

October 25, 2000

Mr. M. Hammer
Site General Manager
Monticello Nuclear Generating Plant
Nuclear Management Company, LLC
2807 West County Road 75
Monticello, MN 55362-9637

SUBJECT: MONTICELLO NUCLEAR POWER PLANT - NRC INSPECTION REPORT
50-263-00-07(DRP)

Dear Mr. Hammer:

On September 30, 2000, the NRC completed a baseline inspection at your Monticello Nuclear Power Plant. The results of this inspection were discussed on October 3, 2000, with you and other members of your staff. The enclosed report presents the results of that inspection.

The inspection was an examination of activities conducted under your license as they relate to reactor safety, verification of performance indicators, event followup, and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel. No findings were identified in any of the cornerstones of safety during our inspection.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available **electronically** for public inspection in the NRC Public Document Room **or** from the *Publicly Available Records System (PARS) component of NRC's document system (ADAMS)*. *ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).*

Sincerely,

/RA/

Roger D. Lanksbury, Chief
Reactor Projects Branch 5

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

Enclosure: Inspection Report 50-263-00-07(DRP)

See Attached Distribution

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 50-263-00-07(DRP)

Licensee: Nuclear Management Company, LLC

Facility: Monticello Nuclear Power Plant

Location: 2807 West Highway 75
Monticello, MN 55362

Dates: August 16, through September 30, 2000

Inspectors: Stephen Burton, Senior Resident Inspector
Daniel Kimble, Resident Inspector
Karla Stoedter, Regional Inspector
Paul Pelke, Regional Inspector
Michael Kunowski, Regional Inspector

Approved by: Roger D. Lanksbury, Chief
Reactor Projects Branch 5
Division of Reactor Projects

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC-licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

Radiation Safety

- Occupational
- Public

Safeguards

- Physical Protection

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.

SUMMARY OF FINDINGS

Monticello Nuclear Power Plant NRC Inspection Report 50-263-00-07(DRP)

IR 05000263-00-07, on 08/16-09/30/2000; Nuclear Management Company, LLC; Monticello Nuclear Power Plant; Resident Operations Report.

The inspection was conducted by resident inspectors and regional projects inspectors. The report covers a 6½-week period of resident inspection. No findings were identified in any of the cornerstones of reactor safety.

Report Details

Summary of Plant Status: The unit began the inspection period at 100 percent power. Operation at 100 percent power continued until August 26, 2000, when power was reduced to 75 percent to perform main steam isolation valve testing. On August 27, after completion of valve testing, the reactor was shut down to perform repairs on the main generator output transformer. The reactor was restarted on September 1, and 100 percent power was achieved on September 3. On September 3 and 4, minor power reductions for control rod pattern adjustments occurred. The reactor operated at 100 percent power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed a partial walkdown of the following redundant equipment trains to verify operability and proper equipment lineup while the counterpart train was disabled due to planned maintenance. The systems were selected due to the increase in core damage frequency caused by rendering one train out-of-service for maintenance.

- Off-site electrical distribution, Transformer 1R, and associated 4160-VAC (Volts Alternating Current) distribution, while Transformer 2R was out-of-service for maintenance
- Division 2 Residual Heat Removal (RHR) and associated components while Division 1 components were out-of-service for maintenance

The inspectors verified the position of critical redundant equipment and looked for any discrepancies between the existing equipment lineup and the required lineup.

Due to the system's risk significance, the inspectors selected the Residual Heat Removal Service Water (RHRSW) System for a complete walkdown. The inspectors walked down the system to verify mechanical and electrical equipment lineups, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. Documents reviewed included:

- Electrical Wiring Diagram, NF-36298-1, Revision M, "Monticello Nuclear Generating Plant Electrical Load Flow One Line Diagram"

- General Electric Letter to Northern States Power Company dated November 30, 1994, "Monticello Containment Analysis to Update the Long-Term DBA-LOCA [Design Basis Accident–Loss of Coolant Accident] Containment Pressure and Temperature Curves of NEDO-30485. Transmittal of Final Report NEDO-32418"
- Design Basis Document (DBD), Section B.8.1.3, Revision 2, "Design Basis Document for RHR Service Water"
- Operations Manual:
 - Section B.3.4, "Residual Heat Removal System"
 - Section B.8.1.3, "RHR Service Water System"
- Equipment Isolations:
 - 00-80491, Version 1, "2RS, 2R, 3N4, 3N5, & CLP Maintenance Isolation"
 - 00-80492, Version 1, "Perform Maintenance On 345/4.16 KV [kilovolt] TR2"
 - 00-02707, Version 1, "Replace 13 RHRSW (P109C) Pump Motor with Spare"
- Piping and Instrument Diagrams (P&IDs):
 - P&ID M-120, Revision BH, "[Division 2] Residual Heat Removal System"
 - P&ID M-121, Revision BK, "[Division 1] Residual Heat Removal System"
 - P&ID M-112, Revision BF, "RHR Service Water and Emergency Service Water System"
 - P&ID M-811, Revision C, "Service Water and Make-up Water Intake Structure"
- Technical Specifications (TSs):
 - TS 3/4.9, "Auxiliary Electrical Systems," and basis
 - TS 3/4.5, "Core and Containment Spray/Cooling Systems"
- TS Amendment to Facility Operating License [Docket 50-263] No. 102 (Power Uprate Program)
- Updated Safety Analysis Report (USAR), Revision 17
 - Section 6.2.3, "Residual Heat Removal System"
 - Section 10.4.2, "Residual Heat Removal Service Water System"
- Condition Reports (CRs):
 - CR 19991640, "Air Entrainment in Upper Reservoir for 14 RHRSW Pump Motor"
 - CR 19993612, "11 RHRSW Pump did not Meet its Maintenance Rule Action Plan Goal"
 - CR 19993365, "3107 Initiated per Step 47 of Procedure 0255-05-IA-1 for CV-1728"
 - CR 20001211, "CV-1728 Flow Instability Occurs Outside Expected Flow Region as Defined by Operations Manual B.08.01.03-05"

- Work Orders (WOs):
 - WO 0003369, "Investigate and Replace Oil Leak on 2R Transformer"
 - WO 0003365, "Replace High Side Bushing on 2R Transformer"
 - WO 0003377, "Obtain Tap Changer and Main Tank Oil Sample"
 - WO 0003375, "Monitor Temporary Oil Tanks for Leakage"
 - WO 0002707, "Replace 13 RHRSW (P109C) Pump Motor with Spare"
 - WO 0002708, "Support Replacement 13 RHRSW (P109C) Pump Motor"
 - WO 0003405, "Replace Relay Bearings in 'C' Phase 152-507, 150/151 [13 RHRSW Pump Motor 4KV Supply]"
 - WO 0003411, "Install Temporary Label on 13 RHRSW Pump Motor"

b. Issues and Findings

There were no findings identified during this inspection.

1R05 Fire Zone Walkdown

a. Inspection Scope

The inspectors walked down the following risk significant areas looking for any fire protection issues. The inspectors selected areas containing systems, structures, or components that the licensee identified as important to reactor safety.

- Fire Zone 8 (Cable Spreading Room)
- Fire Zone 32-B (EFT [Emergency Filtration Train] Building, Second Floor (Division II))
- Fire Zone 1-G (Control Rod Drive Pump Room)
- Fire Zone 2-A (RCIC [Reactor Core Isolation Cooling] Room TIP [Traversing Incore Probe] System Drives)
- Fire Zone 1-F (Torus)

The inspectors reviewed the control of transient combustibles and ignition sources, fire detection equipment, manual suppression capabilities, passive suppression capabilities, automatic suppression capabilities, and barriers to fire propagation. The documents reviewed included:

- Technical Manual NX-16991, "Monticello Updated Fire Hazards Analysis"
- Monticello Fire Strategies:
 - A.3-08, Revision 6, "Cable Spreading Room"
 - A.3-32-B, Revision 3, "EFT Building Second Floor (Division II)"
 - A.3-01-G, Revision 2, "CRD [Control Rod Drive] Pump Room"
 - A.3-02-A, Revision 2, "TIP [Traversing Incore Probe] Drive Area"
 - A.3-01-F, Revision 3, "Torus Area"

- Procedures and Administrative Work Instructions (AWIs):
 - AWI 4AWI-08.01.01, Revision 14, "Fire Prevention Practices"
 - AWI 4AWI-08.01.02, Revision 4, "Combustion Source Use Permit"
 - 0271, Revision 24, "Fire Hose Station and Yard Hydrant Hose House Equipment Inspection"
 - 0275-2, Revision 14, "Fire Barrier Wall, Damper, and Floor Inspection"
 - 0328, Revision 12, "Cable Spreading Room Halon System: Halon System Functional Test, Halon System Air Flow Test, and Halon System Header Examination"
 - 0274, Revision 16, "Fire Hose Hydrostatic Test Interior Hose Stations"
 - 0275-1, Revision 8, "Fire Barrier Penetration Seal Visual Inspection"
 - 0275-2, Revision 15, "Fire Barrier Wall, Damper, and Floor Inspection"
- Drawings:
 - FHA-14, Revision 1, "Fire Hazards Analysis Plan View - Administration Bldg., Elevation 939'-0"
 - FHA-15, Revision 1, "Fire Hazards Analysis Plan View - Administration Bldg., Elevation 951'-0"
 - FHA-18, Revision 1, "Fire Hazards Analysis Section View A-A"
 - FHA-19, Revision 0, "Fire Hazards Analysis Section View B-B"
 - NX-16991-47, Revision A, "Fire Penetration Seal Locations"
- Quadrex Corporation Report QUAD-5-80-009, Revision 7, "Specifications for Installation of Electrical and Mechanical Penetration Seals at the Monticello Nuclear Generating Plant"

b. Issues and Findings

There were no findings identified during this inspection.

1R07 Heat Sink Performance

a. Inspection Scope

The inspectors reviewed the licensee's testing of Diesel Generator 12 heat exchangers to verify that any potential deficiencies did not mask the licensee's ability to detect degraded performance, to identify any common cause issues that had the potential to increase risk, and to ensure that the licensee was adequately addressing problems that could result in initiating events that would cause an increase in risk. The inspectors reviewed the licensee's observations as compared against acceptance criteria, the correlation of scheduled testing and the frequency of testing, and the impact of instrument inaccuracies on test results. Inspectors also verified that test acceptance criteria considered differences between test conditions, design conditions, and testing criteria. The documents reviewed included:

- Calculations CA-00-114, Revision 0, "EDG [Emergency Diesel Generator] ESW [Emergency Service Water System] Heat Exchanger Performance Monitoring - Summer 2000"

- CR 20003631, “Re-evaluate Worst Case Assumptions for EDG ESW HX [Heat Exchanger] Performance Test Acceptance Criteria”
- Form 1404-1, Revision 3, “EDG ESW Heat Exchanger Performance Test - 12 EDG Data Sheet”
- Form 3495, Revision 5, “Calculation/Analysis Verification Checklist”
- Surveillance Test Procedure 0187-02, Revision 32, “12 Emergency Diesel Generator/12 Emergency Service Water Pump System Tests”

b. Issues and Findings

There were no findings identified during this inspection.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed the licensee’s implementation of the Maintenance Rule (10 CFR 50.65) to ensure rule requirements were met for the selected systems. The following systems were selected based on their being designated as risk significant under the Maintenance Rule, or their being in the increased monitoring (Maintenance Rule category a(1)) group:

- Plant air systems
- Control room emergency filtration system

The inspectors verified the licensee’s categorization of specific issues, including evaluation of the performance criteria and, when applicable, goal-setting established for the systems listed above. The inspectors reviewed the licensee’s implementation of the maintenance rule requirements, including a review of scoping, goal-setting, and performance monitoring; short-term and long-term corrective actions; functional failure determinations associated with the condition reports listed below; and current equipment performance status. The documents reviewed included:

- NUMARC [Nuclear Management and Resources Council] 93-01, Revision 2, “Nuclear Energy Institute Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants”
- Regulatory Guide 1.1.6, Revision 1, “Monitoring the Effectiveness of Maintenance at Nuclear Power Plants”
- Engineering Work Instruction 05.02.01, Revision 3, “Monticello Maintenance Rule Program Document”
- Monticello Maintenance Rule Periodic Assessment Report, 4th Quarter - 1999

- Operations Manual
 - B.8.04.1, "Instrument and Service Air"
 - B.8.13, "Control Room Heating Ventilation and Emergency Filtration Trains"

- TS 3.17/4.17, "Control Room Habitability," and basis

- CRs:
 - CR 19983110, "Unplanned Entry Into LCO [Limiting Condition for Operation] due to Smoke Generated From Work on V-EAC-14B in EFT Building"
 - CR 19990255, "V-EAC-14B Tripped Twice on Low Oil Pressure, Declared Inoperable and Entered 30-Day LCO"
 - CR 19990956, "Ethylene Glycol Spilled from 14 Air Compressor"
 - CR 19992413, "Install Higher Pressure Related Devices"
 - CR 19993716, "Temperature Indicating Switch TIS-7384 13 Air Compressor High Temperature Alarm Found Outside Specifications"
 - CR 20001429, "During Routine Instrument Preventive Maintenance (AIR-2) Two Instruments Were Found Outside of As-Found Criteria"
 - CR 20001484, "Unplanned Entry Into 1 Hour LCO When Both CRV [Control Room Ventilation] Trains Noted Not Operable During Post Maintenance Testing Due to Switch Misposition"
 - CR 20001532, "Entered 30-Day LCO on B CRV per Tech Spec 3.17.A.2.a due to Actuator Trouble on VD-9093B"
 - CR 20001969, "Number 14 Air Compressor Temperature Indicating High Following Cleaning of Cooling Coils"
 - CR 20002045, "Number 14 Air Compressor Tripped on Motor Overload During Air Compressor Weekly Checks"
 - CR 20003066, "Unexpected Start of A CRV Train During Performance of Operations Manual Procedure B.8.13-5.2.B.1 Causes Unplanned 30-Day LCO Entry"

- Monticello Maintenance Rule Program System Basis Document:
 - Instrument and Service Air Systems," Revision 2
 - "Control Room H&V [Heating and Ventilation] - Emergency Filtration System," Revision 0

- P&IDs:
 - NH-170037, "Main Control Room CRV/EFT System," Revision G
 - NH-170037-1, "Main Control Room Breathing Air Supply System," Revision A

- WOs:
 - WO 0000008, "Low Compressor Oil Pressure"
 - WO 0000028, "Intermittent Low Oil Pressure"
 - WO 0000192, "Repair AI-243-2 and AI-244-2"
 - WO 0000250, "Investigate and Repair Air System Leakage"
 - WO 0000451, "Repair Air Leaks on Scram Air Header"
 - WO 0000687, "Number 11 Air Compressor Power Connector"

- WO 0001748, "Investigate/Repair Limit Switch for VD-9093B"
 - WO 0001783, "Repair Coolant Leak on Number 14 Air Compressor"
 - WO 0001789, "Repair Air Leak on Number 14 Air Compressor"
 - WO 0001792, "Investigate and Repair Number 14 Air Compressor Shutdown"
 - WO 0001857, "Investigate/Repair Stroke on Hydramotor on VD-9093B"
 - WO 0001875, "Actuator Motor Continuously Running and is Hot"
 - WO 0001876, "Replace Actuator for VD-9093B"
 - WO 0002020, "Adjust Settings on Backdraft Damper V-DBD-9233"
 - WO 0002955, "Unexpected Start of A Train CRV"
- USAR:
 - Section 6.7, Revision 18, "Main Control Room, Emergency Filtration Train Building and Technical Support Center Habitability"
 - Section 10.3.1, Revision 17, "Plant Air Systems and Nitrogen Systems"

b. Issues and Findings

There were no findings identified during this inspection.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed and observed emergent work or preventive maintenance activities on selected systems. The inspectors selected the following risk significant systems undergoing scheduled or emergent maintenance:

- Observations of selected portions of the 13 RHRSW pump motor replacement and associated post-maintenance testing
- Observations of selected maintenance and testing on service water to RHRSW cross-tie check valves SW-21-1, SW-22-1, SW-21-2, and SW-22-2
- Observations of selected portions of #12 CRD pump oil flush and oil replacement
- Observations of selected portions of CRD, HPCI (High Pressure Coolant Injection), RCIC, and torus area component lubrication preventative tasks

The inspectors also reviewed the licensee's evaluation of plant risk, risk management, scheduling, and configuration control for these activities in coordination with other scheduled risk significant work. The inspectors verified that the licensee's control of activities considered assessment of baseline and cumulative risk, management of plant configuration, and control of maintenance. The documents reviewed included:

- Operations Manual Section B.8.1.3, "RHR Service Water System"
- USAR, Revision 17, Section 10.4.2, "Residual Heat Removal Service Water System"

- TS, Section 3.5/4.5, "Core and Containment Spray/Cooling Systems"
- DBD, Section B.8.1.3, Revision 2, "Design Basis Document for RHR Service Water"
- Equipment Isolation 00-02707, Version 1, "Replace 13 RHRSW (P109C) Pump Motor with Spare"
- P&IDs:
 - P&ID M-112, Revision BF, "RHR Service Water and Emergency Service Water System"
 - P&ID M-811, Revision C, "Service Water and Make-up Water Intake Structure"
- WOs:
 - WO 0002707, "Replace 13 RHRSW (P109C) Pump Motor with Spare"
 - WO 0002708, "Support Replacement 13 RHRSW (P109C) Pump Motor"
 - WO 0003409, "Check Valves SW-21-2 and SW-22-2 Stuck Closed"
 - WO 0003430, "Clean and Inspect Check Valves SW-21-1 and SW-22-1"
 - WO 000319, "Flush/Replace Oil in the #12 Control Rod Drive Pump"
- Test Procedure 0255-05-IA-1, Revision 39, "RHR Service Water Pump & Valve Tests"
- Preventative Maintenance Procedure 4916-12PM, "Lubrication - CRD, HPCI, and RCIC Rooms and Torus Area"

b. Issues and Findings

There were no findings identified during this inspection.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the technical adequacy of the following operability evaluations to determine the impact on TSs, and the significance of the evaluations, and to ensure that adequate justifications were documented.

- 13 Battery Cell No. 81
- RHR System Cross-Tie

Operability evaluations were selected based upon the relationship of the safety-related system, structure, or component to risk. The documents reviewed included:

- CRs:
 - CR 20002516, "Both Loops of RHRSW Declared Inoperable Due to Low Standby Pressure"

- CR 20002706, "No. 13 Battery 250 VDC [Volt Direct Current] Monthly Operability Check Found Low Voltage on Cell No. 81"
- P&IDs:
 - P&ID M-112, Revision BF, "RHR Service Water and Emergency Service Water System"
 - P&ID M-811, Revision C, "Service Water and Make-up Water Intake Structure"

b. Issues and Findings

There were no findings identified during this inspection.

1R16 Operator Workarounds (OWAs)

a. Inspection Scope

The inspectors reviewed operator workaround No. 6, "RHRSW-32 Operation is Required During Transient Conditions to Sustain Appropriate RHR Heat Exchanger Differential Pressure." The inspectors reviewed the workaround's potential to impact the operators' ability to implement emergency or abnormal operating procedures.

The inspectors also performed a semiannual review of the cumulative effects of OWAs and considered the effects of workarounds on the reliability, availability, and potential for improper operation of the system. The inspectors also evaluated the workarounds to determine if they could increase the possibility of an initiating event, affect multiple mitigating systems, or impact the operators' ability to respond to accidents or transients. The documents reviewed included:

- Monticello Operational Challenges Lists:
 - September 22, 2000
 - September 25, 2000
- AWIs:
 - 04.01.01, Revision 25, "General Plant Operational Practices"
 - 02.02.06, Revision 5, "Volume F Memorandums"
- Volume F Memo No. 1914, "Changes to Verify Cross-Tie RHRSW-32 is Opened when Starting RHRSW Pumps and that RHRSW-32 is Closed when RHRSW System is in Standby," dated September 15, 2000
- Operations Work Instruction 01.07, Revision 6, "Operations Department Self-Assessment"
- CRs:
 - CR 20003535, "Potential Single Failure Vulnerability of RHRSW System in Standby with RHRSW-32 Cross-Tie Valve Open"
 - CR 20003666, "Actions Required to Operate RHRSW-32 During RHRSW Operation not Considered as an Operator Workaround"

b. Issues and Findings

There were no findings identified during this inspection.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors selected the following post-maintenance activities for review. Activities were selected based upon the structure, system, or component's ability to impact risk.

- Post-maintenance testing following the 13 RHRSW pump motor replacement
- Restoration and post-maintenance testing of transformer 2R

The inspectors observed the performance of post-maintenance testing activities which included, but were not limited to, integration of testing activities, applicability of acceptance criteria, test equipment calibration and control, procedural use and compliance, control of temporary modifications or jumpers required for test performance, documentation of test data, TS applicability, system restoration, and evaluation of test data. The inspectors verified that maintenance and post-maintenance testing activities were adequate and would detect deficiencies prior to returning equipment to service. The documents reviewed included:

- Operations Manual Section B.8.1.3, "RHR Service Water System"
- USAR, Revision 17, Section 10.4.2, "Residual Heat Removal Service Water System"
- TS, Section 3.5/4.5, "Core and Containment Spray/Cooling Systems"
- DBD, Section B.8.1.3, Revision 2, "Design Basis Document for RHR Service Water"
- Equipment Isolation 00-02707, Version 1, "Replace 13 RHRSW (P109C) Pump Motor with Spare"
- P&IDs:
 - P&ID M-112, Revision BF, "RHR Service Water and Emergency Service Water System"
 - P&ID M-811, Revision C, "Service Water and Make-up Water Intake Structure"
- WOs:
 - WO 0002707, "Replace 13 RHRSW (P109C) Pump Motor with Spare"
 - WO 0002708, "Support Replacement 13 RHRSW (P109C) Pump Motor"
 - WO 0003405, "Replace Relay Bearings in 'C' Phase 152-507, 150/151 [13 RHRSW Pump Motor 4KV Supply]"
 - WO 0003411, "Install Temporary Label on 13 RHRSW Pump Motor"

- Test Procedure 0255-05-IA-1, Revision 39, “RHR Service Water Pump & Valve Tests”
- American Society of Mechanical Engineers/American National Standards Institute OMA-1988, Part 6, “Inservice Testing of Pumps in Light-Water Reactor Power Plants”
- Procedure B.09.06-05, Revision 9, “4.16 KV Station Auxiliary Operation”
- Procedure C.4.F, Revision 19, “Rapid Power Reduction”

b. Issues and Findings

There were no findings identified during this inspection.

1R20 Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities for an outage that occurred between August 27 and September 1, 2000, to repair electrical connections on the main transformer. The inspectors reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors observed or reviewed the reactor shutdown and cooldown, outage equipment configuration and risk management, electrical lineups, selected clearances, control and monitoring of decay heat removal, control of containment activities, startup and heatup activities, and identification and resolution of problems associated with the outage. The documents reviewed included:

- Monticello Forms:
 - 2167, Revision 36, “Startup Checklist”
 - 2181, Revision 5, “Control Rod Movement Log”
 - 2163, Revision 26, “Plant Pre-Start Checklist”
 - 2159, Revision 5, “Predicted Critical for Plant Startup”
 - 3560, Revision 5, “Infrequent Test or Evolution Briefing Guide”
 - 0212, Revision 20, “Rod Worth Minimizer Operability”
- TSs:
 - TS 3/4.2, “Protective Instrumentation” and basis
 - TS 3/4.3, “Control Rods System” and basis
- Procedures:
 - 4197-02 OCD, Revision 2, “Loop B RHR - Shutdown Cooling Mode - Isolation to Prevent Draining”
 - C.1, Revision 27, “Startup Procedure”
 - C.3, Revision 20, “Shutdown Procedure”
 - B.5.1.2.A, Revision 11, “Area Radiation Monitoring System Operation”

- Cycle 20, Core Operating Limits Report, Revision 0
- Electrical Diagram, NF-36298-1, Revision M, “Monticello Plant Electrical Load Flow One Line Diagram”

b. Issues and Findings

There were no findings identified during this inspection.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors selected the following surveillance test activities for review. Activities were selected based upon risk significance and the impact upon risk that an unidentified performance degradation of the structure, system, or component could have if unresolved for long periods of time.

- Surveillance Test Procedure 0054-B/0055-B, Revision 3, “Main Steam Line Low Pressure Group 1 Isolation Instrument Test and Calibration,” quarterly
- Surveillance Test Procedure 0056, Revision 24, “HPCI Hi Steam Flow Sensor Test and Calibration Procedure”
- Surveillance Test Procedure 0255-07-IA-1, Revision 16, “Main Steam Valve Exercise Tests”

The inspectors observed the performance of surveillance testing activities, including reviews for preconditioning, integration of testing activities, applicability of acceptance criteria, test equipment calibration and control, procedural use, control of temporary modifications or jumpers required for test performance, documentation of test data, TS applicability, impact of testing relative to performance indicator reporting, and evaluation of test data. The following documents were reviewed:

- P&ID NH-36249, Revision AD, “High Pressure Coolant Injection System (Steam Side)”
- Surveillance Test:
 - 0054-B/0055-B, Revision 3, “Main Steam, Line Low Pressure Group 1 Isolation Instrument Test and Calibration,” quarterly
 - 0056, Revision 24, “HPCI Hi Steam Flow Sensor Test and Calibration Procedure”
 - 0255-07-IA-1, Revision 16, “Main Steam Valve Exercise Tests”

- Calculations:
 - Calculation Analysis CA-95-094, "Instrument Setpoint Calculation, Main Steam Line Low Pressure Isolation, PS-2-134A, B, C, D," dated June 17, 1996

b. Issues and Findings

There were no findings identified during this inspection.

1R23 Temporary Plant Modification

a. Inspection Scope

The inspectors reviewed temporary modification "Jumper Bypass 00-18, Temporary Installation of a Single Cell Battery Charger on Cell 81 of the #13 250 VDC Battery System." The inspectors reviewed the safety screening, design documents, USAR, and applicable TS to determine that the temporary modification was consistent with modification documents, drawings and procedures. The inspectors also reviewed the post-installation test results to confirm that tests were satisfactory and the actual impact of the temporary modification on the permanent system and interfacing systems were adequately verified. The documents reviewed included:

AWIs:

- 4AWI-04.04.03, Revision 12, "Bypass Control"
- 4AWI-05.06.02, Revision 3, "10 CFR 50.59 Applicability Screening"
- Jumper Bypass 00-108, "Temporary Installation of a Single Cell Battery Charger on Cell 81 of the #13 250 VDC Battery System"
- Safety Screening for Jumper Bypass 00-108
- USAR, Section 8.5, "DC Power Supply Systems"
- Nuclear Safety Analysis Center 125, "Guidelines for 10 CFR 50.59 Safety Evaluations"
- Nuclear Regulatory Commission Inspection Manual Part 9900, "10 CFR 50.59 Changes to Facilities, Procedures, and Test (or Experiments)"
- SECY 97-035, "Proposed Regulatory Guidance Related to Implementation of 10 CFR 50.59 (Changes, Tests, and Experiments)"

b. Issues and Findings

There were no findings identified during this inspection.

4. OTHER ACTIVITIES

40A1 Performance Indicator Verification

Cornerstones: Initiating Events and Barrier Integrity

.1 Unplanned Scrams per 7,000 Critical Hours

a. Inspection Scope

The inspectors verified the performance indicator data for unplanned scrams per 7,000 critical hours from January 1, 2000, through June 30, 2000. This was accomplished, in part, by a review of Monticello Monthly Summary Reports, Licensee Event Reports (LERs), and NRC Inspection Reports.

b. Issues and Findings

There were no findings identified during this inspection.

.2 Scrams with a Loss of Normal Heat Removal

a. Inspection Scope

The inspectors verified the performance indicator data for scrams with a loss of normal heat removal from January 1, 2000, through June 30, 2000. This was accomplished, in part, by a review of Monticello Monthly Summary Reports, LERs, and NRC Inspection Reports.

b. Issues and Findings

There were no findings identified during this inspection.

40A3 Event Follow-up

Cornerstones: Mitigating Systems and Barrier Integrity

(Closed) LER 50-263/2000-001: Containment Isolation Valve Leakage Greater than Allowed by Technical Specifications.

a. Inspection Scope

The inspectors evaluated LER 50-263/2000-001, "Containment Isolation Valve Leakage Greater than Allowed by Technical Specifications." The inspectors reviewed the following references:

- CR 20000132, “Local Leakage Rates Exceed Technical Specification Limits (2000 Refueling Outage) and Maintenance Rule Goal Not Met”
- TS Section 3.7/4.7, “Containment Systems,” and associated basis
- USAR, Revision 17
 - Section 5.2, “Primary Containment”
 - Table 5.2-3b, “Primary Containment Automatic Isolation Valves”
- Generic Letters (GLs):
 - GL 89-10, “Safety-Related Motor-Operated Valve Testing and Surveillance,” and licensee response
 - GL 96-05, “Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves,” and licensee response

b. Issues and Findings

During the licensee's year 2000 refueling outage, maximum TS leakage rates for containment isolation valve AO-2-80D and maximum flow path leakage rates for containment penetrations and valves subject to Type B and C testing were exceeded.

A vendor-recommended modification to AO-2-80D was installed by the licensee to address the leakage problem, and repairs were made to three other valves which contributed to the excessive maximum flow path leakage. After these corrective actions were completed, leakage test results were within TS limits.

The licensee's analysis of the condition indicated that a redundant valve in each applicable pathway had seated properly during the initial leakage testing. Because leakage was determined to be minimal, the inspectors concluded that the failure to meet TS-required containment isolation valve leakage limits constituted a violation of minor significance that was not subject to enforcement action in accordance with Section IV of the Enforcement Policy. The licensee had entered this issue into their corrective action program as CR 20000132.

4OA6 Meetings, including Exit

Exit Meeting Summary

The inspectors presented the inspection results to Mr. M. Hammer and other members of licensee management on October 3, 2000. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

M. Hammer, Site General Manager
B. Day, Plant Manager
J. Grubb, General Superintendent, Engineering
K. Jepson, Superintendent, Chemistry and Environmental Protection
B. Linde, Superintendent, Security
B. Sawatzke, General Superintendent, Maintenance
C. Schibonski, General Superintendent, Safety Assessment
E. Sopkin, General Superintendent, Operations
L. Wilkerson, Manager, Quality Services
J. Windschill, General Superintendent, Radiation Services

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

| | | |
|-----------------|-----|---|
| 50-263/2000-001 | LER | Containment isolation valve leakage greater than allowed by Technical Specifications (Section 4OA3) |
|-----------------|-----|---|

Discussed

None

LIST OF ACRONYMS USED

| | |
|--------|--|
| AWI | Administrative Work Instruction |
| CR | Condition Report |
| CRD | Control Rod Drive |
| CRV | Control Room Ventilation |
| DBD | Design Basis Document |
| DRP | Division of Reactor Projects |
| EDG | Emergency Diesel Generator |
| EFT | Emergency Filtration Train |
| ESW | Emergency Service Water System |
| GL | Generic Letter |
| HPCI | High Pressure Coolant Injection |
| HX | Heat Exchanger |
| H&V | Heating and Ventilation |
| KV | Kilovolt |
| LCO | Limiting Condition for Operation |
| LER | Licensee Event Report |
| NUMARC | Nuclear Management and Resources Council |
| OWA | Operator Workaround |
| P&ID | Piping and Instrument Diagram |
| RCIC | Reactor Core Isolation Cooling |
| RHR | Residual Heat Removal |
| RHRSW | Residual Heat Removal Service Water |
| TIP | Traversing Incore Probe |
| TS | Technical Specification |
| USAR | Updated Safety Analysis Report |
| VAC | Volt Alternating Current |
| VDC | Volt Direct Current |
| WO | Work Order |