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

May 18, 1994

Docket No. 52-003

Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Activities
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Dear Mr. Liparulo:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION ON THE AP600

As a result of its review of the June 1992, application for design certification of the AP600, the staff has determined that it needs additional information in order to complete its review. The additional information is needed in the areas of the main steam supply system (Q410.249-Q410.260)* and physical security (Q920.5). Enclosed are the staff's questions. Please respond to this request by June 30, 1994, to support the staff's review of the AP600 design.

You have requested that portions of the information submitted in the June 1992, application for design certification be exempt from mandatory public disclosure. While the staff has not completed its review of your request in accordance with the requirements of 10 CFR 2.790, that portion of the submitted information is being withheld from public disclosure pending the staff's final determination. The staff concludes that this request for additional information does not contain those portions of the information for which exemption is sought. However, the staff will withhold this letter from public disclosure for 30 calendar days from the date of this letter to allow Westinghouse the opportunity to verify the staff's conclusions. If, after that time, you do not request that all or portions of the information in the enclosures be withheld from public disclosure in accordance with 10 CFR 2.790, this letter will be placed in the NRC's Public Document Room.

*The numbers in parentheses designate the tracking numbers assigned to the questions.

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This request for additional information affects nine or fewer respondents, and therefore, is not subject to review by the Office of Management and Budget under P.L. 96-511.

If you have any questions regarding this matter, you can contact me at (301) 504-1120.

Sincerely,

(Original signed by)

Thomas J. Kenyon, Project Manager
Standardization Project Directorate
Associate Directorate for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure:
See next page

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Mr. Nicholas J. Liparulo
Westinghouse Electric Corporation

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AP600

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REQUEST FOR ADDITIONAL INFORMATION
ON THE WESTINGHOUSE AP600 DESIGN

MAIN STEAM SUPPLY SYSTEM

410.249 In Section 10.3 of the SSAR, the term "safety-related portion of the main steam supply system (MSSS)" is used often. Where is the term defined in the SSAR? Is it the portion that is designed to ASME Section III, Class 2 as defined in Paragraphs 1 and 2 of Section 10.3.1.1.B of the SSAR, or something else?

410.250 Will the safety-related portion of the MSSS meet the quality assurance requirements of Appendix B to 10 CFR Part 50 in accordance with Position C.4 of Section 10.3 of the SRP? If so, state this in the SSAR.

410.251 Most of the valve numbers, instrumentation numbers, and connecting diagram numbers identified in the main steam system, and condensate and feedwater system in P&ID Figures 10.3.2-1, 10.3.2-2, and 10.4.7-1 of the SSAR are not legible. Provide oversize drawings of the above figures.

410.252 Paragraph II.2 of Section 10.3 of the SRP states that the design of the MSSS is acceptable if the integrated design of the system meets GDC 4, with respect to the safety-related portions of the system being capable of withstanding the effects of external missiles, internally generated missiles, pipe whip, and jet impingement forces associated with pipe breaks, and Position C.1 of RG 1.115 as related to the protection of structures, systems, and components important to safety from the effects of turbine missiles. How does the AP600 MSSS design meet this guidance?

410.253 How is the main steam supply system designed to protect against water entrainment in accordance with Position 2 of Section 10.3 of the SRP?

410.254 WCAP-13054 indicates that the AP600 design meets the requirements of GDC 60 as related to Sections 10.4.1, 10.4.2, and 10.4.3 of the SRP. Section 10.4.1 of the SRP states that the design of the main condenser system is acceptable if the integrated design of the system meets the requirements of GDC 60 as related to failures in the design of the system which do not result in excessive releases of radioactivity to the environment. Sections 10.4.2 and 10.4.3 of the SRP state that the design of the main condenser evacuation system and turbine gland sealing system are acceptable if GDC 60 is satisfied as it relates to the main condenser evacuation and turbine gland sealing designs for the control of release of radioactive materials to the environment.

How is GDC 60 met by the AP600 design as related to the guidance in Sections 10.4.1, 10.4.2, and 10.4.3 of the SRP?

Enclosure

410.255 Section 10.4.1.2.1 of the SSAR states "refer to Table 10.3.5-1 for permissible cooling water inleakage and time of operation for maintaining the required condensate/feedwater quality." Describe how the information in this table provides the above information. Where is the permissible cooling water leakage? Where is the information of length of time that the condenser may operate with degraded conditions without affecting the condensate/feedwater quality for safe operation? Wha. are the definition of the action levels (1, 2, and 3) listed in Table 10.3.5-1? Also, provide information in the SSAR regarding the procedure to repair condensate leaks in accordance with Section 10.4.1 of RG 1.70.

410.256 Section 10.4.2.2.1 of the SSAR states that "no hydrogen buildup is anticipated in the main condenser as described in Subsection 10.4.1.2.1." The staff believes that the referenced subsection number should be 10.4.1.3 instead of 10.4.1.2.1, because the subject of hydrogen is not mentioned in Section 10.4.1.2.1. Section 10.4.1.3 indicates that no hydrogen buildup in the main condenser is anticipated. Is this correct?

410.257 WCAP-13054 indicates that the AP600 design meets the guidance in Regulatory Guide (RG) 1.26 as related to Section 10.4.2 of the SRP. Demonstrate how the AP600 design meets RG 1.26 regarding the quality group classification for the main condenser evacuation system.

410.258 WCAP-13054 indicates that the AP600 design meets the guidance in RG 1.26 as related to Section 10.4.3 of the SRP. However, the designed Quality Group E as stated in Section 10.4.3.2.1 of the SSAR does not meet RG 1.26, which recommends Quality Group D for the system. Address this issue, and correct the SSAR, as appropriate.

410.259 Section 10.4.3 of the SSAR does not provide a system flow diagram, a piping and instrument diagram, and a table for the design parameters of the system components. Provide the above information for the turbine steam sealing system.

410.260 Section 10.4.5 of the SSAR states that the auxiliary steam system is provided with the necessary controls and indicators for local or remote monitoring of the operation of the system. What are the "necessary controls and indicators"?

PHYSICAL SECURITY

920.5 The December 9, 1993, response to Q920.1 regarding submittal of the vulnerability analysis indicates that this analysis should be performed by the COL holder. The staff interprets Section 5.2.2.1 of Chapter 9 of the EPRI ALWR Requirements Document for passive plants to mean that the designer should perform an analysis to optimize system design with respect to radiological sabotage protection. Therefore, describe how the design process for the AP600 meets this guidance.