

February 28, 2003

Mr. W. E. Cummins, Director
AP600 & AP1000 Projects
Westinghouse Electric Company
Post Office Box 355
Pittsburgh, Pennsylvania 15230-0355

SUBJECT: AP1000 - LIST OF UNRESOLVED REQUESTS FOR ADDITIONAL
INFORMATION (RAIS) (TAC NO. MB5491)

Dear Mr. Cummins:

By letter dated March 28, 2002 (ADAMS Accession No. ML020910357), you submitted an application for design certification and final design approval of the AP1000 design. The Nuclear Regulatory Commission (NRC) staff documented milestones and target dates for the review of the AP1000 in a letter dated July 12, 2002 (ADAMS Accession No. ML021930037). In response to your request of August 14, 2002 (ADAMS Accession No. ML022280319), we added the milestone of informing you of those RAIs that remain unresolved as of February 28, 2003. This list is provided as Enclosure 1.

To date, the NRC staff has issued 709 RAIs as listed in Enclosure 2 and you provided your responses as listed in Enclosure 3. Shortly after receiving the first RAI responses in October 2002, the NRC staff interacted with Westinghouse Electric Company (Westinghouse) representatives regarding the efficacy of your responses in resolving the issues raised in the RAIs. These interactions have been conducted in public meetings and telephone conference calls the details of which have been documented in various meeting and call summaries. The NRC staff intends to continue these interactions with Westinghouse representatives as requested in your August 14, 2002, letter, consistent with the primary goal of issuing the draft safety evaluation report in June 2003.

In some of your RAI responses, you proposed revisions to the design control document (DCD), probabilistic risk assessment (PRA), and/or various topical reports. In its assessment of the RAI responses, the NRC staff assumed that these changes will be made as proposed. Final resolution of all RAIs is subject to verification of proper implementation of these proposed revisions by the NRC staff.

The NRC staff has not, as yet, issued RAIs regarding the security portion of the design. The NRC staff is currently reviewing the elements of the security review for plant designs that are submitted for design certification. We will issue a schedule for the security review of the AP1000, including milestones and target dates for issuance of security-related RAIs, under separate correspondence in the near future.

RAIs 440.151, 440.152, 440.154, 440.157, 440.160, 440.161, 440.162, 440.164, 440.169, 440.171, and 440.173 are designated as unresolved and addressed the issue of liquid entrainment phenomena in the upper plenum during certain accident conditions. This issue

was identified as an area that needed further review in the NRC staff's pre-application review assessment, dated March 25, 2002 (ADAMS Accession No. ML02011001). The NRC staff is preparing separate correspondence regarding these RAIs and your responses and will forward comments to you in the near future.

In response to several RAIs, you provided several topical reports for NRC staff review. Most of these reports were submitted on December 2, 2002, and, consequently, the NRC staff has not completed its review of these reports and may have additional questions regarding their contents. The following RAIs are designated as unresolved to track the review of some of these reports: (1) RAI 210.001 for WCAP-15949, "AP1000 Reactor Internals Flow-Induced Vibration Assessment Program" (ADAMS Accession No. ML023400478), (2) RAI 440.045 for WCAP-15993, "Evaluation of the AP1000 Conformance to Inter-System Loss-of-Coolant Accident Acceptance Criteria" (ADAMS Accession No. ML023400402), (3) RAI 440.108 for WCAP-15985, "AP1000 Implementation of the Regulatory Treatment of Nonsafety System Process" (ADAMS Accession No. ML023370584), and (4) 440.128 for WCAP-15992, "AP1000 Adverse System Interactions Evaluation Report" (ADAMS Accession No. ML023370619).

Please contact one of the following members of the AP1000 project management team if you have any questions or comments concerning this matter: Mr. John Segala (Lead Project Manager) at (301) 415-1858 or jps1@nrc.gov, Mr. Joseph Colaccino at (301) 415-2752 or jxc1@nrc.gov, or Ms. Joelle Starefos at (301) 415-8488 or jls1@nrc.gov.

Sincerely,

/RA/

James E. Lyons, Director
New Reactor Licensing Project Office
Office of Nuclear Reactor Regulation

Docket No. 52-006

Enclosure: As stated

cc: See next page

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James E. Lyons, Director
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Accession No. ML030550362 *See previous concurrence

OFFICE	NRLPO/PM	DSSA/D*	NSIR/DNS/D*	DE/D(A)*	DIPM/D*
NAME	LBurkhart:cn	GHolahan	GTracy	RBarrett	BBoger
DATE	2/27/03	2/26/03	2/26/03	2/24/03	2/25/03
OFFICE	DRIP/RORP/D*	NRLPO/DD	NRLPO/D		
NAME	WBeckner	MGamberoni	JLyons		
DATE	2/25/03	2/27/03	2/27/03		

LIST OF UNRESOLVED AP1000
REQUESTS FOR ADDITIONAL INFORMATION (RAIS)
AS OF FEBRUARY 28, 2003

RAI Series No.	Unresolved RAI Nos.	Total No. of RAIs Unresolved	Comments
100	3	1	
210	1, 12, 19, 21, 23, 28, 49, 50, 55	9	210.001 unresolved to cover review of WCAP-15949
220	1, 2, 3, 5, 7, 8, 9, 10, 12, 15, 18	11	
230	2, 18	2	
240	None	0	
241	1	1	
250	3	1	
251	1, 2, 4, 5, 11, 12, 21, 22, 24, 25, 26, 27, 28, 29	14	
252	1, 2, 6	3	
260	None	0	
261	10, 11	2	
280	1, 8, 11	3	
281	1	1	
410	5, 7, 9	3	
420	1, 5, 6, 7, 8, 12, 13, 29, 44, 45, 46	11	
435	None	0	
440	14, 22, 36, 37, 43, 45, 48, 49, 50, 52, 76, 77, 89, 91, 92, 97, 99, 101, 102, 106, 108, 119, 128, 151, 152, 154, 157, 160, 161, 162, 164, 169, 171, 173, 183, 184	36	440.045 unresolved to cover review of WCAP-15993, 440.108 unresolved to cover review of WCAP-15985, 440.128 unresolved to cover review of WCAP-15992
451	1, 2, 4, 6	4	

LIST OF UNRESOLVED AP1000
REQUESTS FOR ADDITIONAL INFORMATION (RAIS)
AS OF FEBRUARY 28, 2003

460	7	1	
470	2, 3, 7, 9, 10, 11, 13	7	
471	5, 9	2	
472	None	0	
480	5, 7	2	
620	1, 4, 18	3	
630	1, 2, 21, 25, 27, 28, 35, 36, 39, 42, 45, 46, 47, 50, 51, 52	16	
640	None	0	
650	1, 2, 3, 4, 5, 6	6	
720	5, 9, 10, 12, 13, 17, 21, 24, 25, 26, 27, 28, 29, 30, 33, 35, 37, 38, 39, 42, 43, 46, 48, 50, 53, 55, 56, 58, 60, 65, 70, 74, 75, 78, 79, 80, 82, 83, 84, 85, 87, 88, 89, 90, 91, 92, 95, 96, 98	49	
TOTAL		188	

CHRONOLOGICAL LIST OF AP1000
REQUEST FOR ADDITIONAL INFORMATION (RAI)
CORRESPONDENCE

RAI Letter No.	Date of issuance	ADAMS Accession No.	RAI Nos.	Quantity
1	6/26/2002	ML021780568	440.001 - 440.008	8
2	8/16/2002	ML022280379	720.001	1
3	8/27/2002	ML022390103	420.001 - 420.046, 435.001 - 435.015	61
4	9/3/2002	ML022460356	620.001 - 620.043	43
5	9/4/2002	ML022470255	210.001 - 210.057	57
6	9/5/2002, Reissued on 9/18/02	ML022480440, Reissued RAI - ML022610042	440.009 - 440.148, 720.002 - 720.026	165
7	9/19/2002	ML022620026	260.001 - 260.003, 261.001 - 261.010, 471.001 - 471.010, 472.001 - 472.003	26
8	9/19/2002	ML022620319	220.001 - 220.019, 230.001 - 230.019, 240.001 - 240.004, 241.001 - 241.003	45
9	9/24/2002	ML022620079	250.001 - 250.003, 251.001 - 251.029, 252.001 - 252.009, 281.001 - 281.003	44
10	9/25/2002	ML022620614	210.058 - 210.070, 261.011 - 261.013, 720.027 - 720.040	30
11	9/27/2002	ML022670315	440.149 - 440.182, 451.001 - 451.007, 470.001 - 470.013, 720.041 - 720.097	111

CHRONOLOGICAL LIST OF AP1000
REQUEST FOR ADDITIONAL INFORMATION (RAI)
CORRESPONDENCE

12	9/30/2002	ML022680338	280.001 - 280.011, 410.001 - 410.021, 460.001 - 460.011, 480.001 - 480.009, 640.001	53
13	9/30/2002	ML022700053	100.001 - 100.003, 630.001 - 630.053	56
NA	10/10/02	ML022820451	Revised 470.006	
NA	11/20/02	ML023090241	720.098	1
NA	1/21/03	ML030150345	650.001 - 650.006	6
NA	2/5/03	ML030340065	440.183, 440.184	2
Total RAIs Issued to date				709

LIST OF AP1000 RAI RESPONSES
PROVIDED BY WESTINGHOUSE

Date of RAI Response Letter from Westinghouse Electric Company	ADAMS Accession No.
July 24, 2002	ML022110430
September 10, 2002	ML022560265
September 12, 2002	ML022600097
October 2, 2002	ML022810450
October 4, 2002	ML022830632
October 18, 2002	ML022980577
November 1, 2002	ML023080378
November 1, 2002	ML023110249
November 8, 2002	ML023170535
November 15, 2002	ML023230385
November 26, 2002	ML023360097
December 2, 2002	ML023400215
December 2, 2002	ML023400058
January 21, 2003	ML030240161
February 14, 2003	ML030520376
February 21, 2003	ML030560120

AP 1000

cc:

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