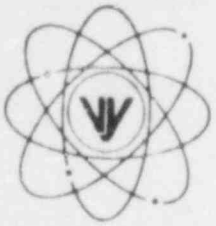
VERMONT YANKEE
NUCLEAR POWER CORPORATION

Proposed Change No. 109



RD 5, Box 169, Ferry Road, Brattleboro, VT 05301

REPLY TO:
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FRAMINGHAM, MASSACHUSETTS 01701
TELEPHONE 617-872-8100

February 7, 1984
FVY 84-7

United States Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Office of Nuclear Reactor Regulation
Mr. D. G. Eisenhut, Director
Division of Licensing

References: (a) License No. DPR-28 (Docket No. 50-271)
(b) NUREG/CR-2182, Vol. I - Station Blackout at Brown's Ferry Unit One - Accident Sequence Analysis
(c) GEK 9613 - HPCI System for Vermont Yankee

Subject: Request for License Amendment - HPCI Automatic Suction Transfer

Dear Sir:

Pursuant to Section 50.59 of the Commission's Rules and Regulations, Vermont Yankee Nuclear Power Corporation hereby proposes the following modification to Appendix A of the Operating License:

Proposed Change

This change involves a revision of Pages 38 and 52 of the Vermont Yankee Technical Specifications. Tables 3.2.1 and 4.2.1 have been revised to reflect the deletion of the HPCI Automatic Suction Transfer on high torus water level. The proposed changes to the Technical Specifications are being supplied as an attachment to this letter.

Reason and Basis for Change

This Technical Specification change is being requested so that the HPCI Automatic Suction Transfer on high torus water level can be eliminated. The elimination of this transfer function is being prompted by an evaluation performed as a result of the questions raised in Reference (b).

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Safety Consideration

The "Station Blackout at Brown's Ferry Unit One - Accident Sequence Analysis" [Reference (b)] has raised a question concerning the desirability of an automatic shift in HPCI pump suction on high suppression pool water level. The basis for this concern is the possibility that following a station blackout, the combination of remote-manual operation of the primary relief valves to control primary pressure and the loss of suppression pool cooling will result in suppression pool temperature of about 160°F after about three (3) hours. By this time, the suppression pool level would have increased enough to cause the HPCI pump suction to automatically transfer from the Condensate Storage Tank (CST) to the torus. The temperature limit for the fluid being pumped by the HPCI System is 140°F since the lubricating oil for the HPCI turbine is cooled by the water being pumped. This situation could threaten the viability of the HPCI System at a time when its use is vital to plant safety.

Further evaluations have disclosed that this problem is also a concern for other accidents which would cause a high torus water temperature. Technical Specifications for suppression pool level are based upon design considerations associated with worst case LOCA blowdown. The basis for the maximum suppression pool level is to limit the stress to the torus due to the blowdown of the vessel to the torus and the fact that there must be sufficient free air space available in the case of a blowdown. Control of suppression pool level is not a function of the HPCI System.

The HPCI System is designed for a small diameter line break, and as such, it would not be depressurizing rapidly into the torus. Therefore, this high limit for suppression pool level does not apply for the accident where the HPCI System is required to function. It should be noted that although the HPCI System is safety class, the automatic transfer of HPCI suction to the torus for high suppression pool level is non-nuclear safety related. In addition, the design basis of the plant does not require protection against a Design Basis Accident (DBA) following a small or intermediate break LOCA.

Finally, all alarms off of the HPCI System are being maintained to alert the operator that a high suppression pool level condition is being approached and to allow him to evaluate whether manual transfer of the HPCI suction to the torus is appropriate.

Based on the above and the fact that there is a separate provision made for HPCI Automatic Suction Transfer on CST low water level, the removal of the HPCI Automatic Suction Transfer on high torus water level will have no adverse affect on any plant safety system. Therefore, this change does not involve an unreviewed safety question as defined in 10CFR50.59(a)(2).

This change has been reviewed by the Vermont Yankee Nuclear Safety and Audit Review Committee.

Significant Hazards Consideration

The Commission has provided guidance concerning the application of standards for determining whether a significant hazards consideration exists by providing certain examples [48FR14370]. One of these examples (vi) of actions which involve no significant hazards consideration is a change which either may result in some increase to the probability or consequences of a previously analyzed accident, or may in some way reduce a margin of safety, but where the results of the change are clearly within all acceptable criteria.

As discussed above, control of suppression pool level is not a function of the HPCI System and automatic transfer of the HPCI suction to the suppression pool is non-nuclear safety-related. In addition, we have concluded as a result of our consideration of the Station Blackout at Brown's Ferry [Reference (b)], that the HPCI Automatic Transfer feature may actually threaten HPCI System operability at a time when the system is vital to plant safety.

Therefore, we have concluded that this change is within all acceptable criteria for HPCI System operability and does not constitute a significant hazards consideration as defined in 10CFR50.92(c).

Fee Determination

This proposed change requires an approval that does not involve a safety issue and is deemed not to involve a significant hazards consideration. For these reasons, Vermont Yankee Nuclear Power Corporation proposes this change as a Class III amendment. A payment of $4,000.00 is enclosed.

Schedule of Change

This proposed change is scheduled to be implemented during our 1984 refueling outage, scheduled to commence in June 1984. Your approval of this proposed change is requested by the end of May 1984.

This change will be incorporated our Technical Specifications as soon as practicable following receipt of your approval.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

L. H. Heider
Vice President

JBS/gmd

Enclosure

cc: Vermont Department of Public Services
120 State Street
Montpelier, VT 05602
Attn: Mr. Richard Saudek, Chairman

COMMONWEALTH OF MASSACHUSETTS)
)ss
MIDDLESEX COUNTY)

Then personally appeared before me, L. H. Heider, who, being duly sworn, did state that he is a Vice President of Vermont Yankee Nuclear Power Corporation, that he is duly authorized to execute and file the foregoing document in the name and on the behalf of Vermont Yankee Nuclear Power Corporation and that the statements therein are true to the best of his knowledge and belief.

J. B. Sinclair Notary Public
My Commission Expires June 1, 1984

JAMES B. SINCLAIR NOTARY PUBLIC COMMONWEALTH OF MASSACHUSETTS