

## SAFETY EVALUATION REPORT

SUSCEPTIBILITY OF SAFETY-RELATED  
SYSTEMS TO FLOODING FROM FAILURE OF  
NON-CATEGORY 1 SYSTEMS FOR  
MAINE YANKEE ATOMIC POWER STATIONI. INTRODUCTION

By letter to the Maine Yankee Atomic Power Company (MYAPCO) dated September 27, 1972, we requested MYAPCO to review the Maine Yankee Atomic Power Station to determine whether the failure of any non-Class 1 (seismic) equipment could result in a condition such as flooding that might adversely affect the safe shutdown of the facility.

By letter to us dated October 20, 1972, MYAPCO responded to the original NRC request, furnishing information on postulated failure of the service water pumps and the circulating water pumps.

On June 7, 1973, MYAPCO submitted additional detailed information to us which was the result of an extensive study conducted on the effects of piping failure external to the Containment Building. Proposed modifications to the system as outlined in this letter were not acceptable to us.

Revised modification designs were outlined by MYAPCO in their letter to us dated October 19, 1973.

We transmitted to MYAPCO on December 17, 1974, a set of Guidelines for Protection from Flooding of Equipment Important to Safety. These guidelines expanded on the scope of MYAPCO's original study and required further study of the flooding problem by MYAPCO.

MYAPCO responded to our Guidelines by letter reports dated January 23, 1975 and February 19, 1975.

The various sources of potential flooding identified by MYAPCO and the affected safety-related equipment are discussed in the enclosed consultant's report.

II. EVALUATION

The enclosed technical evaluation report was prepared for us by our consultant, the Lawrence Livermore National Laboratory, as part of the Selected Operating Reactors Issues Program, FIN A0250.

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### III. CONCLUSIONS

The consultant has reviewed the licensee's submittals for Maine Yankee to determine if postulated failures of non-Category 1 (seismic) components could adversely affect the operability of safety-related equipment.

We conclude that the licensee has demonstrated in their analysis that the Maine Yankee Atomic Power Station, excluding the Turbine Building, has the capacity and capability to manage and mitigate any single incident, such as flooding from a non-Class 1 system component or pipe, so that flooding will not prevent the safe shutdown of the plant and, is therefore, acceptable.

The licensee has further shown in the analysis for those areas addressed, that no single failure would result in common mode failure of redundant safety-related equipment.

We recommend that the licensee be required to submit an analysis of flooding of safety-related equipment in the Turbine Building resulting from failure of the circulating water piping or expansion joint in this area. The receipt of this analysis is required to enable us to complete the evaluation for flooding of safety-related equipment/systems at the Maine Yankee Atomic Power Station.