

June 27, 1997

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

SUBJECT: INTERNAL FIRE ANALYSIS RELATED TO THE AP600 REACTOR DESIGN

Dear Mr. Liparulo:

In a letter dated December 6, 1996, the Nuclear Regulatory Commission sent you a list of potential critical path issues in the design certification process for the AP600. One of the issues, Key Issue #12, involves the acceptability of Westinghouse's approach for fire protection. Based on its ongoing review of Chapter 57, Internal Fire Analysis, Revision 9, dated April 11, 1997, of the AP600 probabilistic risk assessment, the staff has determined that discrepancies exist between the AP600 fire protection configuration described in Appendix 9A of the AP600 standard safety analysis report (SSAR) and the fire protection configuration assessed in the Internal Fire Analysis. Enclosed are examples of discrepancies identified by the staff. The list is not intended to be a comprehensive list of all discrepancies contained in the analysis. The staff cannot expend additional resources on the review of the Internal Fire Analysis until Westinghouse revises the analysis and the SSAR, as appropriate, to reflect the actual AP600 fire protection design.

If the staff develops additional fire protection issues, it will discuss them with Westinghouse and will prepare additional technical positions, as needed. If you have any questions regarding this matter, you may contact Diane Jackson at (301) 415-8548.

Sincerely,

original signed by:

Marylee M. Slosson, Acting Director
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Docket No. 52-003

Enclosure: As stated

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Mr. Nicholas J. Liparulo
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Docket No. 52-003
AP600

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TECHNICAL POSITION
BY THE OFFICE OF NUCLEAR REACTOR REGULATION
FIRE PROTECTION ISSUES RELATED TO THE DESIGN OF
THE WESTINGHOUSE AP600 ADVANCED LIGHT WATER REACTOR

1.0 INTRODUCTION

Based on its review, the staff has determined that significant discrepancies exist in the AP600 fire protection configuration described in Appendix 9A of the AP600 standard safety analysis report (SSAR), Revision 11, dated February 28, 1997, and the fire protection configuration assessed in Chapter 57, Internal Fire Analysis, Revision 9, dated April 11, 1997, of the AP600 probabilistic risk assessment. Listed below are selected examples of the discrepancies identified by the staff during its review. The listing is not a comprehensive listing of all discrepancies contained in the analysis.

2.0 DISCREPANCIES

- 2.1 The Internal Fire Analysis, Table 57-2b, indicates that Fire Area 1240 AF 01, Non-1E Electrical Penetration Room is provided with pre-action sprinkler protection. Appendix 9A of the SSAR, Table 9A-3, identifies the Non-1E Penetration Room as Fire Area 1200 AF 04, with only smoke detection and hose stations provided. There is no fire area identified as 1240 AF 01 in Appendix 9A of the SSAR.
- 2.2 The Internal Fire Analysis, Table 57-2b, indicates that Fire Area 4031 AF 02, Containment Access Corridor, is provided with wet piping sprinkler protection. Appendix 9A of the SSAR, Fire Area 4031 AF 02, is identified as the area containing the non-class 1E batteries and battery charging equipment. The fire protection provided in this area consists of fire detectors, hose stations, and portable fire extinguishers. The access corridor is identified in Appendix 9A as being located in Fire Area 4031 AF 05, and is provided with fire detectors, hose stations, and portable fire extinguishers.
- 2.3 The Internal Fire Analysis indicates that Fire Area 1202 AF 05, is the Division C electrical equipment room. Appendix 9A of the SSAR indicates that the Division C electrical equipment room is Fire Area 1202 AF 03. Appendix 9A indicates that Fire Area 1202 AF 05 is a stairwell.

3.0 TECHNICAL POSITION

The applicant should revise the Internal Fire Analysis and the SSAR, as appropriate, to reflect the actual fire protection design of the AP600 and resubmit it for staff review.

Enclosure

DISTRIBUTION: Letter to Mr. Nicholas J. Liparulo, Dated: June 27, 1997

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