September 1, 1995

APPLICANT: Westinghouse Electric Corporation

FACILITY: AP600

SUBJECT: SUMMARY OF MEETING TO DISCUSS PLANT SYSTEMS ON THE AP600

On February 22 and 23, 1995, representatives of the Nuclear Regulatory Commission and Westinghouse met to discuss the design of the plant systems in the AP600 design. Attachment 1 is a list of attendees.

Discussions included habitability systems; fission product control systems and structures; fluid support systems; fire protection; main steam supply system; main condenser; main condenser evacuation system; turbine steam sealing system; turbine bypass system; auxiliary steam system; and process and effluent radiological monitoring and sampling system. Attachment 2 is a detailed description of the issues discussed along with the status of the issues by the end of the meeting.

original signed by:

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Docket No. 52-003

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As stated

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AP600 PLANT SYSTEMS BRANCH ISSUES
ATTENDANCE SHEET
FEBRUARY 22 and 23, 1995

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JOHN BUTLER	WESTINGHOUSE
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RALPH ARCHITZEL	NRC/PDST
JANAK RAVAL	NRC/SPLB

Attachment 1

STATUS OF ISSUES DISCUSSED AT
FEBRUARY 22 AND 23, 1995 PLANT SYSTEMS MEETING

SECTION 6.4 - HABITABILITY SYSTEMS

W #	SPLB #	
193	M6.4-1	Provide criteria for air supply equipment and state that COL applicant will provide procedures regarding the availability and use of portable air supply equipment for conditions beyond 72 hours of the accident. Westinghouse will propose a standard COL Action Item or a single COL Action Item that will address all post-72 hours actions. Discussion of criteria for air supply and cooling equipment is in current response to RAI 440.21 and WCAP-13856. However, WCAP-13856 will be revised subsequently after amending the PRA results in March 1995. Westinghouse committed to describe the criteria, capacity, and specifications in COLA item. **STATUS:** ACTION W
194	M6.4-2	Provide criteria for sizing the portable cooling equipment and state in the SSAR that the COL applicant will provide procedures for the availability and use of portable cooling equipment to maintain long term occupancy of personnel in the MCRE and long term operation of equipment in the instrumentation and control rooms and dc equipment rooms. Westinghouse will propose a standard COL Action Item or a single COL Action Item that will address all post-72 hours actions. Discussion of criteria for air supply and cooling equipment is in current response to RAI 440.21 and WCAP-13856. However, WCAP-13856 will be revised subsequently after amending the PRA results in March 1995. Westinghouse committed to describe the criteria, capacity, and specifications in COLA item. **STATUS:** ACTION W
195	M6.4-3	Provide the qualification criteria and surveillance provisions for the proposed epoxy crack sealer, and pressure resistant sealant materials such as silicone foam, ceramic fiber, rubber boots, silicone elastomer, silicone caulk sealants.

Westinghouse will summarize the criteria and surveillance provisions (visual inspection of the MCRE boundary) in the SSAR Section 6.4 consistent with the frequency identified in AP600 Chapter 16, Technical Specifications. The details will be in the System Specification Document (SSD).

STATUS: ACTION W

196 M6.4-4 The staff considers that testing the pressurization and ventilation capabilities in technical specifications every 10 years is non-conservative. The VES should be tested in accordance with ASME AG-1 Code every refueling outage as required by the current Westinghouse STSs to demonstrate that there is sufficient air in the air storage bottles to pressurize the MCRE to a positive pressure of 3.2 mm (1/8-in) water gauge with respect to the surroundings and maintain that pressure during accident conditions for a period of 72 hours and beyond. Also, technical specifications and VES inspection, test analysis, and acceptance criteria should include initial testing that demonstrates these capabilities for the entire 72 hours. Additionally, AP600 SSAR TS SRs 3.7.6.8 should state that a positive pressure of equal to or greater than 3.2 mm (1/8-in) water gauge "with respect to the surroundings" is maintained.

Westinghouse agreed to revise the proposed TS 3.7.6 based on the comments provided in a meeting held on second week of March 1995, at Westinghouse's offices in Monroeville, Pennsylvania. The operability surveillances and functionality surveillances will be separated in TS 3.7.6. The frequencies will be in accordance with criteria to be proposed by Westinghouse and subsequently reviewed by NRC staff.

STATUS: ACTION W

197 M6.4-5 Westinghouse states that the VES heating, ventilation, and air conditioning (HVAC) piping is assumed to be schedule 40 welded construction to preclude unfiltered inleakage inside MCRE. However, Westinghouse should specify that this piping will be leak tested in accordance with ASME N509.

The SSAR will be revised to state that the system will be tested IAW Section XI of ASME code similar to the entry for PXS. Piping will schedule 80 not 40.

STATUS: RESOLVED

198 M6.4-6 Verify that (1) all VBS ducting and equipment housings outside the MCRE are of welded construction and flange connections will be pressure tight, and periodically visually examined and tested such that any unfiltered inleakages inside MCRE are precluded during VES operation for accident conditions and (2) no other

ducts other than VBS ducts pass through the MCRE and (3) clarify how the normal ventilation flow is used in the accident analysis.

(1) The response to RAI 410.248 will be provided for staff's review which will address the issue of VBS ducting (outside the MCRE construction), its pressure tightness, and periodical visual examination and testing.

STATUS: ACTION W

(2) SSAR Section 9.4.1 will be revised to state that no other ducts run through MCRE.

STATUS: RESOLVED

(3) Two radiologically analyses were performed, one for those areas encompassing only the MCRE served by VES and the other for those areas encompassing the MCRE and TSC served by the VBS in the supplemental filtration mode. Both analyses show that GDC 19 limits are met. The TQEB/RPS staff needs to review these analyses.

STATUS: ACTION N

OVERALL STATUS: ACTION W

199 M6.4-7 Address the expected number of personnel and provide guidance for the MCR occupancy during the accident conditions for up to 72 hours and beyond, maximum allowed CO_2 concentration levels to provide habitable environment for the MCR occupants based on maximum occupancy during accident conditions and revise the MCRE ventilation and pressurization requirements accordingly.

SSAR Section 6.4 will be revised to state that the assumed staffing level is 11 personnel. Also, because OSHA requirements for CO_2 concentration level have changed from 1 percent to 0.5 percent, the system will provide 40 cfm instead of 20 cfm during accident conditions. The system design for control room habitability will be changed to include only one bank of 24 standard off-the-shelf industrial grade breathing air bottles and one supply header outside the MCRE. Westinghouse stated that the redundancy will be provided by having redundant isolation and regulating valves inside the MCRE. Westinghouse will provide the revised SSAR text and figures for NRC staff's review.

STATUS: ACTION W

200 M6.4-8 The staff assumes that no radioactive materials will be piped or stored near the MCRE. However, Westinghouse needs to state this in the SSAR.

SSAR Section 6.4 will be revised to state that there are no radioactive materials piped or stored near the MCRE.

STATUS: RESOLVED

201 M6.4-9 State that the COL applicant will (1) perform the toxic chemical release analysis conforming RGs 1.78 and 1.95, (2) prepare detailed operating procedure to cope with the toxic gas accident and (3) determine and provide toxic gas monitoring. The COL applicant will also develop operating procedures to cope with the closure of air intake due to a high concentration of smoke.

Westinghouse stated that this COL Applicant Item does not fall into a "to be proposed" standard COL Action Item or a single COL Action Item that will address all post-72 hours actions. Westinghouse will evaluate and propose a separate COL Action Item for toxic releases, monitoring, and smoke control.

STATUS: ACTION W

202 M6.4-10 Clearly identify that the COL applicant will provide verification of the as-built design and the operating, maintenance, and emergency procedures and training, and performance characteristics of the VES and VBS and technical specifications are consistent with the licensing basis documentation.

Westinghouse committed to revise SSAR Section 1.9.4 to include discussion of GI 83 to resolve staff's DSER Oper. Item 20.3-11 and the COL Applicant verification issue. The proposed discussion in SSAR Chapter 20 regarding the resolution to GI 83, Control Room Habitability should state that the COL Applicant will verify that (1) the as-built design, (2) the performance characteristics of the VES and VBS, (3) the Technical Specifications (SSAR Chapter 16), and (4) the operating, maintenance and emergency procedures and training (SSAR Chapter 13) are consistent with the licensing basis documentation.

STATUS: ACTION W

SECTION 6.5.3 - FISSION PRODUCT CONTROL SYSTEMS AND STRUCTURES

xx RAI Q410.184 Westinghouse will revise SSAR Section 6.5.3 to add one paragraph as shown in the response to make the SSAR section more understandable. It will appear in the next SSAR revision.

STATUS: RESOLVED

SECTION 9.2.1 - SERVICE WATER SYSTEM

223 M9.2.1-1. The staff reviewed Westinghouse's response to RAI Q410.107 and determined that the response is acceptable pending the information is reflected in Revision 2 of the AP600 PRA.

Westinghouse stated that the SSAR and PRA documents have been revised to be consistent with each other and the PRA document has been submitted to the NRC. The staff should be able to review the PRA submittal and verify it.

STATUS: PROPOSED

224 M9.2.1-2. Westinghouse's response to Q410.109 indicates that SWS performs no safety-related functions and need not meet the listed criteria. The acceptability of the response is pending on the policy position for the requirements of DID and RTNSS.

Subitems a-i were discussed in detail.

Items	Status	Discussion
a	Closed	Description in SSAR is adequate.
b	Closed	Description in SSAR is adequate.
c	Action-W	Additional information will be provided.
d	Action-W	
e	Proposed	The staff will review SSAR 3.2.2.6 to see if it is adequate.
f	Action-W	
g	Action-W	
h	Closed	Description in SSAR is adequate.
i	Action-N	

OVERALL STATUS: ACTION W

225 M9.2.1-3. The staff asked questions regarding testing and inspections of the SWS in Q410.108. Westinghouse's response to the question indicates that the SWS provides no safety-related function and does not require any testing or inspection plan. The performance of system components is demonstrated by operation of the system and periodic switching over between two trains. The reliability and maintenance plans for the defense-in-depth systems, such as SWS, include provisions to check for operability, including appropriate testing and inspection, and to repair out-of-service components. These provisions are documented and administered in the plant reliability assurance plan and operating and maintenance procedures.

It is not clear to the staff that the adequacy of the "testing and inspection" is demonstrated in the "plant

reliability assurance plan and operating and maintenance procedures." These are two separate programs. The Westinghouse is requested to explain how the later program would assure the adequacy of the former program. The acceptability of the response is pending on the generic staff position on the testing and inspections of DID and RTNSS.

Westinghouse stated that there is no IST program for the system. Operation of the system will be verified per the maintenance rule by periodically switching between the two trains. The PRA assumption determines the test frequency.

The staff stated that the PRA assumptions on test frequency are not in the SSAR. It will only be developed by COL applicant in its maintenance program. How can we be sure that the maintenance program will be consistent with the assumptions used here in the PRA? It may need a COL Action Item to make sure that COL applicant will factor those into their maintenance program.

STATUS: ACTION N

226 M9.2.1-4. The staff reviewed Westinghouse's response to RAI Q410.110 and determined that the response is acceptable pending SSAR revision to include the additional information.

Westinghouse agreed to incorporate its response of Q410.110 into a SSAR revision.

STATUS: RESOLVED

227 M9.2.1-5. The staff reviewed Westinghouse's responses to RAIs Q410.111 and Q410.112 and determined that the responses are acceptable pending SSAR revision as committed in the responses.

STATUS: RESOLVED

228 M9.2.1-6. The staff reviewed Westinghouse's response to RAI Q410.113, and has an follow-up question. Describe the provisions for preventing organic fouling and inorganic buildups that may degrade system performance.

Westinghouse stated that the following features were discussed in the SSAR:

Strainers - SSAR Section 9.2.1.2.2

Heat exchangers - SSAR Section 9.2.2.3.2 and shown in Table 9.2.2-1

Chemical injection - SSAR Section 9.2.1.2.2, which references SSAR Section 10.4.5.2.2

Trash racks - will be discussed in SSAR Rev.3 (to be submitted) in Section 9.2.1.2.2

The staff will have to review the above information to determine its adequacy.

STATUS: PROPOSED

229 M9.2.1-7. The staff reviewed Westinghouse's responses to RAIs Q410.114 and Q410.115, and determined those responses acceptable pending SSAR revision to include the additional information.

Westinghouse stated that the response to Q410.114 need not to be in the SSAR; the staff agreed. Westinghouse agreed to incorporated Q410.115 into SSAR.

STATUS: RESOLVED

SECTION 9.2.2 - COMPONENT COOLING WATER SYSTEM

230 M9.2.2-1. The staff reviewed Westinghouse's response to RAI Q410.118 and determined it is not acceptable. The staff finds that the system description of component cooling water system in the non-proprietary SSAR is not adequate. The components cooled by the component cooling water system are not described in the non-proprietary version of the SSAR.

Westinghouse agreed to incorporate into the SSAR a description of the components being cooled by the CCS. No quantitative information will be presented.

STATUS: RESOLVED

231 M9.2.2-2. The staff reviewed Westinghouse's responses to RAIs Q410.116, Q410.119, Q410.126, and Q410.127 and find those responses acceptable.

STATUS: CLOSED

232 M9.2.2-3. In response to RAI Q410.15, Westinghouse states that "in-service testing of component cooling water system equipment is periodically performed during both normal plant operation and maintenance periods" and that "Table C11-5 of PRA Section C11.1 shows the PRA test frequency for the CCS." On the other hand, in response to RAI 410.125 Westinghouse states that "there are no in-service testing design requirements imposed to support PRA reliability assumptions." The staff finds that Westinghouse's position on the in-service testing of CCS in the response of Q410.125 is not consistent with its position in the response of Q410.15 and its PRA assumptions. Further, in response to RAI Q410.125 Westinghouse states that the CCS provides a significant function

during reduced reactor coolant system inventory shutdown operation, the surveillance to demonstrate the system availability prior to entering reduced reactor coolant system inventory shutdown operation will be performed. Westinghouse is requested to resolve the above inconsistency.

PRA Revision 2 has been revised to be consistent with SSAR. There are testing assumptions to be implemented in the COL applicant's maintenance program.

The staff will determine if the assumed test frequency should be a COL Action item.

STATUS: ACTION N

233 M9.2.2-4. Westinghouse is requested in RAI Q410.120 to confirm that the staff review criteria for the RTNSS are met by the system. Westinghouse's response to Q410.120 indicates that CCS performs no safety-related functions and need not meet the listed criteria. The acceptability of the response is pending on the policy position for the requirements of DID and RTNSS.

This item is similar to #224.

Items	Status	Discussion
a	Closed	Description in SSAR is adequate.
b	Closed	Description in SSAR is adequate.
c	Action-W	additional information will be provided
d	Action-W	
e	Proposed	The staff will review SSAR 3.2.2.6 to see if it is adequate.
f	Action-W	
g	Action-W	
h	Closed	Description in SSAR is adequate.
i	Action-N	

OVERALL STATUS: ACTION W

234 M9.2.2-5. The staff reviewed Westinghouse's responses to RAIs Q410.121, Q410.123, and Q410.124 and determined those responses acceptable pending revision of the SSAR and WCAP-13054 as committed in the responses.

STATUS: RESOLVED

SECTION 9.2.8 - TURBINE BUILDING CLOSED COOLING SYSTEM

235 M9.2.8-1. The responses to RAI Q410.128 and Q410.133 were received after the DSER was prepared, and are under staff review. Open items and questions may be developed as a result of the review of those responses.

The responses are acceptable pending SAR revision as committed by the Westinghouse.

STATUS: RESOLVED

SECTION 9.5.1 - FIRE PROTECTION

306 M9.5.1-1 The staff has not completed it's review of the AP600 safe shutdown capability in the event of a disabling fire. Westinghouse appears to take credit for the use of non-safety related systems as indicated in Section 9A.2.7.1 of the SSAR, "Criteria and Assumptions", section titled, "Offsite Power," which states:

For the safe shutdown evaluation it is assumed that either offsite power is available continuously or offsite power is unavailable for first 72 hours, which ever is more conservative. If offsite power is available, non-safety related systems are assumed to operate if a more conservative evaluation would result.

Redundant safety related equipment is separated by three hour rated fire walls, which is an acceptable way of protecting redundant safe-shutdown equipment. However, Westinghouse will utilize defense-in-depth equipment that may not be provided with electrical protection and separated by three hour barriers which is not in accordance with SECY-93-087 or the BTP CMEB 9.5-1. Westinghouse will be required to demonstrate that the reactor can be safely shutdown in a controlled manner with or without offsite power using the safety related equipment.

In addition, Westinghouse is requested to explain their use of defense-in-depth equipment in the event of a major fire in the control room (other areas where the redundant defense-in-depth equipment and/or support equipment are in the same fire area) to bring the reactor to a controlled and stable shutdown condition. Westinghouse should be prepared to explain operator identification of, and mitigation of spurious signals and spurious operation of defense in depth equipment. Westinghouse should provide their operator guidelines for adverse conditions as part of this discussion.

Westinghouse will reword SSAR to make it clear that the non-safety systems are not credited. They only consider the non-safety system is operating if that operation adversely affects safe-shutdown. Revised wording will be consistent with SECY Paper 93-087 and other appropriate regulatory documents.

STATUS: ACTION W

307 M9.5.1-2 In Section 9A.2.7.1 of the SSAR, "Criteria and Assumptions," the section titled "Spurious Actuation of Equipment" states that

It is assumed that a fire results in the loss of all automatic functions signals and logic from the circuits located in the fire area, in conjunction with one worst case spurious actuation or signal from the fire.

Spurious actuation of the redundant valves in any one high-low pressure interface line are postulated if the circuits for those valves are located in the fire area.

Westinghouse should clarify whether the above stated criteria of considering one worst case spurious operation is postulated for all fire areas or only for fires requiring the use of the safe shutdown work station?

Westinghouse indicated that all fire areas consider one worst case actuation.

STATUS: CLOSED

308 M9.5.1-3 The SRM dated July 21, 1993 specifies that the Commission (with all Commissioners agreeing) has approved the staff's position in SECY-93-087 that the passive plants should also be reviewed against the enhanced fire protection criteria approved in the Commission's SRM June 26, 1990.

SECY-93-087 provides the staff's recommendations approved by the commissions concerning Advance Evolutionary Reactors. SECY-93-087 indicates that the staff proposed to require that evolutionary ALWR designers must ensure that safe shutdown can be achieved assuming that all equipment in any one fire area will be rendered inoperable by fire and that re-entry into the fire area for repairs and operator actions is not possible. The AP600 may require repair to bring the unit to cold shutdown conditions.

Westinghouse is requested to discuss in detail repairs on the defense-in-depth equipment and operator actions needed to bring the unit to cold shutdown conditions. Westinghouse

should also provide the technical bases of why safe shutdown equipment is not needed to go to cold shutdown as required by SECY-93-087 and BTP CMEB 9.5-1.

Westinghouse indicated that this item will be addressed when the safe-shutdown questions are addressed.

STATUS: ACTIVE

309 M9.5.1-4 **Fire Protection Analysis**

Section 9A.2.7.1 of the SSAR, "Zone of Influence," states that a postulated fire does not exceed the boundary of the area. For fire areas outside the containment, the fire is assumed to disable all equipment and electrical cabling located in the fire area, unless the fire protection analysis demonstrates otherwise. However, no credit is taken for complete fire damage in cases in which complete damage is beneficial and partial damage is not. Inside containment, potential fire damage is evaluated on a zone-by-zone basis.

Westinghouse is requested to provide a list of all areas where the fire protection analysis demonstrates that a fire does not disable all equipment (other shutdown equipment) within a fire area (fire Zone of Influence).

Westinghouse will revise the SSAR to use words from SECY-93-087; i.e., all equipment in one fire area is rendered inoperable except in containment, main control room, and alternate shutdown area. Additionally, Westinghouse will provide or discuss in a future meeting:

- additional drawings showing separation of electrical cable chases
- runs of cables inside containment
- details of penetration seals through the annulus
- shutdown paths
- evaluation of why a fire will only affect one valve in a fire zone inside containment.

The staff has a concern about divisional separation at the penetration area inside containment. The penetrations for all four divisions enter the containment within the same quadrant. The staff expects the penetrations to be widely separated or provided with protection against fire. The

cable trays are covered and meet the separation criteria of IEEE-384, but IEEE-384 does not provide protection from external fires.

STATUS: ACTION W

310 M9.5.1-5 Section 9A.2.4 of the SSAR, "Combustible Loading and Equivalent Fire Duration Calculation," states:

Fire detection and suppression needs are established based on combustible loading, using the following guidelines:

Combustible Loading (BTU/ft^2)	Detection Capability	Suppression Capability
0 - 8,000	None	Manual
8,000 - 80,000	Yes (1 hr)	Manual
Above - 80,000	Yes	Automatic & Manual

Westinghouse is not providing fire suppression for areas that have a combustible loading of less than 80,000 BTU square foot.

This strict use of the combustible loading and the fire resistive rating of the fire wall is not conservative in addressing the fire load within in the area. NFPA 251, 1-1.3 and 1-1.4, states the following:

> This standard shall be used to measure and describe the properties of materials, products, or assemblies in response to heat and flame under controlled laboratory conditions and shall not be used to describe or appraise the fire hazard or fire risk of materials, products or assemblies under actual fire conditions. However, results of the tests may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular material's, product's or assembly's intended use.

The results of these tests are one factor in assessing fire performance of building construction and assemblies. These methods prescribe a standard fire exposure for comparing the performance of building construction assemblies. Application of these test results to predict the performance of actual building construction requires careful evaluation of test conditions.

Westinghouse is requested to revaluate their methodology concerning the installation of automatic detection and suppression systems for the AP600 design and develop more conservative criteria.

Westinghouse stated that they went beyond the criteria listed in the SSAR. While combustible loading is one criteria, Westinghouse will provide additional information in the SSAR about the other criteria. Westinghouse will also provide detection in the subfloor of the control room.

STATUS: ACTION W

311 M9.5.1-6 Westinghouse's response to Section C.5.a(1)(b) of BTP 9.5-1 in the AP600 SSAR indicates that the Westinghouse AP600 design will provide 3-hour-rated fire barriers to separate redundant divisions except for the containment and the control room. Westinghouse did not include the remote shutdown work station as an area where separate redundant divisions are not separated by 3-hour-rated fire barriers.

Should the remote shutdown work station be included in the exception list?

If the remote shutdown work station is not included in the exception list, provide the reasons why it is not included.

The remote shutdown work station will be included as an exception to the fire separation criteria in the SSAR.

STATUS: RESOLVED

312 M9.5.1-7 In Section 9.5.1.2.1.1 of the SSAR, Westinghouse indicates that,

Fire protection features within the containment fire area provide confidence that one train of safe shutdown equipment will remain undamaged following a fire. The quantity of combustible material is minimized. The use of canned reactor coolant pumps has eliminated the need for an oil lubrication system.

Westinghouse should indicate the location of the redundant trains of safe shutdown components and where they are separated by existing structural walls, or by distance. In addition, Westinghouse should specify the location of the fire suppression and fire detection systems.

See Item 309 (M9.5.1-4). Westinghouse will consider revising the footnote to indicate that any exception identified by the COL applicant which affects the fire protection analysis will be identified to NRC for review.

STATUS: ACTION W

313 M9.5.1-8 In the SSAR, Section 9.5.5, Table 9.5.1-1, BTP CMEB 9.5-1 Guidelines 112-120, "Fire Detection," Westinghouse indicates

that the automatic fire detection systems will be designed and installed in accordance with NFPA Standard 72 in areas that contain or present a fire exposure to safety-related equipment and for all significant hazards. In addition, the fire detectors will be installed as a Class A system defined in NFPA 72D and Class I circuits as defined in NFPA 70. Westinghouse also indicates that there may be design considerations, that may result in exceptions to specific guidance.

The staff assumes that the selection and installation of fire detectors are also based on consideration of the type of hazard, combustible loading, the type of combustion products and detector response characteristics. The staff also assumes that Westinghouse will provide detection capability for major cable concentrations, safe-shutdown-related/defense-in-depth major pumps, switchgear, motor-control centers, battery and inverter areas, relay rooms, fuel areas, radwaste areas, and all other areas containing insitu or potentially transient combustibles. Detector devices will be selected on the basis of type of anticipated fire and will be located on the basis of ventilation, ceiling height, ambient conditions, and burning characteristics of the involved materials. Detection systems will alarm and annunciate in the control room and will give a distinctive audible and, if necessary (to facilitate fire brigade identification of fire location), visual local alarm.

The staff has made assumptions regarding the detection capability. If these assumptions are not valid, then indicate what assumptions are not valid.

Westinghouse is requested to identify and provide a list of all known BTP CMEB 9.5-1 and NFPA fire detector exemptions.

Westinghouse is following the criteria assumed by the staff. No exceptions are anticipated. Westinghouse will consider changing the footnote to state that any exception identified by the COL applicant which affects the fire protection analysis will be identified to the NRC for review.

STATUS: ACTIVE

314 M9.5.1-9 In Section 9.5.1.2.1.3 of the SSAR, "Fire Water Supply System," Westinghouse states that, "The fire water supply system is designed in accordance with the BTP 9.5-1 and the applicable NFPA standards."

Also, in Section 9.5.5 of the SSAR, Table 9.5.1-1, BTP CMEB 9.5-1 Guidelines 121-144, "Fire Protection Water Supply System," Westinghouse commits to follow the BTP CMEB 9.5-1 Guidelines, but noted that due to conflicting design considerations, there may be a need to take exception to specific guidance. These deviations are to be addressed in the Fire Hazards Analysis submitted by the COL applicant.

Westinghouse is requested to identify and provide a list of all known BTP CMEB 9.5-1 and NFPA exemptions concerning the water supply.

BTP exception - The water in the PCS tank is not dedicated for fire protection. Westinghouse will provide a detailed explanation in the SSAR of why the water in the PCS will not be needed for fire protection simultaneously with PCS operation.

NFPA exception - The standpipe system inside containment is not normally pressurized. Fire fighters have to open containment isolation valves to pressurize the standpipe on the way into containment to fight fire. Westinghouse will identify this in SSAR Table 9.5-1.

STATUS: ACTION W

315 M9.5.1-10 In Section 9.5.1.2.1.3 of the SSAR, Westinghouse indicates that the fire protection water supply is comprised of two separate fresh water storage tanks. The primary tank is totally dedicated to provide water to the fire protection water supply system. A second fire protection water storage tank serves the raw water system but also contains a dedicated volume of water for use by the fire protection system if the primary fire protection water tank is unavailable. Guideline 137 (BTP CMEB 9.5-1, Section C.6.b (9)) states that two separate fresh water supplies with a minimum of 300,000 gallons each should be utilized for fire service.

Does the second fire protection water storage tank contain a dedicated 300,000 gallon storage capacity for fire service?

These tanks are dedicated to fire protection, but do not normally supply the safety-related fire areas. Westinghouse will revise Table 9.5.1-2 to state that each tank has a dedicated storage capacity and refer to the table in Section 9.5.1.2.1.3.

STATUS: RESOLVED

316 M9.5.1-11 In Section 9.5.1.2.1.4 of the SSAR, Westinghouse indicates that automatic fire suppression systems will consist of

(1) automatic wet-pipe sprinkler systems, (2) reaction sprinkler systems, (3) deluge sprinkler or water spray systems, and (4) automatic foam suppression systems. Westinghouse indicates that these systems will be installed and maintained in accordance with the BTP CMEB 9.5-1 and the applicable NFPA standards. Westinghouse further indicates that the fixed automatic fire suppression systems are provided based on the results of the fire protection analysis.

Westinghouse is requested to identify and provide a list of all known BTP 9.5-1 and NFPA deviations concerning the automatic fire suppression systems.

There are no known BTP or NFPA exceptions other than those identified in Table 9.5.1-1 (BTP Items 167, 186, and 217 and one small NFPA item). The SSAR will include additional wording to address the exception to the NFPA standard.

STATUS: ACTION W

317 M9.5.1-12 In Section 9.5.5 of the SSAR, Table 9.5.1-1, BTP CMEB 9.5-1 Guidelines 155, titled "Water Sprinkler and Hose Standpipe Systems," Westinghouse indicates that water will be supplied to standpipes and hose connections for manual fire fighting in areas containing equipment required for safe plant shutdown in the event of a safe shutdown earthquake. The piping systems serving these hose stations will be analyzed for SSE loading and will be provided with supports to ensure systems pressure integrity. The piping and valves for the portion of hose standpipe system affected by this functional requirement will, as a minimum, satisfy American National Standards Institute (ANSI) B31.1, "Power Piping." The water supply will be capable of delivering at least 75 gallons per minute for two hose stations.

What quantity of water is dedicated to the manual hose stations from the passive containment water storage tank?

What is the minimum pressure required to produce at least two effective hose streams inside containment utilizing the passive containment water storage tank water supply? Is the containment water dedicated fire water capable of supplying minimum pressure and flow to produce an effective hose stream?

Is there a possibility for channeling water from fire-extinguishing operations in one redundant fire area into another redundant fire area.

Westinghouse will identify the normal operating level (vol) in the PCS tank that will be available for fire protection.

STATUS: ACTION W

318 M9.5.1-13 In Section 9.5.1.2.1.5 of the SSAR, "Manual Fire Suppression," Westinghouse indicates that,

> Portable fire extinguishers are provided throughout the plant. Portable extinguishers are readily accessible for use in high radiation areas but are not located within those areas unless the fire protection analysis indicates that a specific requirement exists.

In Section 9.5.5 of the SSAR, Table 9.5.1-1, BTP CMEB 9.5-1 Guidelines 164-165, "Portable Extinguishers," Westinghouse indicates that extinguishers will be provided in areas that contain, or present, a fire exposure hazard to safety related equipment in accordance with the guidelines of NFPA 10, "Portable Fire Extinguishers, Installation, Maintenance and Use." The staff expects that these deviations to the BTP CMEB 9.5-1 and/or the NFPA 10 will be addressed in the Fire Hazards Analysis to be submitted by the COL applicant.

Is the staff's expectations of the applicant providing deviations valid?

Westinghouse is following the criteria assumed by the staff. No exceptions are anticipated. Westinghouse will consider changing the footnote to state that any exception identified by the COL applicant which affects the fire protection analysis will be identified to the NRC for review.

STATUS: ACTION W

319 M9.5.1-14 BTP CMEB 9.5-1, Section C.5.g, states that fixed self-contained lighting of florescent or sealed-beam units with individual 8-hour minimum battery power supplies should be provided in areas that must be manned for safe shutdown and for access and egress to and from all fire areas. Safe shutdown areas include those areas required to be manned if the control room must be evacuated.

In Section 9.5.5 of the SSAR, Table 9.5.1-1, BTP CMEB 9.5-1 Guidelines 108, "Lighting and Communication," Westinghouse indicates that they comply with Section C.5.g of the BTP 9.5-1, however, an alternative emergency lighting source is provided for the MCR and the remote shutdown work station. In Section 9.5.3.2.2, "Emergency Lighting," Westinghouse states,

> MCR and remote shutdown area emergency lighting consists of 120 Vac florescent lighting fixtures which are continuously energized. The fixtures are powered from the Class 1E 125Vdc switchboards through the Class 1E 208Y/120Vac inverters.

Westinghouse should demonstrate that the control room emergency lights and the remote shutdown work station emergency lights are electrically and physically protected from a fire. A complete description of this protection should be provided.

Westinghouse will revise the SSAR to describe protection for emergency lights in the control room and shutdown work station.

STATUS: ACTION W

320 M9.5.1-15 BTP CMEB 9.5-1, Section C.5.g states that a portable radio communication system be provided for use by the fire brigade and other operations personnel required to achieve safe plant shutdown. This system should not interfere with the communications capabilities of the plant security force. Fixed repeaters installed to permit use of portable radio communication units should be protected from exposure fire damage.

Does Westinghouse commit to meeting the emergency communication guidelines of BTP CMEB 9.5-1 Section C.5.g(4) regarding the use of a portable radio communications system by the fire brigade and other operational personnel required to achieve safe plant shutdown?

Westinghouse will revise SSAR Table 9.5.1-1 to include compliance with BTP Item 111.

STATUS: RESOLVED

321 M9.5.1-16 BTP CMEB 9.5-1, Section C.3 states, in part, that

> ... an onsite 6-hour supply of reserve air should be provided and arranged to permit quick and complete replenishment of exhausted air supply bottles as they

are returned. If compressors are used as a source of breathing air, only units approved for breathing air shall be used; compressors shall be operable assuming a loss of offsite power. Special care must be taken to locate the compressor in areas free of dust and contaminants.

In Section 9.5.5 of the SSAR, Table 9.5.1-1, BTP CMEB Guideline 32, "Fire Brigade," Westinghouse states that the AP600 is expected to conform to the guidelines or the intent of the guidelines. The COL applicant will provide additional information. The guidelines also indicated that the procedures and administrative controls governing the fire protection program during plant operations are developed for specific plants and covered in the COL application.

Westinghouse should provide additional information concerning reserve air to permit quick and complete replenishment of exhausted air supply bottles as they are returned.

Westinghouse is requested to identify the location of air compressors or other equipment such as cascading air bottles that will be used to replenish the breathing air.

Westinghouse will investigate alternative locations for high pressure breathing air compressor.

STATUS: ACTION W

322 M9.5.1-17 BTP CMEB 9.5-1, Section C.5.a(14) states that

Floor drains sized to remove expected fire fighting water flow without flooding safety-related equipment should be provided in those areas where fixed water fire suppression systems are installed.

In Section 9.5.5 of the SSAR, Table 9.5.1-1, BTP CMEB Guidelines 67-71, "Building Design," Westinghouse indicates that the AP600 is committed to compliance with the BTP CMEB 9.5-1. Guideline 71 states that, "Water drainage from areas that may contain radioactivity should be collected, sampled and analyzed before discharge to the environment." Westinghouse indicates that procedures and administrative controls governing the fire protection program during plant operation, are developed for specific plants and covered in the COL application.

Westinghouse is requested to provide the methodology in determining the floor drains sized to remove water flow without flooding safety-related equipment.

NRC will continue its review.

STATUS: ACTION N

323 M9.5.1-18 SECY-90-016 and SECY-93-087 indicate that ALWR designers hould ensure that smoke, hot gases, or the fire suppressant will not migrate to other fire areas to the extent they could adversely affect safe shutdown capabilities including operator action.

In Section 9A.3.1.1 of the SSAR, Westinghouse indicates that "Smoke and Hot gasses are removed from the fire area by portable exhaust fans and flexible ductwork." In other areas, Westinghouse smoke control features consists of fire dampers closing on high temperatures to control the spread of fire and combustion products. Smoke and hot gases are removed from the fire area by reopening the fire dampers after a fire. The nuclear island nonradioactive ventilation system is manually aligned to the smoke purge mode to exhaust smoke and hot gases to the atmosphere.

The 14th edition of the NFPA Handbook, Section 6, Chapter 8, "Confinement of Fire and Smoke in Buildings," indicates that one method of smoke control involves confinement and the use of physical barriers such as doors, walls or dampers. Although the physical barrier blocks the movement of smoke, no workable system have been devised that are able to confine smoke by means of physical barriers alone. An alternative to physical barrier confinement is the use of a pressure differential between the smoky atmosphere and the protected area. This pressurization, with or without simultaneous exhausting creates an effective barrier. The combination of pressurization with physical barriers seems to be the most practical method of protecting an area from the intrusion of any products of combustion.

Westinghouse is requested to describe in detail how smoke will be prevented from migrating to other fire areas such that hot gases will not adversely affect safe shutdown, including operator action, for all safe shutdown and safety related areas.

Westinghouse will modify the VBS to put fire/smoke dampers at the inlet and outlet of the safety-related areas. They will also describe the smoke control features between safety-related areas and between safety-related and nonsafety-related areas in Appendix 9A.

STATUS: ACTION W

324 M9.5.1-19 BTP CMEB 9.5-1 Section 5.f(1) states that

To facilitate manual fire fighting, separate smoke and heat vents should be provided in specific areas such as cable

spreading rooms, diesel fuel storage areas, switchgear rooms, and other areas where the potential exists for heavy smoke conditions.

In the SSAR, Westinghouse indicates in the Fire Protection Program Compliance with BTP CMEB 9.5-1 that, "No areas requiring separate smoke and heat vents are identified."

Westinghouse is requested to describe in detail, the method(s) used to remove smoke to facilitate manual fire fighting in areas such as the diesel storage areas, switchgear rooms, and other areas where the potential for heavy smoke conditions exists.

Westinghouse will investigate adding smoke vents to the diesel generator rooms to facilitate manual fire fighting. Westinghouse will establish a smoke removal path from the switchgear room using portable equipment and verify that the portable equipment will effectively remove smoke.

STATUS: ACTION W

325 M9.5.1-20 BTP CMEB 9.5-1, Section C.1.b(8) states that appropriate protection for inadvertent operation of fire suppression systems.

In Section 9.5.5 of the SSAR, Table 9.5.1-1, BTP CMEB Guidelines 17, "Fire Protection Analysis," Westinghouse indicates that the AP600 is in compliance with BTP 9.5-1 regarding protection for inadvertent operation of fire suppression systems.

Westinghouse is requested to describe, in detail, the protection provided regarding the inadvertent operation of fire protection systems.

This item will be addressed as part of the staff's review of GI-57.

STATUS: CLOSED

SECTION 10.3 - MAIN STEAM SUPPLY SYSTEM

364 M10.1-1. The staff finds that the term, "safety-related portion of the main steam supply system (MSSS)," is not well defined in the SSAR. Westinghouse responded in RAI Q410.249 explaining the meaning of the term without any SSAR revision. In addition, the staff finds the description in SSAR Section 10.3.3 about quality group classification is confusing. Westinghouse states in the response to RAI Q410.146 that the safety-related portions of the MSSS, and the main and

startup feedwater supply are included in the steam generator system of Table 3.2-3. Westinghouse has not revised SSAR description. The staff finds the response inadequate and SSAR description still confusing, and requires further discussion.

Westinghouse agreed to revise SAR and provide a copy of SAR marked-up pages before the end of the meeting.

STATUS: ACTION W

365 M10.3-2. The responses to RAI Q410.145 and Q410.253 were received after the DSER was prepared, and are under staff review. Open items and questions may be developed as a result of the review of those responses.

STATUS: PROPOSED

Q410.145: This issue is related to the resolution of LBB issue pending Westinghouse TS changes.

STATUS: ACTION W

Q410.253: The response is acceptable pending Westinghouse SSAR changes according to the response.

STATUS: RESOLVED

OVERALL STATUS: ACTION W

SECTION 10.4.1 - MAIN CONDENSER

366 M10.4.1-1. The response to RAI Q410.255 was received after the DSER was prepared, and is under staff review. Open items and questions may be developed as a result of the review of those responses.

Westinghouse stated that the second paragraph of the response should be in the SAR. The staff will review the adequacy of the SSAR on this issue.

STATUS: PROPOSED

SECTION 10.4.2 - MAIN CONDENSER EVACUATION SYSTEM

367 M10.4.2-1. WCAP-13054 states that RG 1.33 is not applicable to AP600 and that RG 1.123 has been withdrawn. However, the appli-

cant has not discussed the reasons that RG 1.33 is not applicable and what alternative quality assurance program would apply to the main condenser evacuation system in lieu of RG 1.123.

Westinghouse stated that RG 1.33 is not applicable because its for operation QA requirements. RG 1.123 has been withdrawn. The system will be designed according to AP-600 Class E instead of RG 1.123.

The staff stated that while RG 1.123 was withdrawn, RG 1.28, Revision 3 will be referred in the revised SRP in lieu of RG 1.123. Westinghouse questioned the applicability of RG 1.28, which is supposed to be used for safety-related system. The system is a non-safety system. The staff will review the adequacy of Class E QA.

STATUS: ACTION N

368 M10.4.2-2. The response to RAI Q410.257 was received after the DSER was prepared, and is under staff review. Open items and questions may be developed as a result of the review of those responses.

WCAP-13054 will be revised to reflect that RG 1.26 will not be met. The system is classified as Class E.

STATUS: ACTION W

SECTION 10.4.3 - TURBINE STEAM SEALING SYSTEM

369 M10.4.3-1. WCAP-13054 states that RG 1.33 is not applicable to AP600 and that RG 1.123 has been withdrawn. However, the applicant has not discussed the reasons that RG 1.33 is not applicable and what alternative quality assurance program would apply to the turbine steam sealing system in lieu of RG 1.123.

This item is similar to #367.

STATUS: ACTION N

370 M10.4.3-2. The responses to RAI Q410.258 and Q410.259 were received after the DSER was prepared, and are under staff review. Open items and questions may be developed as a result of the review of those responses.

Q410.258: This item is similar to #368 as related to RG 1.26. It requires action from both Westinghouse and NRC.

Q410.259: The staff indicated that the response of not having a system diagram and P&ID is not acceptable because it does not meet SRP 10.4.3 without good basis. Westinghouse will check it back and redetermine its position.

STATUS: ACTION W

SECTION 10.4.4 - TURBINE BYPASS SYSTEM

371 M10.4.4-1. Provide responses to RAI Q410.264, and incorporate responses to the SSAR as deemed appropriate.

Westinghouse has committed to revising SSAR Figure 10.3.2-2 to address the staff concern.

STATUS: RESOLVED

SECTION 10.4.5 - CIRCULATING WATER SYSTEM

1154 10.4.5-1 Westinghouse should add COL Action Item 10.4.5-1 to the SSAR.

The design description addressed in the response was found acceptable. Since the CWS is site dependent, this issue should be a COL item. Westinghouse agreed to add COL Item 10.4.5-1.

STATUS: RESOLVED

SECTION 10.4.7 - CONDENSATE AND FEEDWATER SYSTEMS

372 M10.4.7-1 Section 10.4.7 of the SSAR addresses the dynamic effects associated with possible fluid flow instability by having the feedwater system designed in accordance with the guidance contained in BTP (ASB) 10-2. However, the SSAR does not address the plant procedures for performing tests to verify that unacceptable feedwater hammer will not occur. Provide test procedures for testing feedwater hammer occurrence or make this a COL action item.

Westinghouse does not want to perform test to verify feedwater hammer occurrence and will provide justification for not to meet BTP (ASB) 10-2.

STATUS: ACTION W

5 RAI Q410.263 Branch Technical Position ASB 10-2 provides design guidance to meet GDC 4 on dynamic effects associated with possible water hammers in the feedwater piping. Specifically, the feedwater system should be designed to (1) prevent or delay water draining from the feeding following a drop in steam generator water level, (2) minimize the volume of feedwater piping external to the steam generator which could pocket steam using the shortest horizontal run (less than 7 feet), (3) perform tests acceptable to NRC to verify that unacceptable feedwater hammer will not occur and provide the procedures for these tests for approval, and (4) implement pipe refill flow limits where practical. Address the AP600 feedwater system design against these guidelines.

See response to Item 372 (M10.4.7-1)

STATUS: ACTION W

1162 10.4.7-1 Westinghouse should provide procedures for testing water hammer occurrence.

See response to Item 372 (M10.4.7-1)

STATUS: ACTION W

SECTION 10.4.9 - STARTUP FEEDWATER SYSTEM

373 M10.4.9-1 Section 10.4.9 of the SSAR states that in situations where startup feedwater is actuated, the flow control valves automatically control flow to each steam generator. However, the applicant did not address that the required initial flow will not result in plant damage due to water hammer. The applicant should address this issue in the SSAR.

Westinghouse will submit a written response to justify that initial flow control will not result in plant damage due to water hammer.

STATUS: ACTION W

1712 10.4.9-1 Westinghouse should incorporate the maintenance, surveillance, and inservice inspection and testing of the Startup Feedwater System in their maintenance and reliability assurance programs.

Westinghouse will revise SSAR Section 16.2 to incorporate a maintenance and reliability assurance program for the SFS. Westinghouse will send in a draft change shortly.

STATUS: ACTION W

1164 10.4.9-2 Westinghouse should address the issue of plant damage due to water hammer during startup.

See response to Item 373 (M10.4.9-1)

STATUS: ACTION W

XX RAI Q410.188 The justification for the startup feedwater system to meet RTNSS criteria was reviewed item by item in the meeting. All items are found acceptable except in:

Item e, Westinghouse needs to evaluate the AP600 Class D system requirements for SFS to compare with NRC regulations.

Item g, "the startup feedwater system does not have technical specification--".

Westinghouse will revise its response address Class D requirements and to clarify TS B.3.7.7 requirements.

STATUS: ACTION W

XX RAI Q410.189 The startup feedwater pump discharge isolation valve failure position will be addressed in SSAR Section 3.4.1. Westinghouse will add a new subsection to address this issue.

STATUS: ACTION W

XX RAI Q410.190 The check valve inside containment is not a containment isolation valve. Since the SFS is a closed system inside containment, one SFIV outside containment to meet GDC 57 is found acceptable.

STATUS: CLOSED

XX TS 3.7.7 Startup Feedwater Isolation and Control Valves - Westinghouse does not want to change the TS to address flow path instead of isolation valves. Westinghouse stated that isolation of the SFS is to mitigate MSLB which is safety related, the function of the SFS is nonsafety related that requires no TS. The staff concurred with the justification.

STATUS: CLOSED

SECTION 10.4.10 - AUXILIARY STEAM SYSTEM

374 M10.4.10-1. The response to RAI Q410.260 was received after the DSER was prepared, and is under staff review. Open items and questions may be developed as a result of the review of those responses.

The Westinghouse response refers to the information in the P&ID. The staff indicated that the information in the P&ID could not satisfy the need that the SSAR should have a brief description of the instrument. Westinghouse will revise the SSAR to address the staff concern.

STATUS: ACTION W

SECTION 11.5 - PROCESS AND EFFLUENT RADIOLOGICAL MONITORING AND SAMPLING SYSTEM

390 M11.5-1 The response to Q460.7 which deals with monitoring service water effluent is incomplete. Section 11.5 of the SSAR does not explain why the containment atmosphere particulate detector is non-seismic Category I and receives power from non-1E power supply. The staff also concludes that Table 3.2-3 of the SSAR does not include the radiation monitoring system (RMS) and the Sections 11.5.2.3.1 through 11.5.2.3.3 of the SSAR make incorrect references to SSAR figures. Since the subject SSAR table does include non-safety-related systems also, there is no justification for excluding the RMS from the subject table.

Westinghouse will revise SSAR to include service water effluent monitor.

STATUS: RESOLVED

At the 2/14 meeting on LBB, Westinghouse stated that the containment atmosphere particulate detector is Seismic Category I. A question was raised about the need for Class 1E power for this detector. Westinghouse will evaluate the need for Class 1E power.

STATUS: ACTION W

The staff will revisit the criteria for inclusion of non-safety components in Table 3.2-3.

STATUS: ACTION N

391 M11.5-2 The staff is concerned that the following are not included as part of sampling during normal plant operation:

- grab sampling provision for tritium activity in the effluent via the plant vent

Westinghouse will review SRP 11.5 Table 2, and provide provisions for grab sampling or justification for why not.

STATUS: ACTION W

- grab sampling and continuous sampling provisions for condenser air removal system effluent stream (provision of continuous monitoring capability for the stream is not equivalent to provision of continuous sampling capability for that stream)

Westinghouse will review SRP 11.5 Table 2, and provide provisions for grab sampling or justification for why not.

STATUS: ACTION W

- grab sampling provision for the turbine gland seal system exhaust

Westinghouse will review SRP 11.5 Table 2, and provide provisions for grab sampling or justification for why not.

STATUS: ACTION W

- grab sampling provisions for noble gas and tritium in the building ventilation and containment purge exhausts

Westinghouse will review SRP 11.5 Table 2, and provide provisions for grab sampling or justification for why not.

STATUS: ACTION W

- grab sampling provision for iodine activity in the containment purge exhaust

Westinghouse will review SRP 11.5 Table 2, and provide provisions for grab sampling or justification for why not.

STATUS: ACTION W

- non-inclusion of continuous sampling and analysis provisions for SWS effluent

Westinghouse will review SRP 11.5 Table 2, and provide provisions for grab sampling or justification for why not.

STATUS: ACTION W

- the purpose of sampling and analysis for component cooling water system, SWS effluent stream, SG blowdown stream, turbine building drains and waste water drains

Westinghouse will review SRP 11.5 Table 2, and provide provisions for grab sampling or justification for why not.

STATUS: ACTION W

- grab sampling, and analysis provisions for tritium activity for the above system, streams, and drains

Westinghouse will review SRP 11.5 Table 2, and provide provisions for grab sampling or justification for why not.

STATUS: ACTION W

- grab sampling and analysis provisions for spent fuel pool treated water

Westinghouse will review SRP 11.5 Table 2, and provide provisions for grab sampling or justification for why not.

STATUS: ACTION W

- grab sampling and analysis provisions for secondary resin slurry stream

Westinghouse will review SRP 11.5 Table 2, and provide provisions for grab sampling or justification for why not.

STATUS: ACTION W

- grab sampling and analysis provisions for secondary

Westinghouse will review SRP 11.5 Table 2, and provide provisions for grab sampling or justification for why not.

STATUS: ACTION W

- grab sampling and analysis provisions for tritium activity in the LWMS tanks, chemical waste tank, and primary spent resin tanks

Westinghouse will review SRP 11.5 Table 2, and provide provisions for grab sampling or justification for why not. Westinghouse will specifically include tritium.

STATUS: ACTION W

- continuous sampling provision for iodine in the containment purge exhaust

Westinghouse will review SRP 11.5 Table 2, and provide provisions for grab sampling or justification for why not.

STATUS: ACTION W

392 M11.5-3 The response to Q460.18 is unsatisfactory. Westinghouse should identify the need for demonstrating specific compliance of the radiological monitoring and sampling programs for the individual AP600 reactor with the guidelines of ANSI N13.1, RGs 1.21 and 4.15, as a COL action item.

Westinghouse will consider a single COL Action Item that will cover all radwaste issues.

STATUS: ACTION W

393 M11.5-4 The AP600 has only grab sampling and analysis provisions for iodine and particulates during and following an accident. The staff considers that a reasonable estimate of the iodine and particulate radioactive release via the plant vent to the environs due to an accident will not be possible without continuous sampling provision. Westinghouse should resolve this concern.

SSAR Section 11.5.2.3.3 states that they have a continuous sampling capability. The RAI (460.16) statement about a grab sample module was not meant to mean that only grab sampling capability was provided. Westinghouse will tie the discussions in 11.5.2.3 to 10 CFR 50.34(f). SSAR will be revised to state that the sample will be analyzed at an on-site laboratory IAW 10 CFR 50.34(f).

STATUS: RESOLVED