



Westinghouse  
Electric Corporation

Energy Systems

Box 355  
Pittsburgh Pennsylvania 15230-0355

DCP/NRC1159  
NSD-NRC-97-5462  
Docket No.: 52-003

December 1, 1997

Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

ATTENTION: T. R. QUAY

SUBJECT: CONTAINMENT SPRAY-RELATED FSER OPEN ITEMS

Dear Mr. Quay:

Attached are two responses for FSER Open Items related to the nonsafety-related containment spray. With this transmittal FSER Open Items: 650.11F (OITS #5973) and 480.1081F (OITS #6044) will be statused as Action N. The SSAR changes required for 650.11F were included in Revision 17.

Please contact D. A. Lindgren on (412-374-4856) if you have any questions.

Brian A. McIntyre, Manager  
Advanced Plant Safety and Licensing

jml

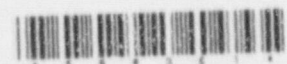
cc: J. M. Sebrosky, NRC (w/Attachment)  
W. C. Huffman, NRC (w/Attachment)  
N. J. Liparulo, Westinghouse (w/o Attachment)

E004/1

9712050294 971201  
PDR ADOCK 05200003  
A PDR

3512a wpf

050075



**650.11F, Issue C-10 Effective Operation of Containment Sprays in LOCA**

As discussed in NUREG-0933, Issue C-10 addressed the effectiveness of containment sprays to remove airborne radioactive material that could be present within the containment following a LOCA. This issue was expanded to include the possible damage to equipment located within the containment due to an inadvertent actuation of the sprays. This issue was resolved by SRP Section 6.5.2, "Containment Spray as a Fission Product Cleanup System," which references ANSI/ANS 56.5-1979, "PWR and BWR Containment Spray System Design Criteria."

In a May 28, 1993, letter, Westinghouse stated that the AP600 design does not include a containment spray system for removal of airborne radioactive materials in the containment. Section 15.6.5.3 of the SSAR provides the details of the accident source term and mitigation techniques for the AP600 design. Status: Since issuance of the DSER, Westinghouse has committed to provide containment spray capability for mitigation of beyond design-basis accidents. However, the design details have not been provided to the staff (Note: The design details have subsequently been provided by Westinghouse in draft form by letter NSD-NRC-97-5329, dated September 17, 1997). Therefore, this issue remains open until the design is submitted to the staff and the staff has the opportunity to evaluate the design.

**Response:**

The containment spray in the AP600 is provided to mitigate beyond design basis accidents. It is not credited in design basis safety analyses. Issue C-10 was revised in SSAR Revision 17, subsection 1.9.4.2.2 to note that the AP600 does not have a *safety-related* containment spray system. SSAR Revision 17 includes the SSAR changes identified in Letter DCP/NRC1039, dated September 17, 1997 to incorporate the nonsafety-related containment spray. Please note that the spray header shown on a separate sheet 4 of figure 9.5.1-1 in the markup was incorporated into sheet 3 of the SSAR figure.

Westinghouse actions on this item are complete.

**SSAR Revisions:**

NONE. The SSAR revisions were incorporated in SSAR Revision 17.



**480.1081F External pressure difference**

In order to maximize the external differential pressure across the containment shell, Westinghouse states that the worst case AP600 scenario is a loss of all AC power with an external temperature of -40 F and a wind speed of 48 mph. Because of the recent addition of a containment spray system to the AP600 design, the staff is uncertain if the Westinghouse bounding scenario is still valid. Westinghouse needs to address if inadvertent actuation of the containment spray system has been considered for the external pressure analysis.

**Response:**

The containment spray in the AP600 is provided to mitigate beyond design basis accidents. It is not credited in design basis safety analyses. Its use is not included in the emergency response guidelines.

As noted in SSAR subsection 6.5.2.1.4, the use of the containment spray requires the opening of two manual valves outside of containment and a remotely operated valve inside containment from the main control room or remote access workstation. Inadvertent actuation of the containment spray system is not credible. Inadvertent actuation of the containment spray system does not need to be considered for the external pressure analysis.

**SSAR Revision:** NONE