



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 85 TO FACILITY OPERATING LICENSE NO. DPR-28

VERMONT YANKEE NUCLEAR POWER CORPORATION

VERMONT YANKEE NUCLEAR POWER STATION

DOCKET NO. 50-271

1.0 Introduction

The Vermont Yankee Nuclear Power Corporation (VYNPC/the licensee), by letter dated February 7, 1984 proposed a modification to the Technical Specifications. The modification would involve the removal of the automatic transfer of high pressure coolant injection (HPCI) suction, on high torus water level, from the condensate storage tank (CST) to the torus. The request for removal of the automatic transfer is based on the licensee's review of the Browns Ferry report on Station Blackout (NUREG/CR-2182). This report reveals that elevated suppression pool water temperatures during that event can damage the HPCI pumps which use the water pumped from the pool for cooling the lubricating oil of the HPCI pump turbines.

Following a station blackout event, the combination of remote-manual operation of the primary relief valves to control primary pressure and the loss of suppression pool cooling would result in suppression pool temperature of about 160°F after about three hours. At that time the suppression pool level would have increased enough to cause the HPCI pump suction to automatically transfer from the CST to the torus. The temperature limit for an effective lubricating oil cooling of the HPCI turbine is 140°F. Therefore, exceeding this temperature limit could threaten the viability of the HPCI system.

2.0 Evaluation

The licensee, by letter dated May 18, 1984, in response to the staff's request for additional information dated April 12, 1984, indicated that no safety study, accident analyses, procedure, or any other requirement has been identified which requires auto-transfer of HPCI suction as a safety function, or even as necessary for any particular event sequence. It appears that the auto-transfer was put in as an operator aid.

The staff has considered various accident sequences and has not identified a safety requirement to retain automatic transfers of HPCI suction on high torus water level. If the auto transfer on high water level remains functional and the pumps are required to pump water which is 160°F it could render the HPCI system inoperable at a time when the system is needed for plant safety. The auto transfer on low CST water level will still be

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operable. After removal of the auto-transfer, the manual transfer capability will still exist as will the high level alarm to alert the operator of the high level.

### 3.0 Summary

Based on the licensee's submittals we have concluded that removal of the automatic transfer of HPCI suction from the CST to the torus will not cause unacceptable consequences on the torus as a result of high water level and there is adequate time for manual transfer if deemed necessary by the operator. Thus we conclude that the proposed Technical Specification change, to delete limiting conditions for operation and surveillance requirements pertaining to the HPCI automatic suction transfer is acceptable.

### 4.0 Environmental Considerations

This amendment involves changes in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. 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.

### 5.0 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: January 23, 1985