Northern States Power Company

414 Nicollet Mall
Minneapolis, Minnesota 55401-1927
Telephone (612) 330-5500

February 23, 1994

Technical Specification
3.13.G.2

US Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

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

Special Report
Inoperable Penetration Fire Barrier

This special report is being submitted per Technical Specification 3.13.G.2. Technical Specification 3.13.G.2 requires that "If Specification 3.13.G.1 cannot be met, ... verify the operability of fire detectors on at least one side of the non-functional fire barrier and establish an hourly fire watch patrol. Restore the inoperable penetration fire barriers to Operable status within 14 days or submit a special report to the Commission within 30 days outlining the cause of the inoperability and the plans and schedule for restoring the barriers to Operable status".

BACKGROUND

At 1450 on 26 January 1994, fire door 105, the fire barrier penetration seal between access control and the turbine building, was declared inoperable due to inability to close properly. The limiting condition for operation of Technical Specification 3.13.G.2 was entered. At 1720 on 26 January 1994 this door was blocked open to prevent additional damage to the door and frame.

CAUSE

A higher than normal differential pressure existed between the plant administration building, where access control is located, and the turbine building. This was measured at approximately 0.5 inches Water Column vacuum differential pressure in the turbine building with respect to the administration building. This differential pressure caused excessive forces to act on the door and closer each time the door was cycled open and shut. This excessive force degraded the closer and eventually caused the door upper hinge to begin to separate from the internal door frame. The upper hinge degradation resulted in the door impacting the external doorway frame at the upper corner opposite the hinge each time it was cycled, resulting in rapid progressive damage to the door and frame once the problem got to this point.

IE22 1/0

The cause of the high differential pressure has been investigated extensively. It is believed to a combination of several factors:

a. Each year in the autumn, the plant shifts the normal ventilation lineup to prepare for winter. The winter lineup results in one normal ventilation unit in the turbine building being turned off, which results in less outside make up air being supplied to the building. The normal ventilation exhaust from the turbine building is unaffected.

b. The preheat coils on the turbine building multizone ventilation unit closest to door 105 were found significantly clogged. This resulted in this unit being unable to bring in enough outside air.

This abnormal ventilation lineup resulted in a relatively high vacuum in the turbine building, which caused the accelerated door failure.

PLANS AND SCHEDULE

Fire door 105, including its associated frame, was replaced with a new, equivalent door. This work was completed on February 14, 1994. Delays above the 14 days of the applicable Limiting Condition for Operation were due to the time requirements to receive a replacement door. A three hour rated fire door is not a stock item even at the vendor or manufacturer, so approximately two weeks are required for final assembly and procurement. A spare door is now available at the Monticello site which should prevent similar occurrences in the future.

The preheat coils for the turbine building ventilation unit were removed and cleaned. Differential pressure between the administration building and the turbine building was measured at approximately 0.1 inches water column, a normal reading. Qualitatively, the differential pressure through the door was reduced to normal operating levels.

Monticello has an ongoing program to review and improve ventilation issues on an as needed basis. These efforts should prevent a similar differential pressure problem in the future.

The fire barrier penetration seal in question, door 105, has been restored to operable status and the cause of the failure has been corrected.

This letter contains no new NRC commitments, nor does it modify any prior commitments.

Please contact Marv Engen, Sr Licensing Engineer, at (612) 295-1291 if you require further information.

Roger O. Anderson

Roger O Anderson
Director
Licensing and Management Issues

c: Regional Administrator - III, NRC
NRR Project Manager, NRC
Sr Resident Inspector, NRC
State of Minnesota
Attn: Kris Sanda
J Silberg