

December 3, 2003

Mr. Ronald P. Vijuk
Manager of Passive Plant Engineering
AP1000 Project
Westinghouse Electric Company
Post Office Box 355
Pittsburgh, Pennsylvania 15230-0355

SUBJECT: NEW OPEN ITEM - AP1000 DESIGN CERTIFICATION REVIEW (TAC NOS.
MB9693 AND MB9695)

Dear Mr. Vijuk:

By letter dated March 28, 2002, Westinghouse Electric Company (Westinghouse) submitted its application for final design approval and standard design certification for the AP1000 advanced plant design. On June 16, 2003, the Nuclear Regulatory Commission (NRC) staff issued the draft safety evaluation report (DSER) for the AP1000 design. The DSER identified 174 open items that needed resolution prior to issuance of the final safety evaluation report (FSER) for the AP1000 design. The NRC staff is continuing a detailed review of your design certification application to ensure that the information is sufficiently complete to enable the NRC staff to reach a final conclusion on all safety questions associated with the design before the certification is granted.

The NRC staff has determined that additional information is necessary to continue the review. One additional open item is included in the enclosure to this letter. The topic covered in this open item focuses on additional debris that can be caused by chemical reactions in the containment. Specifically, the issue is associated with DSER Section 6.2.1.8.3. This open item was sent to you via electronic mail on November 12, 2003.

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, jps1@nrc.gov; Mr. Joseph Colaccino at (301) 415-2753, jxc1@nrc.gov; or Ms. Joelle Starefos at (301) 415-8488, jls1@nrc.gov.

Sincerely,

/RA/

Joelle L. Starefos, Project Manager
New Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No. 52-006

Enclosure: New Open Item Associated with AP1000 DSER Section 6.2.1.8.3

cc: See next page

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RNRP R/F	JSegala	JFlack	PUBLIC
JStarefos	JColaccino	SRubin	SWeerakkody
LDudes	JStarefos	CAder	JHannon

ADAMS ACCESSION NO. ML033290096

OFFICE	RNRP:NRS:PM	SPLB:SECB:SC	SPLB:BC	RNRP:NRS:SC
NAME	JStarefos	SWeerakkody	JHannon	LDudes
DATE	11/26/03	11/26/03	11/26/03	11/26/03

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**New Open Item Associated with AP1000
Draft Safety Evaluation Report (DSER) Section 6.2.1.8.3**

Open Item 6.2.1.8.3-4

The NRC staff has been developing Revision 3 to Regulatory Guide 1.82, "Water Sources For Long-term Recirculation Cooling Following a Loss-of-coolant Accident." During that review, the staff has identified concerns related to additional debris that can be caused by chemical reactions in the containment. The staff is requesting that the applicant address the following chemical effects as they relate to head loss calculations provided in the responses to Open Items 6.2.1.8.2-1, 6.2.1.8.3-1, and 6.2.1.8.3-3.

- a. To minimize potential debris caused by chemical reaction of the pool water with metals in the containment, exposure of bare metal surfaces (e.g., scaffolding) to containment cooling water through spray impingement or immersion should be minimized either by removal or by chemical-resistant protection (e.g., coatings or jackets).
- b. In addition to debris generated by jet forces from the pipe rupture, debris created by the resulting containment environment (thermal and chemical) should be considered in the analyses. Examples of this type of debris would be disbondment of coatings in the form of chips and particulates or formation of chemical debris (precipitants) caused by chemical reactions in the pool.

AP 1000

cc:

Mr. W. Edward Cummins
AP600 and AP1000 Projects
Westinghouse Electric Company
P.O. Box 355
Pittsburgh, PA 15230-0355

Mr. H. A. Sepp
Westinghouse Electric Company
P.O. Box 355
Pittsburgh, PA 15230

Lynn Connor
Doc-Search Associates
2211 SW 1ST Ave - #1502
Portland, OR 97201

Barton Z. Cowan, Esq.
Eckert Seamans Cherin & Mellott, LLC
600 Grant Street 44th Floor
Pittsburgh, PA 15219

Charles Brinkman, Director
Washington Operations
Westinghouse Electric Company
12300 Twinbrook Parkway, Suite 330
Rockville, MD 20852

Mr. R. Simard
Nuclear Energy Institute
1776 I Street NW
Suite 400
Washington, DC 20006

Mr. Thomas P. Miller
U.S. Department of Energy
Headquarters - Germantown
19901 Germantown Road
Germantown, MD 20874-1290

Mr. David Lochbaum
Nuclear Safety Engineer
Union of Concerned Scientists
1707 H Street NW, Suite 600
Washington, DC 20006-3919

Mr. Paul Gunter
Nuclear Information & Resource Service
1424 16th Street, NW., Suite 404
Washington, DC 20036

Mr. Tom Clements
6703 Guide Avenue
Takoma Park, MD 20912

Mr. James Riccio
Greenpeace
702 H Street, NW, Suite 300
Washington, DC 20001

Mr. James F. Mallay, Director
Regulatory Affairs
FRAMATOME, ANP
3315 Old Forest Road
Lynchburg, VA 24501

Mr. Ed Wallace, General Manager
Projects
PBMR Pty LTD
PO Box 9396
Centurion 0046
Republic of South Africa

Mr. Vince Langman
Licensing Manager
Atomic Energy of Canada Limited
2251 Speakman Drive
Mississauga, Ontario
Canada L5K 1B2

Mr. Gary Wright, Manager
Office of Nuclear Facility Safety
Illinois Department of Nuclear Safety
1035 Outer Park Drive
Springfield, IL 62704

Dr. Gail H. Marcus
U.S. Department of Energy
Room 5A-143
1000 Independence Ave., SW
Washington, DC 20585

Mr. Paul Leventhal
Nuclear Control Institute
1000 Connecticut Avenue, NW
Suite 410
Washington, DC 20036

Mr. Jack W. Roe
SCIENTECH, INC.
910 Clopper Road
Gaithersburg, MD 20878

Patricia Campbell
Winston & Strawn
1400 L Street, NW
Washington, DC 20005

Mr. David Ritter
Research Associate on Nuclear Energy
Public Citizens Critical Mass Energy
and Environmental Program
215 Pennsylvania Avenue, SE
Washington, DC 20003

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