

August 21, 1997

Mr. Nicholas J. Liparulo, Manager
Nuclear Safety and Regulatory Analysis
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
P.O. Box 355
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SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION (RAI) ON THE AP600 CONTAINMENT
SCREENS AND STRAINERS

Dear Mr. Liparulo:

The Nuclear Regulatory Commission is still reviewing the potential for clogging of containment screens and strainers in the AP600. Westinghouse letter NSD-NRC-97-5194 dated June 18, 1997, addressed some of the staff's concerns. In a telephone conversation with Westinghouse on August 14, 1997, additional information was provided to the staff on how the containment screen and strainer clogging issues are mitigated by the AP600 design features and limitations on the use of fibrous insulation. However, the information provided by Westinghouse during the telecon is not documented. To support the staff's final safety evaluation report in this area, RAIs on the containment screens and strainers have been provided as an enclosure to this letter.

If you have any questions regarding this matter, you may contact Bill Huffman at (301) 415-1141.

Sincerely,

original signed by:

Theodore R. Quay, Director
Standardization Project Directorate
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Docket No. 52-003

Enclosure: As stated

cc w/encl: See next page

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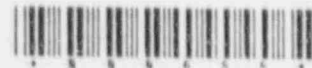
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Docket No. 52-003
AP600

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U.S. NUCLEAR REGULATORY COMMISSION
REQUESTS FOR ADDITIONAL INFORMATION ON
AP600 CONTAINMENT SCREENS AND STRAINERS

- 480.1078 Provide a description and drawing(s) of the flow path of the condensate on the containment wall (following a PRHR actuation or LOCA) as it returns to the IRWST. Include the valves which must close and the screen.
- 480.1079 Describe the basis for sizing the IRWST screens and recirculation screens.
- (a) Include a discussion of flow rates through the screens and approach velocities with and without the nonsafety RHR pumps available.
- (b) What type of debris are assumed to be present for the purpose of determining an acceptable head loss across the recirculation screens?
- In particular, what quantity of unqualified coatings, i.e., those which are not intended to remain attached to their substrate following a LOCA are present in containment? Such coatings may be applied to commercially purchased electrical equipment, motors, etc.
- Verify that no fibrous insulation or particulate insulation is used in any area of the containment that contains high energy lines or may be impacted by the discharge of high energy lines. If this is not possible, verify that the amount of fibrous or particulate insulation used in containment cannot adversely impact IRWST or recirculation flow during an accident.
- Information gathered while resolving the boiling water reactor (BWR) strainer blockage issue shows that a combination of fibrous material with particulates (e.g., paint chips, rust, etc.) can produce a much higher pressure drop than that due to the fibrous material alone. If fibrous material can reach the IRWST or recirculation screens, discuss how this effect is taken into account.
- (c) Even a well-conceived and thorough foreign material exclusion program may leave behind some material capable of blocking portions of the IRWST or recirculation screens. Has any allowance been included in the screen sizing for such material?
- 480.1080 The SSAR, Chapter 6, Section 6.3.2.2.8.5, states that the fourth stage of the automatic depressurization system discharges directly to the steam generator compartment. What target will this discharge impact? What and how much debris may be generated by this impact? Can this debris be transported to the recirculation screens? If so, what will be the effect?

Enclosure