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Office of Nuclear Reactor Regulation

SUBJECT: Responds to NRC 800110 ltr requesting update of control rod drive sys malfunctions through 1979.Two drives stopped at 02 during 1978 & 1979.Caused by stop piston seal leakage.Drives rebuilt & removed during fuel outages.

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NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

April 9, 1980

Director of Nuclear Reactor Regulation
U S Nuclear Regulatory Commission
Washington, DC 20555

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

Information on CRDM Malfunctions

The following is submitted in response to Mr Ippolito's letter of January 10, 1980, which requested additional information concerning malfunctions of the control rod drive system from the date of our last reported occurrence through 1979.

During 1978 and 1979 only two drives stopped at position 02 during scrams at Monticello. One drive did so during the last two of eight scrams during 1978 (Cycle 6). The other drive stopped at position 02 during four of the six scrams occurring in 1979 (Cycle 7). Both drives consistently exhibited the highest stall flows of the 121 drives during the respective cycles. Therefore, it can be concluded that the failure to fully insert was directly attributed to stop piston seal leakage. The hydraulic lock caused by this seal leakage has been discussed in a letter from L O Mayer to A Giambusso, Deputy Director for Reactor Projects, USAEC, dated June 19, 1972 and in our letter to you dated September 15, 1978. This deficiency can be rectified by removing and rebuilding the drives during refueling outages. This was done at the end of the respective cycles and subsequent scrams resulted in these drives and all the others to fully insert.

Your letter also requests that we provide a summary of other control rod drive malfunctions, such as unlatchings, for the same time period. Monticello has never experienced a rod-to-drive unlatching during any phase of operation. During scram testing prior to startup of Cycle 7 one drive exhibited a slow scram time. This drive, one of twenty drives changed-out during the outage, took about twice the time the average drive takes to scram to position 00. The drive was removed from the vessel and replaced with a spare. The spare scrammed with satisfactory results. Subsequent inspection of the drive did not reveal any causes for the slow scram time. The drive was rebuilt and put in spares.

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Monticello has experienced no other control rod drive system malfunctions during the time period in question. Normal drive seal degradation and other minor deficiencies are corrected during scheduled refueling outage maintenance.

L O Mayer, PE
Manager of Nuclear Support Services

LOM/JAG/jh

cc J G Keppler
G Charnoff