U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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License No.:	DPR-22
Report No:	50-263/96008(DRP)
Licensee:	Northern States Power Company
Facility:	Monticello Nuclear Generating Station
Location:	414 Nicollet Mall Minneapolis, MN 55401
Dates:	August 29 - October 16, 1996
Inspectors:	A. M. Stone, Senior Resident Inspector J. Lara, Resident Inspector
Approved by:	J. Jacobson, Chief, Projects Branch 4 Division of Reactor Projects

EXECUTIVE SUMMARY

Monticello Nuclear Generating Station, Unit 1
NRC Inspection Report 50-263/96008(DRP)

This inspection included aspects of licensee operations, engineering, maintenance, and plant support. The report covers a 7-week period of resident inspection.

Operations

- The operations committee inappropriately approved a technical specification interpretation concerning fire hydrant operability (Section O1.2).

- The inspectors identified three examples of plant operator inattention to detail during plant rounds (Section O2.1).

- The licensee promptly evaluated the applicability of control room concerns identified at another utility. The licensee's response was considered a strength (Section O6.1).

- The shift manager responded promptly after identifying the inoperable fire hydrant. (Section M1.1)

Maintenance

- A mechanic failed to follow procedure and did not notify operations on two occasions when the acceptance criteria for a fire hydrant test was not met (Section M1.1).

- The licensee was unaware that a standby liquid control surveillance test conflicted with the IST program. Also, the system engineer used an unapproved informal calculation as a basis to revise the test. (Section M1.2)

- Material condition of plant equipment was acceptable. (Section M2.2).

Engineering

- The licensee's troubleshooting of repeated residual heat removal service water air vent valve failures was acceptable. However, the licensee did not determine a root cause for the failures to seat. The inspectors did not identify deficiencies with the licensee's evaluations and implementation of the orifice modification (Section E2.1).

- The system engineer assisted operations by providing a sound operability evaluation for the #12 core spray pump (Section E2.2).

Plant Support

- The licensee discovered a mylar containing safeguards information unmarked and improperly stored (Section S1.1).

Report Details

Summary of Plant Status

The plant operated at or near full power for the entire inspection period. Short term power reductions were conducted during the inspection period for control rod and surveillance testing.

I. Operations

O1 Conduct of Operations

O1.1 General Comments (71707)

Using Inspection Procedure 71707, the inspectors conducted frequent reviews of ongoing plant operations. Specific events and noteworthy observations are detailed in the sections below. The inspectors noticed good attentiveness to control room panels and indications.

The inspectors observed plant operations during daily rounds and an inspection of the condenser and feedwater heater areas. The operators were knowledgeable of plant conditions and initiated actions to correct discrepant conditions. However, examples of inattention to details are discussed in Section O2.1.

The operators' performance during surveillance activities, problem identification and response to abnormal plant conditions was acceptable. For example, operators received unexpected fire alarm annunciators and fire pump starts during a maintenance activity. The operators promptly notified maintenance personnel and halted the activity.

O1.2 Inappropriate Technical Specification (TS) Interpretation

a. Inspection Scope (40500)

As discussed in Section M4.1, the shift manager identified that the #1 fire hydrant was inoperable due to standing water in the hydrant barrel. The licensee implemented several corrective actions including initiating a technical specification interpretation to clarify fire hydrant operability. The inspectors reviewed TS 4.13.D.1 and the licensee's interpretation.

b. Observations and Findings

The operations committee (OC) approved an internal technical specification interpretation to clarify the definition of an operable fire hydrant. The OC members reasoned that TS 4.13.D.1 required a dry barrel prior to the winter season to prevent freeze damage to the hydrant. Therefore, the presence of water during non-winter periods did not necessarily make the hydrant inoperable. The OC-approved TS interpretation stated that a [illegible] fire hydrant barrel would not make the

hydrant immediately inoperable. The inspectors noted that TS 4.13.D.1 clearly stated that the hydrant hose station shall be demonstrated operable by verifying that the hydrant barrel was dry. The licensee immediately retracted the interpretation after further discussion with the inspectors. The fire hydrant was subsequently repaired.

c. Conclusions

The OC members inappropriately approved a TS interpretation concerning fire hydrant operability.

O2 Operational Status of Facilities and Equipment

O2.1 Operational Reviews

a. Inspection Scope (71707)

The inspectors reviewed licensee response to various operations issues and system walkdowns.

b. Observations and Findings

The inspectors observed plant operators during daily rounds and conducted independent inspections of the plant. Operators were knowledgeable of plant conditions and generally initiated actions to correct discrepant conditions. However, the inspectors identified the following:

- On October 7, the inspectors noted an increase in the #11 reactor water cleanup (RWCU) pump seal leak. The seal previously leaked about 1 drop every 2-3 seconds but had increased to not quite a continuous stream. The inspectors reviewed the auxiliary plant operator's completed reactor building morning log and identified that no notation was made of the increased pump seal leakage. Discussions with the on-shift operations shift supervisor indicated an unawareness of the increased leakage. Subsequent licensee review confirmed the increased leakage and preparations were initiated for the replacement of the pump seal. Further licensee reviews indicated that the auxiliary plant operator had noted the increase in leakage but had not documented the condition nor communicated the condition to the operations shift supervisor.

- On October 12, the inspectors reviewed completed surveillance 0090, "Standby Liquid Control System Checks," and determined that the tank level recorded by the plant operator exceeded the acceptance criteria. The inspectors discussed this with the shift supervisor and determined that the shift management had not identified the condition for the previous two readings. 10 CFR 50 Appendix B, Criterion XI required test results be evaluated to assure requirements were met. Failure to identify the tank level was above the specified limits is considered an example of a violation (50-263/96008-01a).

Subsequently, the shift supervisor determined that the plant operator misread the level indicator; however, acknowledged that the high reading should have been identified earlier. The inspectors verified the actual tank reading was within the specified limits and verified that TS Figure 3.4.1 was met.

- On two separate occasions, the inspectors identified two continuous air monitors (CAMs) not recording or providing traces of the measured radiation levels in the RWCU and main steam vault. The inspectors notified operations personnel and the CAMs were promptly restored.

c. Conclusions

The inspectors discussed the above examples with the General Superintendent of Operations who stated that managements' expectations were not met. The inspectors considered these events examples of inattention to detail.

04 Operator Knowledge and Performance

04.1 Vulnerability in Communications Identified

a. Inspection Scope (71707)

The inspectors observed three operating crews during a routine training exercise in the simulator. The drill involved a loss of stator water cooling pump, failure of the generator runback circuitry, and recovery from a reactor scram.

b. Observations and Findings

The inspectors noted that the crews responded appropriately during the scenario. Crew briefings were informative and timely. A senior reactor operator verified actions in accordance with the emergency operating procedures and other recovery procedures.

However, the inspectors identified a vulnerability in communicating the results of recent engineering issues. Specifically:

- One crew was unsure whether to isolate the RWCU during power reduction below 90 percent power. This restriction was originally initiated due to a design deficiency for the most limiting high energy line break accident. On August 22, the operations committee approved removing the power restriction based on a subsequent engineering analysis. During the simulator scenario, the shift manager appropriately contacted operations management and verified that the power restriction had been withdrawn.

- One crew did not follow the annunciator response procedure to initiate a power reduction when a stator cooling water pump tripped. Members of the crew incorrectly believed that the

procedure had been changed after the root cause of the June 1996 stator cooling water pump failures was identified.

The inspectors also reviewed the operations department's required reading package for July and August. The reading material consisted of procedure changes and revisions to various operations manual chapters. The inspectors identified that several individuals, specifically 7 (in July) and 17 (in August) had not reviewed the material.

The inspectors discussed the training and required reading observations with the General Superintendent of Operations and confirmed that these actions did not meet established licensee expectations.

c. Conclusions

The inspectors did not identify problems resulting from this communication vulnerability. However, the licensee implemented actions to emphasize management's expectations.

O6 Operations Organization and Administration

O6.1 Response to Industry Events

a. Inspection Scope (71707)

The licensee initiated a condition report (CR) to document actions taken in response to a situation at another Region III licensee. The NRC issued a confirmatory action letter to the other Region III licensee in response to several findings in the control room. Specifically, the NRC identified concerns in shift manning, operators' ability to hear annunciator alarms, and operator attentiveness to control panels.

The inspectors reviewed the licensee's actions taken in response to this industry event.

b. Observations and Findings

The licensee reviewed medical records and verified that all operators passed the audio portion of the examination. One individual experienced a slight hearing loss from a previously administered test; however, testing in the control confirmed that the individual's hearing level was acceptable.

The licensee also performed a review of as-found control room annunciator sound levels. Work Order (WO) 9602513, "Check Audio Level Settings for Control Room Annunciators," was implemented to determine the as-found settings for the installed sound cards in the main control room. The inspectors reviewed the WO and witnessed implementation of the WO steps. Sound cards were located in panels C04B and C06B and were found set on HIGH. A non-adjustable sound unit was also located in panel C20. At the completion of the inspection period, the licensee had

not completed the evaluation of the as-found data to determine if additional corrective actions were required.

The inspectors verified that controls were initiated to ensure the requirements of TS table 6.1.1, "Minimum Shift Manning," were met. The inspectors routinely verified that a senior licensed reactor operator was in the control room or in the shift supervisor office as specified in TS. The inspectors did not identify any shift manning violations.

The inspectors interviewed several operators and determined that training videos were not viewed in the control room. If an individual needed to makeup required training, the video was viewed in a separate room. The inspectors also observed that operators remained attentive to the control board during a short safety meeting held in the control room.

No deficiencies were identified with the licensee's evaluation of industry events or in the implementation of the CR corrective actions.

c. Conclusions

The licensee's evaluations and reviews indicated a heightened awareness of industry-wide issues and concerns. These activities were considered strengths.

O8 Miscellaneous Operations Issues

O8.1 (Closed) Violation (50-263/95011-01A and B): Failure to maintain the drywell spray subsystems operable in accordance with TS 3.5.C. The licensee identified that a manual valve, RHR 74-2, had been closed and unlocked for almost a year. The valve was required to be locked open. During this year period, the licensee unknowingly made the opposite train of drywell spray inoperable simultaneously which resulted in a second example of the TS violation. Upon discovery, the licensee placed the valve in the correct position and initiated corrective actions. The licensee's long term corrective actions were identical to those implemented in response to violation 50-263/95011-03. This item is closed.

II. Maintenance

M1 Conduct of Maintenance

M1.1 General Comments

a. Inspection Scope (62703)

The inspectors observed all or portions of the following work activities:

- WO 9602176 Diesel generator compressor K9B work
- WO 9602692 Investigate and repair undervoltage relay alarm

- WO 9602510 Troubleshoot #12 core spray pump problems
- WO 9602386 Bypass logic test for combustible gas control system, division II
- WO 9602288 Repair SV-2082A air leak
- WO 9602406 Obtain accurate data for ECCS motors
- WO 9602513 Check audio level settings for control room annunciators
- WO 9602571 Install new diaphragm into scram solenoid pilot valves
- WO 9602592 Repair 3 EPA logic cards
- 0007A Condenser Low Vacuum SCRAM Instruments Test and Calibration Procedure
- 0062 RCIC Steam Line High Area Temperature Test
- 0012 APRM/Rod Block/Scram Surveillance Test
- 0255-07-IA-1 Main Steam Valve Exercise Test
- 0255-03-III Core Spray System Pump Operability Test
- 0278A ATWS-Recirc Trips for Reactor Pressure and Level Trip Unit Test and Calibration

b. Observations and Findings

The inspectors found the work performed under these activities to be professional and thorough. All work observed was performed with the work package present and in active use. Technicians were experienced and knowledgeable of their assigned tasks. The inspectors frequently observed supervisors and system engineers monitoring job progress, and quality control personnel were present whenever required by procedure. When applicable, appropriate radiation control measures were in place.

M1.1 Fire Hydrant Surveillance

a. Inspection Scope (61726)

On September 25, 1996, the shift manager reviewed test 0319, "Fire Protection System - Yard Hydrant Inspection," and noted that the mechanic documented that 9 feet of water was left in the #1 fire hydrant barrel. Technical Specification 4.13.D required the hydrant barrel be dry. The shift manager immediately declared the #1 fire hydrant and hose house inoperable. The shift manager also noted that the surveillance was initiated earlier in the week and the mechanic technician failed to notify operations of the degraded condition. The inspectors independently reviewed the test, applicable sections of TS and Updated Final Safety Analysis Report (UFSAR) and the licensee's corrective actions.

b. Observations and Findings

The purpose of the surveillance was to verify the condition of the hydrant in accordance with TS 4.13.D.1.b. The test consisted of opening the hydrant valve to verify that the barrel was not damaged and to

establish flow through the hydrant. The hydrant valve was then closed to verify proper operation of the drain valve and to prevent potential freeze damage from standing water within the barrel. The acceptable condition as stated in test 0319 was less than 2 inches of standing water in the hydrant barrel.

The shift manager immediately declared the hydrant inoperable and entered the appropriate limiting condition for operation. The licensee initiated a WO to repair the drain valve. The standing water was drained and the barrel was left dry. The hydrant was declared operable.

The mechanic failed to notify operations personnel when the hydrant failed to meet the acceptance criteria. The licensee further identified that the same condition existed during the previous test in May 1996. The inspectors also reviewed the September 1995 test which documented a dry barrel. Therefore, the fire hydrant was inoperable since May 1996. The inspectors also noted that the May 1996 test was reviewed by the system engineer and operations personnel; however, no one identified the discrepant condition.

10 CFR 50 Appendix B, Criterion XI required test results be documented and evaluated to assure test requirements were met. Failure to properly review the May 1996 test and failure to communicate discrepant test results for the September 1996 test is considered another example of a violation (50-263/96008-01b).

c. Conclusions

The shift manager responded promptly after identifying the inoperable fire hydrant. The mechanic failed to follow procedure and did not notify operations when the acceptance criteria was not met.

M1.2 Discrepancy Between Acceptance Criteria for Standby Liquid Control (SBLC) Surveillance and Inservice Testing (IST) Program Relief Request

a. Inspection Scope (61726 and 37551)

The inspectors reviewed the following documents:

- TS 4.4.A.1;
- Surveillance test 0085, "SBLC System Operability Test," Revisions 19, 20, and 22;
- Engineering Work Instruction (EWI) 09.04.01, "Inservice Testing Program," Revision 3; and
- Safety Evaluation Report dated July 6, 1993, which approved the methodology used for determining SBLC flow rates.

The inspectors reviewed these documents to verify design parameters were translated into surveillance tests.

b. Observations and Findings

The inspector reviewed EWI 09.04.01 and noted that the licensee had been granted relief from IST requirements for determining SBLC flow. The SBLC system did not provide a direct means to measure flow; therefore, the licensee requested permission to determine flow based on an alternate method. This method consisted of measuring the amount of fluid transferred to the test tank over a period of time. As stated in the Safety Evaluation Report and EWI 09.04.01, the equation used was:

$$Q = 261.8 \times \Delta L/\Delta t$$

where

Q = flow rate in gallons per minute
ΔL = change in test tank level
Δt = change in time

The constant 261.8 represented units conversion and dimensions of the test tank.

The inspectors reviewed surveillance test 0085 Revision 22 and identified that the equation specified in the procedure used 264.4 as the constant. The inspectors noted that Revision 19 of test 0085 specified a constant of 261.8. The inspectors determined that the licensee changed the constant on February 10, 1994, with the implementation of Revision 20 of procedure 0085.

The inspectors discussed this discrepancy with the system engineer and the IST coordinator. Neither of the individuals were aware of the conflicting values. The system engineer stated that the value was changed to reflect the true dimensions of the test tank. The 261.8 value assumed a tank diameter of 35.81 inches verses an actual diameter of 36 inches. The system engineer presented a calculation showing how the 264.4 value was obtained. The inspector noted that this calculation was rather informal; the calculation was not titled or dated, was not signed by the individual performing the calculation, and was not signed by an independent reviewer. The licensee could not retrieve additional documentation to support this procedure change.

The inspectors reviewed the surveillance results since June 1996 and did not identify a operability concern. Regardless of which constant was used, the SBLC pumps flow were within acceptable limits.

10 CFR Part 50, Appendix B, Criterion XI, "Test Control," required written test procedures to incorporate the requirements and acceptance limits contained in design documents. The licensee revised test 0085 using an unapproved informal calculation and did not recognize the revision differed from the IST program. This is considered another example of a violation (50-263/96008-01c).

c. Conclusions

The licensee was unaware that the test 0085 conflicted with the IST program. Also, the system engineer used an unapproved calculation as a basis to revise the test.

M2 Maintenance and Material Condition of Facilities and Equipment

M2.1 Molded Case Circuit Breaker (MCCB) Testing

a. Inspection Scope (62707 and 61726)

The inspectors performed a review of the licensee's troubleshooting and testing activities associated with potentially damaged MCCBs.

b. Observations and Findings

On August 20, 1996, the licensee issued CR 9602009 to document a failure of two poles to trip in a safety related circuit breaker, B4416. During performance of procedure 4846PM, "Molded Case Circuit Breaker Maintenance and Test Procedure," Revision 7, two poles of the MCCB failed to trip during an instantaneous current test as designed. The existing MCCB was replaced with one which had been satisfactorily tested. Additional reviews by the licensee determined that, based on record reviews, a possible cause of the MCCB failure was that the trip mechanism was damaged during previous testing performed in May 1991. The subject breaker contained a magnetic trip but not a thermal trip unit. However, it appeared from the 1991 data, that the MCCB may have been subjected to a thermal test current (300 percent of rated) thereby damaging the instantaneous trip mechanism. The higher test current resulted in overheating of the instantaneous trip mechanism and resulted in melting the plastic parts within the trip mechanism. The licensee identified additional MCCBs with similar type design of instantaneous trip mechanism through records and drawing reviews. Of the 18 similar type MCCBs, 4 were identified as possibly having been subjected to inappropriate test currents. The inspectors witnessed the testing of three of the four MCCBs:

WO	MCCB, Description
9602478	B4462, B Combustible Gas Control System Basket Strainer
9602484	B3414, Return Air Fan
	B3423, Emergency Filter Fan

The test results indicated that the instantaneous trip mechanism was operating properly as evidenced by the MCCBs tripping within the current and time acceptance criteria. The fourth suspect MCCB (B3437) supplied power to a reactor building closed cooling water drywell isolation valve and could not be tested with the plant online. Based on the other test results, the licensee believed it was acceptable to postpone testing of this MCCB until the first available opportunity.

At the completion of the inspection period, CR 9602009 remained open pending additional corrective actions including revisions to procedure 4846PM to provide additional instructions to better identify which MCCBs do not have a thermal trip device and testing of MCCB B3437.

c. Conclusions

The licensee's actions to evaluate and test possibly damaged MCCBs was performed in a structured manner. Testing was determined to be acceptably performed and the inspectors concluded that the licensee was implementing appropriate corrective actions to resolve this issue.

M2.2 Current Material Condition and Impact on Operations Personnel

a. Inspection Scope (71707)

The inspectors conducted control room and plant inspections and interviewed operations personnel to assess the material condition of plant equipment.

b. Observations and Findings

During inspections in the plant and control room, the inspectors noted that the following degraded conditions were outstanding:

- Failed limit switch on the #1 turbine stop valve. A half scram signal will be generated during weekly turbine valve testing. An information card was placed on the valve handswitch to caution the operators. The licensee inspected the valve during a load reduction and found a problem with the open limit switches. The licensee intends to repair this during an outage.

- #12 control rod drive pump discharge check valve does not completely close. This leakage caused a relief valve to lift. The operators placed this pump in operation to maintain this valve open. An information card was placed on the hand switch and instructed operators to isolate the discharge line when shutting down the pump.

- #11 residual heat removal service water air vent valve failed to seat. This condition is discussed in Section E2.1.

- #12 core spray pump failed to meet acceptance criteria. This condition is discussed in Section E2.2

c. Conclusions

The inspectors verified that the above conditions did not violate TS. The operators interviewed were knowledgeable of the conditions. The inspectors verified that work orders were initiated to repair the degraded equipment.

M8 Miscellaneous Maintenance Issues

M8.1 (Closed) Licensee Event Report (50-263/96009): The licensee failed to perform the required actions within 1 hour following the discovery of water in a fire hydrant barrel. This event is discussed in Section M1.1. The inspectors had no additional concerns with the licensee's report.

III. Engineering

E2 Engineering Support of Facilities and Equipment

E2.1 Residual Heat Removal (RHR) Service Water (SW) #11 Pump Declared Inoperable Due to an Inoperable Air Vent Valve

a. Inspection Scope (37550 and 62707)

The inspectors performed a review of the licensee's troubleshooting, maintenance, and engineering activities pertaining to the inoperable #11 RHRSW pump. Problems associated with the inoperable pump were of concern due to the recurring nature of the failure mode.

b. Observations and Findings

In Inspection Report 50-263/96006, paragraph E2.2, the inspectors discussed the failure of air vent valve, AV-3147, to close when the #11 RHRSW pump started on June 19. The air vent valve was located on the pump discharge piping and was designed to close after air was ejected from the pump column and system piping. This condition was documented in CR 9601666. Following extensive testing and monitoring of system parameters such as system flow and pressures, the licensee performed adjustments to the throttling device located on the air vent valve. Post-maintenance testing of the valve indicated acceptable results as evidenced by the valve properly seating during several tests. As a result, the licensee declared the valve and RHRSW pump operable and exited the limiting condition for operation (LCO). The licensee continued to review the root cause of the air vent valve failures.

On September 18, the air vent valve failed to seat again during routine surveillance testing. Operators declared the pump inoperable and entered the applicable TS LCO. The system engineer initiated additional testing to gather baseline system pressure information and also directed maintenance personnel to swap the air vent valve with that installed on the #13 RHRSW system. The licensee was unable to determine a root cause of the failure. The system was returned to the original configuration and successfully tested daily for about a week. The system was again declared operable. The other three RHRSW air vent valves have not experienced the same failures to seat.

On October 11, the operators started the #11 RHRSW pump to support other testing. The air vent valve again failed to seat. The licensee discussed the results of previous troubleshooting and system

performance with the valve manufacturer and a discernible root cause was not determined. The licensee's corrective actions for this failure consisted of installing an orifice plate in the inlet to the air vent valve. The purpose of the orifice was to allow the entrapped air in the system to escape but would throttle the flow and allow the valve to seat.

The inspectors reviewed the licensee's corrective actions including modification 96Q150, its corresponding safety evaluation and applicable UFSAR sections. The modification safety evaluation included consideration of the orifice plate material composition, ASME Section XI testing requirements and reliability verification. The inspectors also observed the installation of the orifice plate. Post-modification testing had not started by the end of the inspection period; however, the results and other licensee actions will be documented in Inspection Report 50-263/96011.

c. Conclusions

The licensee's actions in evaluating the RHRSW air vent valve were acceptable. Extensive testing was performed and included gathering of pertinent system operational data. A root cause for the inoperative air vent valve was not identified. However, the inspectors did not identify deficiencies with the licensee's evaluations and implementation of the orifice modification.

E2.2 #12 Core Spray Pump (CS) in the REQUIRED ACTION Range

a. Inspection Scope (61726)

The inspectors reviewed the September 19, 1996, results of surveillance test 0255-03-III, "Core Spray System Pump Operability Test." The operators measured several pump performance parameters and determined that the acceptance criteria for differential pressure and required flow were not met.

The inspectors also reviewed applicable sections of TS and UFSAR.

b. Observations and Findings

The inspectors noted that operations personnel declared the pump inoperable, entered the appropriate TS LCO, and notified the system engineer. Instrumentation and controls personnel verified that pressure gauges were calibrated and instrument lines were full. The system engineer initiated WO 9602510 to troubleshoot the cause. The WO consisted of adding instrumentation and re-performing portions of surveillance test 0255-03-III. All parameters were within the acceptance criteria. However, the engineer noted that slight movement of the selector switch for flow indicator, FI7188, caused the mV reading to change and indicated a lower flow. The system engineer initiated WO 9602521 to investigate the switch problem. The system engineer prepared form 3108, "Pump, Valve, Instrument Record of Corrective Action," and

determined that the pump was operable. The engineer also placed the #12 CS pump on an accelerated testing frequency as a conservative measure.

The inspectors observed the additional testing and independently verified the surveillance results and calculations. The inspectors also reviewed previous test data including vibration information and did not observe a decline in the pump's performance. The inspectors reviewed the engineering evaluation and had no concerns.

c. Conclusions

The inspectors determined that the operability evaluation and accelerated testing were appropriate actions. The system engineer provided a technically sound operability evaluation.

E2.3 Licensee Actions to Resolve Control Rod Insertion Time Discrepancies

a. Inspection Scope (37550)

The licensee continued actions to address control rod insertion time degradation due to scram solenoid pilot valve (SSPV) problems. On October 9, 10 and 16, 1996, the licensee performed individual control rod scram testing on 25 control rods. The inspectors observed portions of the test and replacement of solenoid diaphragms.

b. Observations and Findings

The inspectors observed the evolution briefing for this test. The nuclear engineer clearly described the test and expected results to the control room operators. Operators established excellent communication between all individuals involved with the test. The nuclear engineer evaluated the data promptly and provided guidance to the operators and operations management. The inspectors also noted good procedure adherence.

Technical Specification 3.3.C.1 required an overall average 5 percent insertion time of 375 milliseconds. The 5 percent insertion time pertains to the time required to insert a control rod 5 percent from the fully withdrawn position. However, the licensee conservatively decided to replace four SSPV diaphragms which were slower than this group limit. The inspectors witnessed the replacement of two SSPV diaphragms. Subsequent control rod testing indicated acceptable test results. No deficiencies were identified during the inspectors' witnessing of control rod testing and SSPV diaphragms replacements. The inspectors independently reviewed the test results and had no concerns.

The licensee's test results showed that the overall 5 percent insertion rate had slowed since the last test. Control rods with SSPV diaphragms installed in 1996 showed more incremental slowing than those installed in 1994. However, the licensee extrapolated the test data and concluded this slowing will not impact the rods' ability to scram as required by TS.

c. Conclusions

The testing was conducted in a controlled manner. The evolution briefing was informative. The licensee's decision to replace four diaphragms was conservative.

E2.4 High Pressure Cooling Injection (HPCI) System Observations

a. Inspection Scope (37550)

The inspectors performed a walkdown inspection of various plant areas including the HPCI pump room. Inspection attributes included material condition and system readiness.

b. Observations and Findings

During plant tours, the inspectors noted that a junction box located on the HPCI pump skid was open and did not contain a means to properly secure the box closed. The HPCI system engineer was interviewed to evaluate the safety significance of the open junction box.

The box was labeled as Q403, Q404, Q405, and Q409. The inspectors were concerned that a possible steam leak or high humidity condition could affect the existing terminal block terminations (e.g., shorting) located in the junction box. The system engineer determined that the terminations located in the junction box were associated primarily with annunciator circuits which, if shorted or became inoperative, would necessitate operator's response and would not prematurely affect the operation of the HPCI pump. Cables for a pressure switch (PS-7312) and solenoid valve (SV-1) which could affect the HPCI pump operation were routed through the junction box. However, these wires were no longer terminated at the terminal strips within the junction box but were spliced using Raychem heat shrink material. These Raychem splices were qualified for harsh environment. The inspectors independently reviewed drawings NX-8292-45 and C-895-X-3 and verified that the circuits routed through the junction box were associated with annunciator circuits or were Raychem spliced.

From interviews with the system engineer, the inspectors could not readily determine how long the opened junction box had existed. The system engineer initiated WO 9602431 to provide a means to secure the box closed. The inspectors verified implementation of the work order and concluded that the safety significance of the above equipment condition was minimal although the degraded material condition should have been identified by licensee personnel prior to NRC questioning.

c. Conclusions

The inspectors concluded that the material condition of the HPCI system was acceptable. One minor material condition indicated a need for an increase in plant personnel awareness to changes in component material condition.

E2.5 Results of UFSAR Review

The inspectors routinely compared current operational practices with those described in the UFSAR. The inspectors did not identify any discrepancies. The observed plant practices, procedures, and parameters were consistent with the UFSAR.

IV. Plant Support

R1 Radiological Protection and Chemistry Controls

R1.1 General Comments (71750)

Using Inspection Procedure 71750, the inspectors conducted frequent reviews of the radiological protection area. In general, plant personnel followed good radiological worker practices. Contaminated and radiation areas were appropriately identified and marked. Routine surveys were updated and radiation work permits were current for the work observed. The expectation to keep individual exposure low was discussed at pre-job briefings. Work activities were generally well coordinated between plant and radiation protection personnel.

However, radiation protection personnel were not aware of the magnitude of a fire sprinkler inspection in a high radiation area prior to the prejob briefing. The fire protection system engineer did not schedule this inspection during the outage when expected dose would have been considerably less than at power. The radiation protection technician postponed the surveillance until a planned power reduction.

S1 Conduct of Security and Safeguards Activities

S1.1 Safeguards Material Found Unmarked and Improperly Stored

On September 17, the licensee notified the inspectors that a mylar containing safeguards information was found unsecured. The mylar was not marked as safeguards material. The licensee determined that this mylar should have been marked safeguards and secured properly in August 1995 as part of corrective actions to a previous problem. However, it appeared that this mylar was inadvertently missed during the review. The licensee's corrective actions included retrieving the mylar and storing it properly, initiating a CR, documenting the loggable event, and requesting a quality assurance audit of drawing control. This event is considered an Inspection Followup Item (50-263/96008-02(DRS)) pending review by a security inspector.

V. Management Meetings

X1 Exit Meeting Summary

On October 18, 1996, the inspectors presented the inspection results to the Plant Manager. 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.

X3 Management Meeting Summary

X3.1 Systematic Assessment of Licensee Performance Meeting

On September 10, 1996, Mr. W. Axelson, Acting Deputy Regional Administrator, presented the SALP 13 report to Mr. D. Antony, President, Northern States Power Generation. The areas of operations, maintenance, and plant support were considered superior and were rated a SALP Category 1. The engineering function was rated a SALP Category 2 with weaknesses noted in design engineering.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

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W. Hill, Plant Manager
B. Day, Training Manager
M. Hammer, General Superintendent Maintenance
K. Jepson, Superintendent, Chemistry & Environmental Protection
L. Nolan, General Superintendent Safety Assessment
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C. Schibonski, General Superintendent Engineering
W. Shamla, Manager Quality Services
J. Windschill, General Superintendent, Radiation Protection
L. Wilkerson, Superintendent Security

In addition to the above, the following individuals were also present during the SALP 13 publ eting:

Licensee

J. Howard, Chief Executive Officer
D. Antony, President, Northern States Power Generation
T. Amundson, Director Generation Quality Services
R. Anderson, Director Licensing and Management Issues

Nuclear Regulatory Commission

W. Axelson, Acting Deputy Regional Administrator
C. Pederson, Division of Nuclear Materials Safety Director
M. Ring, Division of Reactor Safety Branch Chief
T.J. Kim, NRR Project Manager
M. Jordan, Division of Reactor Projects Branch Chief
A.M. Stone, Senior Resident Inspector
J. Lara, Resident Inspector
M. Bugg, NRR Intern

INSPECTION PROCEDURES USED

IP 37551:	Onsite Engineering
IP 40500:	Effectiveness of Licensee Controls in Identifying, Resolving, and Preventing Problems
IP 61726:	Surveillance Observations
IP 62703:	Maintenance Observations
IP 71707:	Plant Operations
IP 71750:	Plant Support
IP 92700:	Onsite Followup of Written Reports of Nonroutine Events at Power Reactor Facilities

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-263/96008-01	VIO	Three Examples of Inadequate Test Control
50-263/96008-02	IFI	Mylar Found Unmarked and Unsecured

Closed

50-263/95011-01	VIO	Failure to Maintain the Drywell Spray Subsystems Operable in Accordance with TS 3.5.C
50-263/96009-00	LER	Failure to Perform the Required Actions Within One Hour Following the Discovery of Water in a Fire Hydrant Barrel

LIST OF ACRONYMS USED

ASME	American Society of Mechanical Engineers
CAM	Continuous Air Monitor
CFR	Code of Federal Regulations
CR	Condition Report
CS	Core Spray
HPCI	High Pressure Coolant Injection
IFI	Inspection Followup Item
IST	Inservice Testing
LCO	Limiting Condition for Operation
LER	Licensee Event Report
MCCB	Molded Case Circuit Breaker
NRC	Nuclear Regulatory Commission
OC	Operations Committee
RHRSW	Residual Heat Removal Service Water
RWCU	Reactor Water Clean-Up
SBLC	Standby Liquid Control
SSPV	Scram Solenoid Pilot Valves
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
VIO	Violation
WO	Work Order