U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-263/84-01(DPRP)

Docket No. 50-263 License No. DPR-22

Licensee: Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401

Facility Name: Monticello Nuclear Generating Station

Inspection At: Monticello Site, Monticello, MN

Inspection Conducted: January 11 through February 1, 1984

Inspectors: W. J. Gunther for C. H. Brown — 2-21-84 Date

W. J. Gunther for J. A. Grobe — 2-21-84 Date

W. J. Gunther for C. D. Evans — 2-21-84 Date

Approved By: W. J. Gunther for R. D. Walker, Chief
Reactor Projects Section 2C — 2-21-84 Date

Inspection Summary

Inspection on January 11 - February 1, 1984 (Report No. 50-263/84-01(DPRP))
Areas Inspected: A routine, unannounced inspection by the resident inspector of operational safety; Licensee Event Reports; IE Bulletins; IE Circulars; preparation for refueling; onsite review committee; and procedures. The inspection involved a total of 189 inspector-hours onsite by 3 NRC inspectors including 30 inspector-hours onsite during off-shifts.
Results: No items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

*W. A. Shamla, Plant Manager
*M. H. Clarity, Assistant to the Plant Manager
*D. E. Nevinski, Plant Superintendent, Engineering and Rad. Protection
H. M. Kendall, Plant Office Manager
D. D. Antony, Superintendent of Operations
W. E. Anderson, Plant Superintendent, Operations and Maintenance
*R. L. Scheinost, Superintendent, Quality Engineering
J. R. Pasch, Superintendent, Security and Services
*L. H. Waldinger, Superintendent, Radiation Protection
W. J. Hill, Superintendent, Technical Engineering
W. W. Albold, Superintendent of Maintenance
B. D. Day, Superintendent, Operating Engineering
L. L. Nolan, Superintendent, Nuclear Technical Services

The inspector also contacted other licensee employees including members of the technical and engineering staffs and reactor and auxiliary operators.

*Denotes those licensee representatives attending the management exit interviews.

2. Operational Safety Verification

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the month of January. The inspector verified the operability of selected emergency systems, reviewed tagout records and verified proper return to service of affected components. Tours of Monticello's reactor building and turbine building were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspector by observation and direct interview verified that the physical security plan was being implemented in accordance with the station security plan.

The inspector observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. During the month of January, the inspector walked down the accessible portions of the Standby Liquid Control and fire protection system for Emergency Diesel Generators and intake structure systems to verify operability. The inspector also witnessed portions of the radioactive waste system controls associated with radwaste shipments and barreling.

These reviews and observations were conducted to verify that facility operations were in conformance with the requirements established under technical specifications, 10 CFR, and administrative procedures.

No items of noncompliance or deviations were identified.

3. Licensee Event Reports Followup

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with technical specifications.

a. (Closed) LER 263/81-01: Failure of MO-2035, HPCI Outboard Isolation Valve. While performing the HPCI isolation test, the HPCI Steam Supply Outboard Isolation Valve failed to close. An investigation revealed that solidified grease had broken away and become lodged in the gear-train gears preventing the limit switch contactors from fully making up. The limit switch and limit-switch gear train were replaced. Preventive Maintenance Procedure PM-4900 has been revised to include grease checks of all motor operators.

b. (Closed) LER 263/81-03: Primary Containment Purge and Vent Butterfly Valve Design Error. The manufacturer informed the licensee that a design error had reduced the minimum yield strength of the valve shafts. The valve shafts were replaced on all containment purge and vent butterfly valves. Work was completed on the Design Change Package No. 81M041 during the 1981 outage.

c. (Closed) LER 263/81-02: Inoperable B Loop of RHR Service Water. During testing of the No. 14 RHR SW pump, it was discovered that the pump was pressurizing the seal water supply system to both RHR SW loops. The pressurization was due to inner packing failure on the RHR SW pump. The seal water supply lines were modified to include check valves on the lines to each RHR SW pump. Work was completed under Design Change Package No. 81M099 in November 1981.

d. (Closed) LER 263/81-04: MSIV 2-86B Slow Closure. During shutdown operation, the "A" main steam line isolation valve (MSIV) exceeded the technical specification allowable closure time. The Automatic Valve Closure (AVC) actuator components were rebuilt. The valve was stroke-tested with satisfactory results.

e. (Open) LER 263/81-08: High Pressure Coolant Injection (HPCI) System Valve 10 Disk Pin Failure. During refueling maintenance, it was discovered that the disk pin of the HPCI steam exhaust check valve had fractured. The disk, disk nut and disk pin were replaced. The fracture was determined to be the result of fatigue cracking. Recommendations for redesign of the disk pin have been made and will be implemented under Design Change Package No. 83M096 during the upcoming outage. This LER will remain open pending completion of the modification.

f. (Closed) LER 263/81-21: Primary Containment Isolation System Relay Failure. A primary containment isolation system logic relay coil failed and the relay did not immediately go to the safe (tripped) state. Failure of the relay coil is attributed to thermal aging of the coil bobbin and wire insulation. The relay was replaced in kind and coils of all normally energized AC HFA relays in the reactor protection and primary containment isolation systems were replaced with an improved design. This work was completed under Design Change Package No. 81M100.

g. (Closed) LER 263/81-19: Low Flow on SBGTS B Train. While performing a weekly surveillance, the Standby Gas Treatment (SBGT) was measured to be less than the technical specification allowable flow rate. The variable dampers on the stack dilution fans were partially closed. The variable dampers are controlled by a flow controller that measures stack flow by pitot tubes inserted in the stack. An investigation revealed that dirt had accumulated in the pitot tubes. The dirt was removed and a procedure is being developed to provide for periodic cleaning of the flow sensing lines.

h. (Closed) LER 263/81-10: Main Steam Line Area Temperature Switch Setpoint Drift. The magnitude of the drift was within the stated accuracy of the instrument. The temperature switch was recalibrated and reset to a nominal 197.5 F.

i. (Open) LER 263/81-05: Residual Heat Removal Service Water (RHRSW) System Control Valve CV-1778 Uncoupled. The valve operator stem on the RHRSW heat exchanger discharge control valve uncoupled from the valve stem. The review of the uncoupling revealed that personnel error, line vibration or a combination of both were attributable. The coupling component was replaced. New couplings, valve stems and operator's stems have been ordered. Installation is expected during the next outage. This LER will remain open pending completion of the work request.

j. (Closed) LER 263/82-02: Core Spray Pump Start Time Delay Relay Failure. A new GE CR-2820 time relay was installed and tested satisfactory. Subsequently, all GE CR-2820 time delays in the Emergency Core Cooling Systems have been replaced with Agastat E7014 series time delay relays. This modification was recommended by GE SIL-230 because of a previous history of related problems.

k. (Closed) LER 263/82-08: Reactor Core Isolation Cooling (RCIC) System Cooling Water Valve MO-2096 Failure. The valve stem of the RCIC barometric condenser cooling water supply valve had severed. The severing was determined to be the result of over torquing due to misadjustment of the torque switch on the Rotork motor operator. The valve stem was replaced and the motor operator torque switch was adjusted. All other safety-related Rotork motor operators had their torque switch adjustment checked.

l. (Closed) LER 263/82-09: MO-2030 RHR Outboard Shutdown Cooling Isolation Valve Motor Failed to Open. The failure was attributable to a relaxing torque switch problem which caused the motor operator to continually close. Subsequently in attempting to continually close, the motor burned out. The motor was rebuilt and the worm gear was modified to solve the problem of relaxation of the torque switch. This work was completed under Design Change Package No. 81M106.

m. (Closed) LER 263/82-11: Type B Containment Leakage Test Failures. During refueling outage local leak rate testing (LLRT), the outboard main steam drain isolation valve was found to exceed the technical specification acceptance criteria. The seat rings were ground and the disk was machined, alleviating the disk-to-seat ring misalignment and worn disk seating area. The LLRT was redone with satisfactory results.

n. (Closed) LER 263/82-12: Type B Containment Leakage Test Failures. During refueling outage LLRT, the primary containment purge and vent butterfly valves were found to exceed the technical specification acceptance criteria. The valve linkages of the butterfly valves were adjusted to increase the applied closing torque. In addition, the T-rings were emery-paper ground to eliminate T-ring disk interferences. The LLRTs were redone with satisfactory results.

4. IE Bulletin Followup

For the IE Bulletins listed below the inspector verified that the Bulletin was received by licensee management and reviewed for its applicability to the facility. If the Bulletin was applicable the inspector verified that the written response was within the time period stated in the Bulletin, that the written response included the information required to be reported, that the written response included adequate corrective action commitments based on information presented in the Bulletin and the licensee's response, that the licensee management forwarded copies of the written response to the appropriate onsite management representatives, that information discussed in the licensee's written response was accurate, and that corrective action taken by the licensee was as described in the written response.

a. (Closed) IEB 79-26 and 79-26-1: Boron Loss from BWR Control Blades. The licensee determined that no blades had reached the 34 percent Boron-10 depletion level in the upper quarter of the blades. Shutdown margin testing demonstrated that full withdrawal of any control blade from a cold xenon-free core will not result in criticality. Destructive examination of the licensee's most highly exposed control blade was completed with satisfactory results.

b. (Closed) IEB 80-17, 80-17-1, 80-17-2, 80-17-3, 80-17-4 and 80-17-5: Failure of Control Rods to Insert During a Scram at a BWR. The inspector reviewed the permanent modifications to Scram Discharge System made during the 1981 refueling outage and verified that the

modifications met the criteria given in the Generic Safety Evaluation Report dated December 1, 1980. NRR has amended the technical specifications to incorporate revised operating limits associated with the modifications to the Scram Discharge Volume for improved hydraulic coupling. This modification was completed under Design Change Package No. 81Z021.

c. (Closed) IEB 83-05: ASME Nuclear Code Pumps and Spare Parts Manufactured by the Hayward Tyler Pump Company. The licensee review indicated no pumps or spare parts manufactured by Hayward Tyler Pump Company were used by the licensee. The licensee also has no intentions of purchasing such equipment.

d. (Closed) IEB 80-03: Loss of Charcoal from Standard Type II, 2 Inch, Tray Adsorber Cells.

e. (Closed) IEB 80-10: Contamination of Nonradioactive System and Resulting Potential for Unmonitored, Uncontrolled Release to Environment.

f. (Closed) IEB 81-02: Failure of Gate Type Valves to Close Against Differential Pressure.

g. (Closed) IEB 82-04: Deficiencies in Primary Containment Electrical Penetration.

5. IE Circular Followup

For the IE Circulars listed below, the inspector verified that the Circular was received by the licensee management, that a review for applicability was performed, and that if the circular were applicable to the facility, appropriate corrective actions were taken or were scheduled to be taken.

a. (Closed) IEC 80-14: Radioactive Contamination of Plant Demineralized Water System and Resultant Internal Contamination of Personnel.

b. (Closed) IEC 81-04: The Role of Shift Technical Advisors and Importance of Reporting Operational Events.

c. (Closed) IEC 81-06: Potential Deficiency Affecting Certain Foxboro 10 to 50 Milliampere Transmitters.

d. (Closed) IEC 81-12: Inadequate Periodic Test Procedure of PWR Protection System.

6. Preparation for Refueling

The inspector verified that technically adequate procedures were approved for the removal of all fuel bundles from the core. The technical specifications revision to allow the source range CPS to less than three counts per second and the method of defueling and refueling the core was approved in January 1984 in License No. DPR-22, Amendment No. 20 (NSP Rev. No. 70). The receipt of new fuel is scheduled for later in the outage. The inspector verified that the licensee had submitted a proposed core reload technical specification change to NRR (or that the licensee's 10 CFR 50.59 safety evaluation of the reload core showed that prior NRR review is not required). The inspector also reviewed the licensee's program for overall outage control.

No items of noncompliance or deviations were identified.

7. Onsite Review Committee

The inspector attended three meetings of the onsite review committee (Operations Committee (OC)) during the month of January to observe conformance with technical specifications and other regulatory requirements. The review included noting adherence to the charter and administrative procedures governing the review group activities, the group's membership and qualifications, the meeting frequency and required quorum. The activities of the committee, including review of proposed technical specification changes, noncompliance items and corrective action, proposed facility modifications and procedure changes, and biannual review of procedures, were noted to be performed as required.

No items of noncompliance or deviations were identified.

8. Procedures

A review of the following procedures was performed to determine if the regulatory requirements were addressed and if the procedures are consistent with the desired actions and modes of operation:

Procedure Number	Title
A.2-001	Emergency Organization
3ACD-3.2	Plant Operation
4ACD-3.6, Rev 8	Work Request Authorizations
4ACD-3.9, Rev. 10	Operating Occurrences and Events
4ACD-3.11, Rev. 5	Procedure Review and Approval

The procedures and changes to the procedures were found to reflect applicable technical specification or license revisions. The content of the procedures was found to be consistent with applicable technical specification requirements. The check lists and forms related to the procedures in the "working files" were found to be current and out-of-date forms were destroyed.

No items of noncompliance or deviations were identified.

9. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) throughout the month and at the conclusion of the inspection on February 1, 1984, and summarized the scope and findings of the inspection activities. The licensee acknowledged the inspection findings and the update on the status of open inspection items.