



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATING TO AMENDMENT NO. 87 TO FACILITY OPERATING LICENSE NO. DPR-36

MAINE YANKEE ATOMIC POWER COMPANY

MAINE YANKEE ATOMIC POWER STATION

DOCKET NO. 50-309

The purpose of this safety evaluation is to resolve the concern regarding the surveillance frequency interval for the Maine Yankee emergency feedwater system automatic initiation logic (TMI Action Plan Item II.E.1.2, part 1). By letter dated May 14, 1985, we provided Maine Yankee Atomic Power Company (the licensee) with our position regarding the surveillance frequency for the subject automatic initiation logic. In part, we stated that each channel of the automatic initiation logic should be tested every 62 days on a staggered basis (consistent with Standard Technical Specification requirements) unless the licensee provides an analysis which demonstrates that an acceptable level of system reliability would be obtained by less frequent (refueling outage) testing.

The licensee responded to this position in a letter dated June 7, 1985 from E. G. Whittier to James R. Miller by stating that the emergency feedwater system automatic equipment was not designed to be tested while the plant is at power, and to provide this capability, a modification to the design of the system would be required. Furthermore, the licensee determined that such a modification would constitute a backfit as described by part 50.109 of the Commission's regulations.

Evaluation

Clearly the requirement for testing during power operation had been established through design discussions within NUREG-0737 and IEEE 279-1971 for the emergency feedwater system automatic initiation and flow indication. NUREG-0737, "Clarification of TMI Action Plan Requirements," item II.E.1.2 states in part that testability of the initiating signals and circuits shall be a feature of the design and, furthermore, that the intent of this recommendation is to assure a reliable automatic initiation system. This objective can be met by providing a system which meets all the requirements of IEEE Standard 279-1971. IEEE 279-1971 paragraph 4.10 states "Capability shall be provided for testing and calibrating channels and the devices used to derive the final system output signal from the various channel signals. For those parts of the system where the required interval between testing will be less than the normal time interval between generating station shutdowns, there shall be capability for testing during power operation."

It was apparent after reviewing the licensee's June 7, 1985 submittal that since the at power test capability would require a design change, the licensee preferred the alternate method of meeting our position. The alternate method of meeting our position (stated above) was that a lengthened test interval was acceptable provided that an acceptable level of system reliability was maintained. The licensee believed that adequate justification had been provided to support the lengthened test frequency. However, the staff concluded that the analysis presented by the licensee provided acceptable, but incomplete, justification. Before the staff could make a final determination of the test interval acceptability for the automatic initiation logic, we required the following additional information:

- (1) Identify the analysis used that justifies the 13 minute delay before the emergency feedwater system is required for the worst case design base accident scenario.
- (2) Identify the method(s) by which the operator is made aware that the automatic initiation logic for the emergency feedwater system has failed.
- (3) Identify the operational procedures required to manually initiate the emergency feedwater system and, in addition, discuss how these procedures can be performed within the 13 minute delay interval while allowing an acceptable margin for unplanned occurrences.

In a letter dated June 27, 1985 the licensee provided the additional information requested above. The staff has reviewed this information and has concluded that the licensee's analysis has demonstrated that an acceptable level of system reliability (i.e., manual as an acceptable alternative to automatic initiation) is present in the emergency feedwater initiation design without incorporating the 62-day staggered surveillance interval into the technical specifications. By letter dated December 13, 1985, the licensee submitted formal Technical Specification changes requiring monthly operability testing of the turbine driven auxiliary feedwater pump. We have reviewed these Technical Specification changes and have found them acceptable. Therefore, this concern is resolved.

Environmental Conclusion

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or changes a surveillance or testing requirement. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: March 4, 1986

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