systems, although not necessarily to the same level of detail as discuss in the paragraph below. We have reviewed the table attached to Westinghouse's August 5, 2002, letter on LBB and have concluded that it does not contain an adequate discussion of the technical basis needed to assess whether COL construction will conform to the design with respect to LBB.

   For each of these additional limiting analyses, Westinghouse should perform a qualitative assessment to demonstrate that there is reasonable assurance that the AP1000 results for these subsystems will be within their respective BACs. The demonstration for each subsystem may be based on previous AP600 analysis, models, and results but needs to provide a sound technical basis for concluding the AP1000 BACs will be satisfied given potential changes in geometry (e.g., pipe sizes, elevations), seismic loads, and other loads and factors, as applicable. Any reference to AP600 analyses will have to be accompanied by a summary of the AP600 analyses performed

and the results obtained. If Westinghouse relies on AP600 analyses, they should be explicitly referenced so that the staff can make them available on the AP1000 docket.

B. PWSCC [Primary Water Stress Corrosion Cracking]

1. Sensitivity Study

Westinghouse needs to perform the requested sensitivity study on available LBB margins using an SCC flaw morphology, such as transgranular stress corrosion cracking (TGSCC), as a surrogate for PWSCC. This analysis should be performed for the DVI-A system already analyzed.

2. Inspections

Westinghouse needs to revise the wording in its letter dated July 1, 2003, in response to Open Item 3.6.3.4-1 to more consistently reflect the wording of the draft safety evaluation report (DSER) Open Item.

AP 1000

cc:

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