



UNITED STATES
NUCLEAR REGULATORY COMMISSION
 WASHINGTON, D.C. 20555-0001

September 22, 1995

APPLICANT: Westinghouse Electric Corporation
 PROJECT: AP600
 SUBJECT: SUMMARY OF TELEPHONE CONFERENCE TO DISCUSS AP600 DESIGN ISSUES INVOLVING THE SOLID WASTE MANAGEMENT SYSTEM

The subject telephone conference was held on September 14, 1995, between representatives of Westinghouse Electric Corporation and the Nuclear Regulatory Commission (NRC) staff. The purpose of the meeting was to discuss several draft safety evaluation report (DSER) open items (OI) in standard safety analysis report (SSAR) Chapter 11. Don Lindgren and Gordan Isrealson represented Westinghouse and Thyagaraja Chandrasekaran, Chang Li and Diane Jackson represented the NRC. A discussion sheet was faxed to Westinghouse on September 5, 1995. Attachment 1 is the discussion sheet that lists the open items needed to be discussed from the Plant Systems Branch. In this teleconference, only items from Section 11.4 were discussed.

The status of the open items that were discussed in the telephone conference are detailed below:

<u>OI No.</u>	<u>DSER OI No.</u>	<u>Status and Action detail</u>
385	11.4	Action W - (1) Westinghouse needs to add a description in the SSAR of the spill containment barrier; (2) Westinghouse needs to specify in Section 10.4.6.3 that the secondary side will be monitored for radioactivity and that if no radioactivity is detected, the spent resins will be collected in the secondary spent resin tank and will be subsequently disposed off-site as non-radioactive waste; (3) Westinghouse needs to clarify in Section 11.4.2.1 that the radioactive spent resins from the condensate polisher vessels will be transported via the portable tank mentioned in Section 10.4.6.3 to a temporary processing unit; (4) Westinghouse needs to explain the packaging and disposal processes for off-site removal for the radioactive spent resins from the condensate polisher vessels.
386	11.4	Action W - See DSER open item 1183
389	11.4	Action W - Westinghouse must demonstrate that there is adequate storage space for processed and packaged wet and packaged dry solid wastes. Due to AP600 design changes, Westinghouse will review Branch Technical Position ETSB 11-3, Positions B III.2 and 3 and responses to RAI 460.5 and 460.11(d).

9509260224 950922
 PDR ADOCK 05200003
 A PDR

NRC FILE CENTER COPY

DFB

Westinghouse Electric Corporation

Docket No. 52-003

cc: Mr. Nicholas J. Liparulo, Manager
Nuclear Safety and Regulatory Analysis
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, PA 15230

Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, PA 15230

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, PA 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Montrose Metro
11921 Rockville Pike
Suite 350
Rockville, MD 20852

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, DC 20585

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, ID 83415

Mr. Charles Thompson, Nuclear Engineer
AP600 Certification
U.S. Department of Energy
NE-451
Washington, DC 20585

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, MD 20874

Mr. Ronald Simard, Director
Advanced Reactor Program
Nuclear Energy Institute
1776 Eye Street, N.W.
Suite 300
Washington, DC 20006-3706

STS, Inc.
Ms. Lynn Connor
Suite 610
3 Metro Center
Bethesda, MD 20814

Mr. James E. Quinn, Projects Manager
LMR and SBWR Programs
GE Nuclear Energy
175 Curtner Avenue, M/C 165
San Jose, CA 95125

Mr. John E. Leatherman, Manager
SBWR Design Certification
GE Nuclear Energy, M/C 781
San Jose, CA 95125

Barton Z. Cowan, Esq.
Eckert Seamans Cherin & Mellott
600 Grant Street 42nd Floor
Pittsburgh, PA 15219

Mr. Ed Rodwell, Manager
PWR Design Certification
Electric Power Research Institute
3412 Hillview Avenue
Palo Alto, CA 94303

September 5, 1995

NOTE TO: Don Lindgen
Westinghouse

FROM: Diane Jackson
USNRC

SUBJECT: SPLB ITEMS NEEDING DISCUSSION WITH WESTINGHOUSE

As a result of its review of SSAR Rev. 3, and Rev. 4, SPLB identified the following items that need clarification or discussion with Westinghouse:

1. Open Item Numbers 75, 80, 81, 96, 97, 102-105, 109, 110, 114, 115, 117, 133, 136, 145, 146, 148-161, 163, 164, 176-179, 181-185, 188-191, 194, 195, 198, 199, 226, 229, 236, 237, 239, 243-245, 248, 250, 251, 253-255, 260, 265, 271-274, 293, 294, 300, 301, 302, 304, 305, 326, 330, 338, 358-362, 366-370, 372, 373, 375, 377, 379, 380, 382, 383-386, 389-391, 471, 569, 572, 573, 587, 590, 591, 908-914, 947-952, 954, 1019, 1020, 1023, 1094, 1099, 1121, 1150, 1160, 1162, 1164, 1166, 1178, 1180, 1181-1183, 1187, 1188, 1190-1192, 1194, 1195, 1197-1202, 1712, 1764, 1767, 1822, 1928, 1935, 1938, 2022
2. On fire protection items, one reviewer works at home and will be available for conference calls although his items are not identified in the above list. Chandra is anxious to discuss the rest of his fire protection safe shutdown issues.

Additional Questions (without item numbers being defined)

1. From J. Guo: due to design changes in SSAR Rev. 3 and 4
 - a. 1 question on Section 9.2.4, demineralized water storage
 - b. 1 question on Section 9.2.7, chilled water system
 - c. 3 question on Section 10.4.9 startup feedwater system
2. From Ron Young
 - a. Section 3.5.2:
Are missile shields used with Control Rod Drive Mechanisms?
 - b. Section 3.6.1:
Include in the SSAR the responses of the following RAIs ---
410.83, 410.88, 410.89, 410.91, 410.205

Attachment 1

3. From Janak Raval

- a. Provide updated SSAR Table 3.2-3 to resolve Items 281-286, 289, 292, 296, 298, 302, and 1766.
- b. The staff is awaiting the following information on AP600 Section 6.4, Habitability Systems, as discussed in the June 21, 1995 meeting:
 - i. Westinghouse will submit formal response to RAI 410.248 (Draft Response was provided during meeting).
 - ii. Westinghouse will revise SSAR section 9.4.1 by adding COLA items for (1) VBS air filtration units in accordance with ASME N 509-1989 and N 510-1989 for design, construction to conform B-36 requirements and (2) VBS ductwork and housing outside of MCRE is in accordance with ASME N 509-1989 and N 510-1989 to conform B-66 requirements.
 - iii. Westinghouse will provide justification for use of ASME Section VIII for VES air tanks.
 - iv. Westinghouse will demonstrate that how annex /turbine building temperatures are modelled in the GOTHIC model.
 - v. Westinghouse will show that the expected humidity response during first 72-hours is not a problem for I&C equipment or the operator performance, since humidity is not controlled by the VES.
 - vi. Westinghouse will confirm that the I&C equipment qualification is consistent with the 120 F room temperatures.

Concerning the assumption of an operator action to shut off the nonsafety-related loads at 24 hours, NRC/I&C staff feels that the procedural fix to be proposed by Westinghouse should be reviewed by NRC/HHFB since it is not wise to turn off indication channels powered through battery banks A&D to prevent temperature rise during "STATION BLACKOUT" and "LOSS OFF OFFSITE POWER" events; Therefore, Westinghouse design should (1) reflect avoidance of instrumentation over-heating without operator action during 72-hours period and (2) focus and summarize concerns associated with elevated temperature as a result of loss of normal HVAC as an initiating event or adverse interaction of non-safety/safety system.

- vii. Westinghouse will address the D-I-D criteria (Sufficient Redundancy, Power supply, Designed and arranged for conditions or an environment anticipated during and after events including severe accidents, Protected against internal flooding and other in-plant hazards, Effects of natural phenomena, QA comparable to GL 85-06 and/or RG 1.155, Included in reliability assurance and maintenance programs, Availability control mechanisms/simple Technical Specifications, and Proper administrative controls for shutdown configurations) for VBS as a New Open Item.
- c. RAI Questions 234, 244-248 were not responded by Westinghouse and some responses do not contain the requested information or information supplied is not adequate.

4. From John Segala

Section 9.3.1

- a. What is the rationale for removing the emergency air bottles for the breathing air subsystem in Revision 4 to the SSAR? Also, why was the carbon monoxide detection removed from the system?
- b. SSAR Section 9.3.1.3 (Rev. 4) states that some safe shutdown and accident mitigation pneumatically operated valves are provided with safety-related air accumulators. However, in response to RAI 410.160 and M9.3.1-8, Westinghouse stated that there are no safety-related air accumulators. The only valves which have accumulators are the fourth stage ADS valves which may use N₂ and the MSIVs and MFIVs which use hydraulic/N₂ valves. Westinghouse committed to describe this in the SSAR (Plant Gas System). Does Westinghouse's responses to RAI 410.160 and M9.3.1-8 still hold true after Revision 4 of SSAR Section 9.3.1?
- c. Why is the breathing air subsystem air Quality Verification Level D and the high-pressure air subsystem air Quality Verification Level E?
- d. Describe how the portable breathing air purification system works in the breathing air subsystem and how the integral air purification system works in the high-pressure air subsystem.
- e. Describe how the VES emergency air bottles are protected from a break in the high-pressure air subsystem.
- f. Does both the service air subsystem and the high-pressure air subsystem have two 100 percent capacity air compressor trains?
- g. Why doesn't Revision 4 of SSAR Section 9.3.1 agree with Westinghouse's responses to RAIs 410.152 and 410.153 in regard to separate and isolated subsystems of the CA: instrument air system, service air system, and breathing air system?

- h. Revision 4 of SSAR Section 9.3.1 no longer agrees with Westinghouse's response to RAI 410.156 in regard to using oil free air compressors. The instrument air subsystem, the breathing air subsystem, and the high-pressure-air subsystem should have oil free air compressors.

Section 9.3.5

- i. Why were the curbs around the sumps used to keep out debris removed from the design in Revision 4 to SSAR Section 9.3.5?
- j. SSAR Section 9.3.5.2.2 states that the drain tanks are vented to the atmosphere. Since these tanks could become contaminated, what would prevent the release of airborne radioactivity to the atmosphere?
- k. Why was the sentence "Each sump is provided with two pumps" removed in Revision 4 to SSAR Section 9.3.5?

1181 11.4-1 Action W - (1) Westinghouse needs to specify in Section 10.4.6.3 that the secondary side will be monitored for radioactivity and that if no radioactivity is detected the spent resins will be collected in the secondary spent resin tank and will be subsequently disposed off-site as non-radioactive waste; (2) Westinghouse needs to clarify in Section 11.4.2.1 that the radioactive spent resins from the condensate polisher vessels will be transported via the portable tank mentioned in Section 10.4.6.3 to a temporary processing unit; (3) Westinghouse needs to explain the packaging and disposal processes for off-site removal for the radioactive spent resins from the condensate polisher vessels. Also, in Section 10.4.8.2.3.6, Westinghouse needs to explain the packaging and disposal process for radioactive spent resins from the steam generator blowdown demineralizers (i.e., where they are collected, how they are processed and packaged for off-site disposal to a licensed disposal facility). Westinghouse should also identify where the non-radioactive spent resins from the SG blowdown demineralizers will be collected. Westinghouse should add a statement that these will be disposed of as non-radioactive wastes.

1182 11.4-2 Action W - Westinghouse needs to add a description in the SSAR of the spill containment barrier in Section 10.4.6.3.

1183 11.4-3 Action W - Westinghouse needs to add a statement in Section 11.4.5.1 that the COL applicant will demonstrate compliance with the requirements of 10 CFR Part 71 and DOT regulations for dry solid wastes.

1935 11.4-1 Action W - Westinghouse needs to add a statement in Section 11.4.5.1 that the COL applicant will demonstrate compliance with the requirements of 10 CFR Part 71 and DOT regulations for dry solid wastes.

Original signed by
 Diane T. Jackson, Project Manager
 Standardization Project Directorate
 Division of Reactor Program Management
 Office Of Nuclear Reactor Regulation

Docket No. 52-003

Attachment:
 As stated

cc w/attachment:
 See next page

DISTRIBUTION:

Docket File	PDST R/F	WRussell/FMiraglia
PUBLIC	RZimmerman	DCrutchfield
BGrimes	TQuay	RArchitzel
TKenyon	WHuffman	DJackson
JMoore, 0-15 B18	CLi, 0-8 D1	TChandrasekaran, 0-8 D1
ACRS (11)	WDean, 0-17 G21	EJordan, T-4 D18

DOCUMENT NAME: A: SEP15TEL

OFFICE	PM:PDST:DRPM	DSSA <i>TC</i>	SC:PDST:DRPM		
NAME	DJackson:sg <i>DJ</i>	TChandrasekaran	RArchitzel <i>RA</i>		
DATE	09/21/95	09/21/95	09/22/95		

- 1181 11.4-1 Action W - (1) Westinghouse needs to specify in Section 10.4.6.3 that the secondary side will be monitored for radioactivity and that if no radioactivity is detected the spent resins will be collected in the secondary spent resin tank and will be subsequently disposed off-site as non-radioactive waste; (2) Westinghouse needs to clarify in Section 11.4.2.1 that the radioactive spent resins from the condensate polisher vessels will be transported via the portable tank mentioned in Section 10.4.6.3 to a temporary processing unit; (3) Westinghouse needs to explain the packaging and disposal processes for off-site removal for the radioactive spent resins from the condensate polisher vessels. Also, in Section 10.4.8.2.3.6, Westinghouse needs to explain the packaging and disposal process for radioactive spent resins from the steam generator blowdown demineralizers (i.e., where they are collected, how they are processed and packaged for off-site disposal to a licensed disposal facility). Westinghouse should also identify where the non-radioactive spent resins from the SG blowdown demineralizers will be collected. Westinghouse should add a statement that these will be disposed of as non-radioactive wastes.
- 1182 11.4-2 Action W - Westinghouse needs to add a description in the SSAR of the spill containment barrier in Section 10.4.6.3.
- 1183 11.4-3 Action W - Westinghouse needs to add a statement in Section 11.4.5.1 that the COL applicant will demonstrate compliance with the requirements of 10 CFR Part 71 and DOT regulations for dry solid wastes.
- 1935 11.4-1 Action W - Westinghouse needs to add a statement in Section 11.4.5.1 that the COL applicant will demonstrate compliance with the requirements of 10 CFR Part 71 and DOT regulations for dry solid wastes.

Diane T. Jackson

Diane T. Jackson, Project Manager
Standardization Project Directorate
Division of Reactor Program Management
Office Of Nuclear Reactor Regulation

Docket No. 52-003

Attachment:
As stated

cc w/attachment:
See next page