SAFETY EVALUATION REPORT
SUSCEPTIBILITY OF SAFETY-RELATED SYSTEMS TO FLOODING FROM FAILURE OF NON-CATEGORY I SYSTEMS FOR SURRY POWER STATION UNITS 1 AND 2

INTRODUCTION

By letter to the Virginia Electric and Power Company (VEPCO) dated September 26, 1972, the Nuclear Regulatory Commission (NRC) requested a review of nuclear generating plants to determine whether the failure of any non-category I (seismic) system could result in a condition, such as flooding, that might adversely affect the performance of safety-related equipment. By letter dated October 26, 1972, and subsequent letters (see References in enclosure), the Virginia Electric and Power Company submitted the additional information requested by the NRC as well as descriptions of various plant changes implemented to mitigate the effects of failure of non-Category I systems on safety-related equipment.

A continuing review of potential sources and consequences of flooding at Surry Units 1 and 2 was conducted by the VEPCO between 1972 and 1975. Initially, at the request of NRC in September 1972, the VEPCO reviewed several water systems as sources of flooding. Following the issuance of more descriptive guidelines for review of flooding from failure of non-Category I systems in December 1974, the facilities were again reviewed on a broader bases. The potential sources of flooding were described; and safety-related equipment which could be damaged by flooding were identified, and measures taken to minimize the effects of flooding and to protect safety-related equipment were reviewed.

EVALUATION AND CONCLUSION

The enclosed technical evaluation was prepared for us by Lawrence Livermore National Laboratory as part of our technical assistance program.

The consultant has reviewed the VEPCO submittals for Surry Units 1 and 2 to determine if postulated failures of non-Category I (seismic) components could adversely affect the operability of safety-related equipment. The consultant's findings, with which we agree, indicate a degree of vulnerability of some safety-related equipment due to postulated flooding from some non-Category I (seismic) sources. To minimize this vulnerability, the licensee has performed modifications in the form of installing 24 inch high dikes, installing water level switches/alarms, installing flow directing pipe sleeves, and has instituted operating procedures to provide assurance of proper operator action in the event of flooding.

Based on our review of the consultant's technical evaluation, we conclude that the added protective measures, in conjunction with existing design features, satisfy the guidelines for the protection for safety-related equipment from flooding as a consequence of failure of non-Category I (seismic) sources and, is therefore, acceptable.

ENVIRONMENTAL CONSIDERATIONS

We have determined that this action does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the action is insignificant from the standpoint of environmental impact and pursuant to 10 CFR 51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with this action.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the action does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the action does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and this action will not be inimical to the common defense and security or to the health and safety of the public.

Date: DECEMBER 18 1980