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Regulatory File Cy.

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NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

July 27, 1972

Mr A Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
United States Atomic Energy Commission
Washington, D.C. 20545

Dear Mr Giambusso:

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Reporting of High Pressure Coolant
Injection System Failure

A condition occurred at the Monticello Nuclear Generating Plant recently which we are reporting to your office in accordance with provisions of Section 6.6.B.2 of Appendix A, Technical Specifications, of the Provisional Operating License DPR-22. The Region III Compliance Office has been notified of the occurrence.

During quarterly flow rate surveillance testing of the HPCI system on July 17, 1972 the rupture discs on the HPCI turbine exhaust line to the suppression chamber ruptured on overpressurization. The HPCI system was declared inoperable and the other ECCS systems and the RCIC systems were tested as required by Technical Specification 4.5.D.2.

Investigation showed no measurable activity release from the Reactor Building Ventilation Exhaust.

Direct cause of the high exhaust pressure was determined to be failure of stop check valve HPCI-10, which is located in the HPCI turbine exhaust line immediately upstream of the suppression chamber. This valve was open for inspection during a subsequent outage which commenced July 21, 1972. The valve disc pin had failed allowing the disc to separate from the valve hinge. The disc was lodged in the outlet portion of the valve body restricting the flow path.

A modified disc pin has been installed in accordance with the valve manufacturers recommendation. The new disc pin has a one inch diameter section for threaded attachment to the hinge compared to 3/4 inch diameter threads on the original disc pin. Disc and ring seating surfaces were repaired and the valve reassembled. A valve leakage test will be conducted prior to plant startup.

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Pressure switches on the HPCI turbine exhaust line are designed to initiate an alarm and turbine trip at 150 psig turbine back pressure in the exhaust line. Design burst pressure for the rupture disc pressure relief is 175 psig. High steam flow isolation of the HPCI steam supply did occur. A HPCI turbine trip occurred, but the high exhaust pressure alarm was not recorded.

Pressure switches and associated alarm and HPCI turbine trip circuitry were examined. The circuitry was found to be operable and pressure switches properly calibrated. The pressure switch sensing lines are provided with snubbers. In the rapid exhaust pressure rise which is believed to have occurred in this event, it is conceivable that the rupture disc could have relieved before the pressure switches could be actuated and HPCI turbine trip may have been initiated by overspeed trip. The sensing line snubbers will be examined and measurements made to determine whether less restrictive snubbers can be used which will still accommodate the surges related to normal HPCI system operation.

Steam issuing from the rupture disc impinged directly onto four of the temperature switches for the HPCI steam leakage detection system. The steam caused sufficient mechanical damage to the system wiring, to render three temperature switches inoperable. The box that houses the temperature switch wiring has been modified using heavier gauge material.

During the startup following the July 21st outage, surveillance testing on the HPCI system will be performed. The Operations Committee will review the results of the tests to determine HPCI operability.

An Abnormal Occurrence Report will be available at the site for the Regulatory Operations inspectors.

Yours very truly,

L. O. Mayer

L O Mayer, P.E.
Director of Nuclear Support Services

LOM/ma

cc: B H Grier