



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 105

TO FACILITY OPERATING LICENSE NO. DPR-28

VERMONT YANKEE NUCLEAR POWER CORPORATION

VERMONT YANKEE NUCLEAR POWER STATION

DOCKET NO. 50-271

1.0 INTRODUCTION

By letter dated December 9, 1987 (W. F. Murphy, VYNPC, to T. Murley, USNRC, FVY 87-117) the Vermont Yankee Nuclear Power Corporation (the licensee) proposed changes to Appendix A of the operating license for the Vermont Yankee Nuclear Power Station dealing with the addition of equipment to the Automatic Depressurization System (ADS) and associated Technical Specifications. The modifications were described and committed to by the licensee in a VYNPC letter dated October 31, 1986. Specifically, the changes included identification of the additional instrumentation in the TS Table 3.2.1 (Emergency Core Cooling System Actuation Instrumentation). The staff has reviewed the submittal and has prepared the following evaluation.

2.0 EVALUATION

2.1 Conformance to Requirements of NUREG-0737, Item II.K.3.18

The revised Technical Specification changes reflect the addition of a bypass timer and a manual inhibit switch to the ADS/low pressure ECCS pump logic. The modifications were made in response to NUREG-0737, Item II.K.3.18 "ADS Logic Modification" and were identified as one of the approved options in the NRC evaluation of the BWR Owners' Group generic response to the subject NUREG-0737 item. The staff safety evaluation was provided to the licensee by NRC letter dated June 3, 1983. The staff safety evaluation stated that the time delay associated with the manual inhibit switch must be justified by analysis and the facility Technical Specifications must be modified to require testing of the timer. The licensee's submittal included discussion of both of these requirements.

The bypass timer setting of eight minutes selected by the licensee is based on avoidance of excessive fuel cladding heatup predicted by analyses using 10 CFR Part 50, Appendix K, Loss of Coolant Accident evaluation models and a demonstration that adequate core cooling is assured for limiting isolation events when the ADS blowdown is delayed 10 minutes after the reactor pressure vessel water level decreases to a low-low level setpoint for a sustained period. The eight minute bypass timer delay is the minimum time interval assumed in generic analyses supporting the proposed modification and has been found acceptable on other applications and is acceptable for Vermont Yankee.

The staff safety evaluation transmitted to the licensee on June 3, 1983 included a requirement for a surveillance test of the bypass timer. The proposed TS revision addresses this requirement and is acceptable.

2.2 Technical Specification Changes

The Vermont Yankee Technical Specification changes resulting from the accepted proposal are as follows:

- 1) Table 3.2.1, page 39: The Table identifying Emergency Core Cooling Actuation Instrumentation has been revised to add the bypass timer data associated with the ADS inhibit switches.
- 2) Table 4.2.1, page 53 and Table 4.2 NOTES, page 61: The Tables identifying the testing and surveillance requirements for the Automatic Depressurization System trip system logic have been revised to include new requirements associated with the approved modifications.
- 3) BASFC Sections 3.2/4.2, pages 65 and 67: The BASES sections associated with protective instrumentation are amended to include a discussion of the approved modifications.

The replacement pages identified in the licensee's request are consistent with the supporting analysis and are therefore acceptable as proposed.

The staff has reviewed the basis material provided by the licensee for the proposed TS changes to accommodate the ADS modifications to Vermont Yankee Nuclear Power Plant in response to NUREG-0737, Item II.K.3.18 "ADS Logic Modification." Based on the results of our review discussed in Section 2.0 of this SER, we conclude that the proposed Technical Specification changes are consistent with the design changes and are acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.32, an environmental assessment related to this amendment has been published (53 FR 29402) in the Federal Register on August 4, 1988. The Commission has determined that the issuance of this amendment will not have a significant effect on the quality of the human environment.

4.0 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: August 4, 1988