

March 4, 2003

MEMORANDUM TO: Marsha Gamberoni, Deputy Director  
New Reactor Licensing Project Office  
Office of Nuclear Reactor Regulation

FROM: Joelle L. Starefos, Project Manager */RA/*  
New Reactor Licensing Project Office  
Office of Nuclear Reactor Regulation

SUBJECT: FEBRUARY 5, 2003, TELEPHONE CONFERENCE CALL SUMMARY

On Wednesday, February 5, 2003, a telephone conference call was held with Westinghouse Electric Company (Westinghouse) representatives and the Nuclear Regulatory Commission (NRC) staff to discuss several requests for additional information (RAIs). The following RAIs were discussed: 410.005, 410.007, 410.009, and 460.007. Westinghouse submitted responses to these RAIs on November 15, 2002 (ADAMS Accession No. ML023230385) and November 26, 2002 (ADAMS Accession No. ML023360097). A list of call participants is included in Attachment 1. Attachment 2 contains NRC staff comments regarding the subject RAIs that were sent to Mr. Michael Corletti of Westinghouse via electronic mail on January 31, 2003, and were also used to facilitate discussions during the telephone conference call.

The following is a brief summary of the discussions regarding the identified RAIs (see comments in Attachment 2):

RAI 410.005

Westinghouse agreed to modify the RAI response and the Design Control Document (DCD) to reflect the response time for the radioactivity monitor used in the leakage detection system.

RAI 410.007

Westinghouse agreed to revise the RAI response to reflect future resolution of the testing frequency when control room habitability issues, including air in-leakage testing, have been addressed by the joint effort between the NRC staff and industry.

RAI 410.009

Westinghouse agreed to revise the RAI response to describe the adequacy of the specific code revisions used to support the design certification application.

RAI 460.007

Westinghouse agreed to update the RAI response to describe the capability to accommodate waste generation with the process to use high integrity containers for waste removal.

M. Gamberoni

- 2 -

Westinghouse also agreed to clarify the RAI response to reflect storage area accommodations for dry wastes and packaged containment equipment.

Docket No. 52-006

Attachments: As stated

Westinghouse also agreed to clarify the RAI response to reflect storage area accommodations for dry wastes and packaged containment equipment.

Docket No. 52-006

Attachments: As stated

Distribution:

Hard Copy

NRLPO R/F

LBurkhart

JLyons

MGamberoni

JSegala

JColaccino

JStarefos

E-mail

PUBLIC

R. Borchardt

J. Williams

J. Moore, OGC

R. Weisman, OGC

J. Raval

C. Li

H. Walker

S. Weerakkody

ACCESSION NUMBER: ML030450440

OFFICE	NRLPO/PM	NRLPO/PM	SPLB/SC	NRLPO/DD
NAME	JStarefos	LBurkhart	SWeerakkody	MGamberoni-as marked
DATE	2/26/03	2/26/03	2/28/03	3/3/03

**OFFICIAL RECORD COPY**

FEBRUARY 5, 2003  
TELEPHONE CONFERENCE CALLS SUMMARY  
LIST OF PARTICIPANTS

Nuclear Regulatory Commission

Larry Burkhart  
John Segala  
Joelle Starefos  
Chang-Yang Li  
Janak Raval  
Harold Walker

Westinghouse

Mike Corletti  
Tim Meneely  
Don Hutchings  
Ron Vijuk

NUCLEAR REGULATORY COMMISSION STAFF  
COMMENTS THAT WERE SENT TO WESTINGHOUSE TO  
FACILITATE DISCUSSIONS OF  
THE REQUEST FOR ADDITIONAL INFORMATION (RAI) RESPONSES  
FOR CALL HELD ON FEBRUARY 5, 2003

RAI 410.005

The response has not addressed the following portion of the RAIs:

Position C.6 of Regulatory Guide (RG) 1.45 states that the response time of each leakage detection system should be adequate to detect a leak rate of 1 gpm, or its equivalent, in less than one hour. What is the response time for the N<sub>13</sub>/F<sub>18</sub> radioactivity monitor? Demonstrate the adequacy of this response time in meeting RG 1.45, Position C.6 and in supporting leak-before-break (LBB) for the AP1000.

RAI 460.007

Clarification is needed in meeting the following requirements of BTP ETSB II-3 Position B.III

1. Storage areas for solidified wastes should be capable of accommodating at least 30 days waste generation at normal generation rates. These storage areas should be located indoors.
2. Storage areas for dry wastes and packaged containment equipment should be capable of accommodating at least one full offsite waste shipment.

RAI 410.007

**(Design Control Document [DCD], Tier 2, Section 6.4):**

Section 6.4.5.4 states that "Testing for main control room in-leakage during VES [main control room emergency habitability system] operation will be conducted once **every 10 years**. This testing will be conducted in accordance with ASTM [American Society for Testing and Materials] E741, 'Standard Test Method for Determining Leakage Rate by Tracer Dilution'."

**NRC staff's understanding of Westinghouse's response:** Westinghouse recognizes that the Nuclear Regulatory Commission (NRC) staff and the industry are working on in-leakage testing, however it is not reasonable to commit to a standard that does not currently exist. Westinghouse therefore is not providing a commitment to have the VES meet the anticipated requirements currently being pursued. The VES design addresses in-leakage and meets the codes and standards that were in effect six months prior to the date of the AP1000 design certification application (March 28,2002).

**Staff Position and Comment:** The staff is currently working with the industry to address control room habitability issues including air in-leakage testing. It is anticipated that the testing frequency will be on the order of 5 to 6 years. The staff expects that testing requirements for

the AP1000 design will be consistent with the resolution of the control room habitability issues currently pursued by the industry and the staff. Therefore, the AP1000 design should include a commitment to resolving the in-leakage testing in accordance with the anticipated outcome of the joint effort between the NRC staff and industry.

AP600 Design Certification was based upon the ASTM E741 tracer gas dilution testing every 10-year interval after its initial testing for the control room envelope (MCRE) to determine its un-filtered in-leakages. During the AP600 design certification period, ASTM E741 tracer gas dilution testing was a first-of-a-kind testing for the MCRE. During the period following the AP600 design certification, the NRC staff and industry learned more about tracer gas testing and the staff is currently working with the industry to address control room habitability issues including air in-leakage testing. It is anticipated that the testing frequency will be on the order of 5 to 6 years. Therefore, the AP1000 design should include a commitment to resolving the in-leakage testing in accordance with the anticipated outcome of the joint effort between the NRC staff and industry.

RAI 410.009

(DCD, Tier 1, Sections 2.2.5 and 2.7.1; Tier 2, Sections 6.4 and 9.4, and Chapter 16, TS 3.7.6 and TS 3.9.5):

The NRC staff expects the AP1000 design to commit to compliance with the **latest revisions of the applicable codes and standards** for the following heating, ventilation, and air conditioning systems (HVAC): the radiologically controlled area ventilation system (VAS), nuclear island non-radioactive ventilation system (VBS), containment recirculation cooling system (VCS), main control room emergency habitability system (VES), containment air filtration system (VFS), health physics and hot machine shop HVAC system (VHS), radwaste building HVAC system (VRS), turbine building ventilation system (VTS), annex/auxiliary buildings non-radioactive HVAC system (VXS), and the diesel generator building heating and ventilation system (VZS).

**NRC staff's understanding of Westinghouse's response:** The AP1000 HVAC systems described in DCD Tier 1 and Tier 2 meets the codes and standards that were in effect six months prior to the date of the AP1000 design certification application (The AP1000 application date was March 28, 2002). No change to the AP1000 DCD is intended.

**Staff Position and Comment:** Please review the applicable portions of the DCD descriptions and technical specifications (TSs) to ensure proper references to the latest revisions to the applicable codes and standards and revise the DCD as necessary.

The AP600 Design Certification was based upon the latest codes and standards that were in effect when the AP600 design was certified. Similarly, the AP1000 design certification should be based upon the latest codes and standards that will be in effect when the AP1000 design is certified. Westinghouse proposed a codes and standards cut-off period of six months prior to the date of the AP1000 design certification application whereas the AP1000 design certification review is being continued by NRC staff.

The Westinghouse position may be applicable to those plants seeking preliminary "Construction Permits" for the current vintage of pressurized water reactor (PWR) and boiling water reactor (BWR) nuclear power plants to gain construction lead times. The one-of-a-kind advanced passive AP1000 design is being submitted for design certification only and no preliminary construction permit(s) are being sought. During the AP600 design certification review the NRC staff granted an exemption for piping due to a preliminary design issue, but Westinghouse was required to comply with the latest codes and standards at the time of final design certification. Therefore, the staff does not agree with applicant's justification that the AP1000 HVAC systems described in DCD Tier 1 and Tier 2 should meet the codes and standards that were in effect six months prior to the date of the AP1000 design certification application.

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 1<sup>ST</sup> Ave - #1502  
Portland, OR 97201

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

Mr. Ed Rodwell, Manager  
Advanced Nuclear Plants' Systems  
Electric Power Research Institute  
3412 Hillview Avenue  
Palo Alto, CA 94304-1395

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  
Project Management  
Lake Buena Vista Bldg., 3<sup>rd</sup> Floor  
1267 Gordon Hood Avenue  
Centurion 0046  
Republic of South Africa  
PO Box 9396 Centurion 0046

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. Edwin Lyman  
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

Mr. Michael M. Corletti  
Passive Plant Projects & Development  
AP600 & AP1000 Projects  
Westinghouse Electric Company  
P. O. Box 355  
Pittsburgh, PA 15230-0355