

July 17, 2006

Mr. J. Conway  
Site Vice President  
Monticello Nuclear Generating Plant  
Nuclear Management Company, LLC  
2807 West County Road 75  
Monticello, MN 55362-9637

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT NRC INTEGRATED  
INSPECTION REPORT 05000263/2006003 (DRP); 05000263/2006010(DRS)

Dear Mr. Conway:

On June 30, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Monticello Nuclear Generating Plant. The enclosed integrated inspection report documents the inspection findings which were discussed on July 6, 2006, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, there were two NRC-identified findings of very low safety significance, of which one involved a violation of NRC requirements. However, because this finding was of very low safety significance and because the issue was entered into the licensee's corrective action program, the NRC is treating this finding as a non-cited violation in accordance with Section VI.A.1 of the NRC's Enforcement Policy.

If you contest the subject or severity of a non-cited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Monticello Nuclear Generating Plant.

In accordance with 10 CFR 2.390 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 (PARS) component of NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA/**

Bruce L. Burgess, Chief  
Branch 2  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000263/2006003;05000263/2006010  
w/Attachment: Supplemental Information

cc w/encl: M. Sellman, Chief Executive Officer  
and Chief Nuclear Officer  
Manager, Nuclear Safety Assessment  
J. Rogoff, Vice President, Counsel, and Secretary  
Nuclear Asset Manager, Xcel Energy, Inc.  
State Liaison Officer, Minnesota Department of Health  
R. Nelson, President  
Minnesota Environmental Control Citizens  
Association (MECCA)  
Commissioner, Minnesota Pollution Control Agency  
D. Gruber, Auditor/Treasurer,  
Wright County Government Center  
Commissioner, Minnesota Department of Commerce  
Manager - Environmental Protection Division  
Minnesota Attorney General's Office

J. Conway

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-263

License No: DPR-22

Report No: 05000263/2006003;05000263/2006010

Licensee: Nuclear Management Company, LLC

Facility: Monticello Nuclear Generating Plant

Location: Monticello, Minnesota

Dates: April 1 through June 30, 2006

Inspectors: S. Thomas, Senior Resident Inspector  
R. Orlikowski, Resident Inspector  
L. Haeg, Resident Inspector  
J. Adams, Prairie Island Senior Resident Inspector  
D. Karjala, Prairie Island Resident Inspector  
S. Sheldon, Reactor Engineer  
R. Jickling, Emergency Preparedness Analyst

Observers: None

Approved by: B. Burgess, Chief  
Branch 2  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

Inspection Report 05000263/2006003; 05000263/2006010; 04/01/2006 - 06/30/2006; Monticello Nuclear Generating Plant. Fire Protection and Surveillance Testing.

This report covers a 3-month period of baseline resident inspection and an announced baseline inspection for emergency preparedness. The inspections were conducted by the resident inspectors and a regional emergency preparedness inspector. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be "Green" or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

### **A. NRC-Identified and Self-Revealed Findings**

#### **Cornerstone: Mitigating Systems**

- Green. A finding of very low safety significance was identified by the inspectors for failure to control loose materials, located above and adjacent to the Division II low pressure coolant injection (LPCI) inboard isolation valve and associated piping. Once identified, the licensee took action to relocate the material.

The issue was more than minor because the loose items located above and adjacent to the Division II LPCI components impacted the Mitigating Systems objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, it affected the cornerstone's attribute for the protection against external factors such as seismic events. The issue was of very low safety significance because the finding did not represent a loss or degradation of equipment specifically designed to mitigate a seismic initiating event, nor did it represent a total loss of any safety function identified by the licensee that contributes to external event initiated core damage accident sequences. This finding had a cross-cutting aspect in the area of Human Performance because licensee personnel failed to determine the potential impact of the unsecured material on the Division II LPCI components during a seismic event as required by station procedures. No violation of NRC requirements was identified. (Section 1R05)

#### **Cornerstone: Barrier Integrity**

- Green. A finding of very low safety significance was identified by the inspectors for a violation of 10 CFR 50, Appendix B, Criterion V, when licensee Instrumentation & Controls (I&C) technicians deviated from existing procedural guidance to perform unauthorized post-maintenance tests during the performance of torus vacuum breaker testing. Specifically, maintenance personnel inappropriately cycled the isolation valves to differential pressure transmitters DPIS-2572 and DPIS-2573 to perform leak checks subsequent to the removal of test equipment. Specific corrective actions taken by the

licensee to address this issue included counseling of the responsible technician regarding procedure use and adherence expectations and supervisor discussions with the I&C shop personnel to reinforce standards regarding procedure use and adherence.

This finding was more than minor because if left uncorrected, the performance deficiency could become a more significant safety concern. The inspectors determined that the finding was of very low safety significance because the performance deficiency did not result in an actual open pathway in the physical integrity of the reactor containment, or actual reduction in the defense-in-depth for the atmospheric pressure control or hydrogen control functions of the reactor containment. This finding had a cross-cutting aspect in the area of Human Performance because licensee personnel failed to follow established procedures. (Section 1R22)

**B. Licensee-Identified Violations**

None.

## **REPORT DETAILS**

### **Summary of Plant Status**

Monticello operated at full power for the entire assessment period except for brief downpower maneuvers to accomplish rod pattern adjustments and to conduct planned surveillance testing activities with the following exceptions:

- On April 22, 2006, reactor power was reduced to approximately 75 percent full power to facilitate a significant planned control rod pattern adjustment. The evolution was completed successfully and power was restored to 100 percent later the same day.
- On June 25, 2006, reactor power was reduced to approximately 55 percent full power to facilitate the brush replacement on the 12 recirculation motor-generator set. The maintenance was completed successfully and power was restored to 100 percent power later the same day.

### **1. REACTOR SAFETY**

#### **Cornerstone: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness**

##### **1R01 Adverse Weather (71111.01)**

###### **a. Inspection Scope**

The inspectors performed a detailed review of the licensee's procedures and a walkdown of two systems to observe the licensee's preparations for adverse weather, including conditions that could result from high temperatures or high winds. The inspectors focused on plant specific design features for the systems and implementation of the procedures for responding to or mitigating the effects of adverse weather. Inspection activities included, but were not limited to, a review of the licensee's adverse weather procedures, preparations for the summer season, and a review of analysis and requirements identified in the Updated Safety Analysis Report. The inspectors also verified that operator actions specified by plant specific procedures were appropriate.

The inspectors evaluated readiness for seasonal susceptibilities for the following systems for a total of two samples:

- intake structure pump room ventilation system; and
- switchyard.

###### **b. Findings**

No findings of significance were identified.



## 1R04 Equipment Alignment (71111.04)

### .1 Partial Walkdown

#### a. Inspection Scope

The inspectors performed partial walkdowns of accessible portions of trains of risk-significant mitigating systems equipment. The inspectors reviewed equipment alignment to identify any discrepancies that could impact the function of the system and potentially increase risk. Identified equipment alignment problems were verified by the inspectors to be properly resolved. The inspectors selected redundant or backup systems for inspection during times when equipment was of increased importance due to unavailability of the redundant train or other related equipment. Inspection activities included, but were not limited to, a review of the licensee's procedures, verification of equipment alignment, and an observation of material condition, including operating parameters of equipment in-service.

The inspectors selected the following equipment trains to assess operability and proper equipment line-up for a total of three samples:

- Division II 125/250 Vdc distribution system with high pressure coolant injection out-of-service for maintenance;
- hard pipe vent with Division II residual heat removal (RHR) service water out-of-service for maintenance; and
- Division II core spray system with Division I core spray system out-of-service for maintenance.

#### b. Findings

No findings of significance were identified.

## 1R05 Fire Protection (71111.05Q)

#### a. Inspection Scope

The inspectors walked down risk-significant fire areas to assess fire protection requirements. The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and had implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems or features. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events, or the potential to impact equipment which could initiate or mitigate a plant transient. The inspection activities included, but were not limited to, the control of transient combustibles and ignition sources, fire detection equipment, manual suppression capabilities, passive suppression capabilities, automatic suppression capabilities, compensatory measures, and barriers to fire propagation.

The inspectors selected the following areas for review for a total of ten samples:

- Fire Zone 23A, intake structure pump room;
- Fire Zone 1000, site mitigation;
- Fire Zone 31A, emergency filtration train building (EFT) 1<sup>st</sup> floor, Division I;
- Fire Zone 31B, EFT building 1<sup>st</sup> floor, Division II;
- Fire Zone 32A, EFT building 2<sup>nd</sup> floor, Division I;
- Fire Zone 32B, EFT building 2<sup>nd</sup> floor, Division II;
- Fire Zone 33, EFT building 3<sup>rd</sup> floor;
- Fire Zone 5B, reactor building 1001' elevation north;
- Fire Zone 2H, west shutdown cooling area; and
- Fire Zone 2D, reactor building railroad shelter.

b. Findings

Introduction: The inspectors identified a finding of very low safety significance associated with the licensee's failure to control loose materials, located above and adjacent to the Division II LPCI inboard isolation valve and associated piping. No violation of NRC requirements was identified.

Description: On May 25, 2006, the inspectors conducted a fire protection inspection of the west shutdown cooling room. During this inspection, the inspectors identified several pieces of deck grating (approximately 2' x 6' x 2") that were stacked five high and other loose materials being stored on a elevated concrete platform located immediately above the drywell personnel hatch and approximately 12 inches from the edge of the platform that was above and adjacent to the Division II LPCI inboard isolation valve and associated piping. The inspectors concluded that during a seismic event, the material could fall and impact LPCI injection isolation valves, vent valves, and associated piping.

Administrative Work Instruction 4 AWI-04.02.01, "Housekeeping," Revision 12, established general housekeeping practices, which are consistent with acceptable industry standards and the criteria set forth for the Monticello Nuclear Generating Plant (MNGP). This procedure specifically states the requirements for storage of items or equipment that are not restrained or secured to prevent or minimize movement during a seismic event during plant operation. In part, Step 4.3.1B states that "loose material SHALL be stored at least three (3) feet from any operable safety related equipment." Additionally, Step 4.3.3 states that "exceptions to the above policies SHALL require prior approval of the Manager System Engineering." In regards to the storage of these materials, the licensee did not meet either requirement. Once informed, the licensee took action to relocate the material to a proper storage location.

Analysis: The inspectors reviewed this finding using the guidance contained in Appendix B, "Issue Disposition Screening," of IMC 0612, "Power Reactor Inspection Reports." The inspectors determined that the licensee's failure to control loose material near risk-significant equipment and to appropriately implement their housekeeping procedure was a performance deficiency which affected the Mitigating Systems Cornerstone. The inspectors determined that the finding was more than minor because the loose items located above and adjacent to the Division II LPCI components

impacted the Mitigating Systems objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, it affected the cornerstone's attribute for the protection against external factors such as seismic events.

The inspectors evaluated the finding using IMC 0609, Appendix A, Attachment 1, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Using the Phase 1 SDP worksheet for the Mitigating Systems Cornerstone the inspectors determined that the finding did not represent a loss or degradation of equipment or function specifically designed to mitigate a seismic, flooding, or severe weather initiating event, nor did it represent a total loss of any safety function, identified by the licensee that contributes to external event initiated core damage accident sequences. Therefore, the finding was determined to be of very low safety significance (Green). This finding had a cross-cutting aspect in the area of Human Performance because licensee personnel failed to determine the potential impact of the unsecured material on the Division II LPCI components during a seismic event as required by station procedures.

Enforcement: The inspectors concluded that no violation of NRC requirements occurred. The licensee entered this finding into their corrective action program (CAP01032480) and took action to relocate the loose material to an appropriate storage location. (FIN 05000263/2006003-01)

#### 1R06 Flood Protection Measures (71111.06)

##### a. Inspection Scope

The inspectors performed an annual review of flood protection barriers and procedures for coping with external flooding. The inspection focused on determining whether flood mitigation plans and equipment were consistent with design requirements and risk analysis assumptions. The inspection activities included, but were not limited to, a review and/or walkdown to assess design measures, seals, drain systems, contingency equipment condition and availability of temporary equipment and barriers, performance and surveillance tests, procedural adequacy, and compensatory measures.

The inspectors selected the following equipment for a total of one sample:

- external flood protection measures.

##### b. Findings

No findings of significance were identified.

#### 1R11 Licensed Operator Requalification Program (71111.11)

##### a. Inspection Scope

The inspectors performed a quarterly review of licensed operator requalification training. The inspection assessed the licensee's effectiveness in evaluating the requalification

program, ensuring that licensed individuals operate the facility safely and within the conditions of their license, and evaluated licensed operator mastery of high-risk operator actions. The inspection activities included, but were not limited to, a review of high-risk activities, emergency plan performance, clarity and formality of communications, task prioritization, timeliness of actions, alarm response actions, control board operations, procedural implementation, supervisory oversight, group dynamics, simulator fidelity, and licensee critique of performance.

On June 12, 2006, the inspectors observed the following requalification activity for a total of one sample:

- an evaluated simulator scenario that included a failure of a safety relief valve, failure of a control rod drive pump, loss of vital electrical busses, and a reactor scram.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed a system to assess maintenance effectiveness, including maintenance rule activities, work practices, and common cause issues. Inspection activities included, but were not limited to, the licensee's categorization of specific issues including evaluation of performance criteria, appropriate work practices, identification of common cause errors, extent of condition, and trending of key parameters. Additionally, the inspectors reviewed implementation of the Maintenance Rule (10 CFR 50.65) requirements, including a review of scoping, goal-setting, performance monitoring, short-term and long-term corrective actions, functional failure determinations associated with reviewed CAP documents, and current equipment performance status.

The inspectors performed the following maintenance effectiveness review for a total of one sample:

- C an issue-oriented review of the 12 reactor protection system (RPS) motor generator (MG) set system because it was designated as risk-significant under the Maintenance Rule and the system experienced abnormal vibrations and higher than normal temperatures following motor replacement.

b. Findings

No findings of significance were identified.

### 1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

#### a. Inspection Scope

The inspectors reviewed maintenance activities to review risk assessments (RAs) and emergent work control. The inspectors verified the performance and adequacy of RAs, management of resultant risk, entry into the appropriate licensee-established risk bands, and the effective planning and control of emergent work activities. The inspection activities included, but were not limited to, a verification that licensee RA procedures were followed and performed appropriately for routine and emergent maintenance, that RAs for the scope of work performed were accurate and complete, that necessary actions were taken to minimize the probability of initiating events, and that activities to ensure that the functionality of mitigating systems and barriers were performed. Reviews also assessed the licensee's evaluation of plant risk, risk management, scheduling, configuration control, and coordination with other scheduled risk-significant work for these activities. Additionally, the assessment included an evaluation of external factors, the licensee's control of work activities, and appropriate consideration of baseline and cumulative risk.

The inspectors observed maintenance or planning for the following activities or risk-significant systems undergoing scheduled or emergent maintenance for a total of seven samples:

- emergent work on 1AR transformer with the 1R transformer out-of-service;
- emergent work on the reactor recirculation flow recorder;
- emergent work due to a body to bonnet leak on MO-2014 (Division I LPCI inboard isolation valve);
- emergent work due to the discovery of an air leak on the actuator for CV-1729 ("B" RHR heat exchanger service water outlet control valve);
- emergent work due to unexpected trip of the Division I control room ventilation train during a routine train swap;
- emergent work to identify and repair the source of water leakage from the stator cooling water system; and
- emergent trouble shooting efforts on the automatic reactor pressure control systems to identify the cause of a minor pressure transient.

#### b. Findings

No findings of significance were identified.

### 1R14 Operator Performance During Non-Routine Plant Evolutions and Events (71111.14)

#### a. Inspection Scope

The inspectors reviewed personnel performance for planned non-routine evolutions to review operator performance and the potential for operator contribution to the evolution, transient, or event. The inspectors observed or reviewed records of operator performance during the evolution. Reviews included, but were not limited to, operator logs, pre-job briefings, instrument recorder data, and procedures.

The inspectors observed the following evolutions for a total of three samples:

- a planned rod pattern adjustment requiring a downpower to approximately 75 percent reactor power and the movement of 21 individual control rods;
- isolation, testing, and restoration of the RHR shutdown cooling suction piping during a required piping system leakage test; and
- reduction of reactor power to approximately 55 percent to support the replacement of the 12 recirculation MG set brushes.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed operability evaluations which affected mitigating systems or barrier integrity to ensure that operability was properly justified and that the component or system remained available. The inspection activities included, but were not limited to, a review of the technical adequacy of the operability evaluations to determine the impact on technical specifications (TSs), the significance of the evaluations to ensure that adequate justifications were documented, and that risk was appropriately assessed.

The inspectors reviewed the following operability evaluations for a total of three samples:

- blown control power fuse on “B” control room ventilation compressor;
- body to bonnet leakage on the LPCI inboard isolation valve; and
- settling of the diesel oil pump house, diesel oil storage tank, and the offgas storage building heating and ventilation exhaust pipe.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors verified that the post-maintenance test procedures and activities were adequate to ensure system operability and functional capability. Activities were selected based upon the structure, system, or component's ability to impact risk. The inspection activities included, but were not limited to, witnessing or reviewing the 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, system restoration, and

evaluation of test data. Also, the inspectors verified that maintenance and post-maintenance testing activities adequately ensured that the equipment met the licensing basis, TS, and Updated Safety Analysis Report design requirements.

The inspectors selected the following post-maintenance activities for review for a total of five samples:

- replace sudden pressure relay on 1ARS transformer;
- repair "A" control room ventilation damper;
- repair reactor building exhaust plenum radiation monitor RM-17-452A channel;
- replace brushes on 12 recirculation MG set; and
- replace dual coil solenoid valve on "B" condensate demineralizer.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed surveillance testing activities to assess operational readiness and to ensure that risk-significant structures, systems, and components were capable of performing their intended safety function. Activities were selected based upon risk significance and the potential risk impact from an unidentified deficiency or performance degradation that a system, structure, or component could impose on the unit if the condition was left unresolved. The inspection activities included, but were not limited to, a review 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 (PI) reporting, and evaluation of test data.

The inspectors selected the following surveillance testing activities for review for a total of three samples:

- reactor building to torus vacuum breaker operability check (inservice testing);
- reactor core isolation cooling high steam flow and low steam pressure sensor test and calibration (routine); and
- anticipated transient without scram (ATWS) recirc trips for reactor pressure and level trip unit test and calibration (routine).

b. Findings

Introduction: A Green non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion V, was identified by the inspectors when licensee I&C technicians deviated from existing procedural guidance to perform unauthorized post-maintenance tests during the performance of torus vacuum breaker testing. Specifically, maintenance personnel



inappropriately cycled the isolation valves to differential pressure transmitters DPIS-2572 and DPIS-2573 to perform leak checks subsequent to the removal of test equipment.

Description: On April 12, 2006, the inspectors observed the performance of Procedure 0141, "Reactor Building to Torus Vacuum Breaker Operability Check," Revision 25. During this procedure, control room operators cycled vacuum relief dampers AO-2379 and AO-2380 and recorded opening and closing times. Additionally, the as-found and as-left trip setting values for the differential pressure indicating switches (DPISs), used to automatically actuate AO-2379 and AO-2380, were also checked.

The inspectors observed the local operation of damper AO-2379 when it was cycled using the control room handswitch, and observed the I&C technicians perform the setpoint checks on the DPIS-2572. This DPIS is used to sense torus vacuum breaker differential pressure and automatically open AO-2379 when a high differential pressure is sensed. To test the DPIS, the I&C technician isolated the pressure source from the torus by shutting Valve I-LE940-P-7, disconnected the high pressure side tubing and connected a pneumatic calibrator to the high pressure side of the DPIS, and artificially induced a high differential pressure to verify the as-found and as-left trip settings. Once the trip settings were verified to be correct, the pneumatic calibrator was removed, high pressure tubing was reinstalled, and Valve I-LE940-P-7 was reopened.

The inspectors noted that the I&C technician deviated from Procedure 0141 when placing DPIS-2572 back in-service. The applicable steps in Procedure 0141 are as follows:

- STEP 14: Open I-LE940-P-7, Torus/Rx Bldg DP, instrument isolation valve to DPIS-2572.
- STEP 15: Verify that DPIS-2572 is reading downscale, and verify that the reading is nearly the same as the reading recorded in STEP 1.
- STEP 16: Seal-wire the instrument isolation valve to DPIS-2572 in the Open position.

Subsequent to STEP 15, the inspectors observed the I&C technicians perform an unauthorized post-maintenance leak test on the tubing connections which were disconnected/reconnected to facilitate test equipment installation. The retest consisted of shutting Valve I-LE940-P-7, monitoring for any upscale trend on DPIS-2572, and, when no trend was observed, re-open I-LE940-P-7. The procedure clearly did not allow for the additional cycling of Valve I-LE-940-P-7, nor did the I&C technicians obtain operations department permission prior to manipulating the valve. The same behavior was observed later in the procedure during an identical sequence of steps used to restore the DPIS associated with AO-2380.

The inspectors immediately communicated their observations to I&C supervision. Specific corrective actions taken by the licensee included: counseling of responsible technician regarding procedure use and adherence expectations; discussion with the I&C shop personnel to reinforce standards regarding procedure use and adherence, and discussions with the mechanical and electrical maintenance departments which



emphasized the proper way to incorporate good practices into existing maintenance procedures. This issue was entered into the licensee's corrective action program as CAP01023884.

Analysis: The inspectors determined that the I&C technician's deviation from existing procedural guidance to perform unauthorized post-maintenance tests during the performance of torus vacuum breaker testing was a performance deficiency warranting a significance evaluation. The inspectors concluded that since the finding could become a more safety significant concern if left uncorrected, it was greater than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening," issued September 30, 2005.

The inspectors evaluated the finding using IMC 0609, "Significance Determination Process," Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," issued November 22, 2005. The inspectors determined that the finding was of very low safety significance (Green) because the performance deficiency did not result in an actual open pathway in the physical integrity of the reactor containment, or actual reduction in the defense-in-depth for the atmospheric pressure control or hydrogen control functions of the reactor containment. This finding had a cross-cutting aspect in the area of Human Performance because licensee personnel failed to follow established procedures.

Enforcement: Part 50 of Title 10 of the Code of Federal Regulation, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Contrary to these requirements, during the performance of Procedure 0141, "Reactor Building to Torus Vacuum Breaker Operability Check," Revision 25, on two separate occasions, an I&C technician performed unauthorized post-maintenance testing which required additional valve manipulations not prescribed in the procedure. Once notified of the issue, the licensee took action to prevent recurrence of the performance deficiency and entered the issue into their corrective action program (CAP01023884). Because this violation was of very low safety significance and it was entered into the licensee's corrective action program, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy. (NCV 05000263/2006003-02).

## 1EP2 Alert and Notification System (ANS) Testing (71114.02)

### a. Inspection Scope

The inspectors reviewed and discussed with licensee Emergency Preparedness (EP) staff records on the operation, maintenance, and testing of the ANS in the Monticello plant's Emergency Planning Zone to determine whether the ANS equipment was adequately maintained and tested during 2004, 2005, and 2006 in accordance with emergency plan commitments and procedures. The inspectors also reviewed a sample of preventative and non-scheduled maintenance records to determine whether ANS

equipment malfunctions were given timely attention and whether the corrective action program was adequately used to track these malfunctions. The inspectors reviewed records of scheduled ANS tests conducted from March 2004 through June 2006.

These activities completed one inspection sample.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization (ERO) Augmentation Testing (71114.03)

a. Inspection Scope

The inspectors reviewed and discussed procedures containing details on the primary and alternate methods of initiating an ERO activation to augment the on-shift ERO. The inspectors also discussed the processes and reviewed the procedures for maintaining the Station's ERO roster and the ERO telephone directory. The inspectors reviewed records of quarterly, unannounced, off-hours augmentation tests, which were conducted August 2004 through May 2006 and involved ERO members assigned to the emergency response facilities, to assess the adequacy of the tests and resulting corrective actions.

The inspectors also reviewed records of an additional unannounced, off-hours augmentation drill conducted on June 2, 2004, which involved ERO members actually reporting to their assigned response facilities, to understand how this drill's critique resulted in increased consistency between response facilities' implementing procedures and the Emergency Plan's corresponding minimum staffing commitments.

The inspectors also reviewed the Emergency Call List and the Emergency Preparedness Telephone Directory to verify that good numbers of personnel were assigned to each key and support position. The inspectors reviewed training records of a random sample of 41 ERO members, who were assigned to key and support positions, to verify that they were currently trained for their assigned positions.

These activities completed one inspection sample.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

a. Inspection Scope

The inspectors reviewed portions of Quality Assurance staff's 2005 and 2006 audits that addressed aspects of the licensee's EP program to verify that these independent assessments met the requirements of 10 CFR 50.54(t). The inspectors also assessed the Quality Assurance staff's assessments of the adequacy of the licensee's interfaces

with State and county emergency management agencies and local support organizations. The inspectors also reviewed records of a sample of EP drills conducted during 2004 and 2005, as well as the May 2005 biennial exercise, to verify that the licensee adequately critiqued these drills and the exercise and to determine if corrective actions on identified concerns were either adequately completed or in progress. Samples of corrective action program records and completed corrective actions were reviewed to determine whether EP program concerns and issues were adequately addressed.

These activities completed one inspection sample.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors selected emergency preparedness exercises that the licensee had scheduled as providing input to the Drill/Exercise PI. The inspection activities included, but were not limited to, the classification of events, notifications to off-site agencies, protective action recommendation development, and the review of issues identified at the drill critiques. Observations were compared with the licensee's observations and corrective action program entries. The inspectors verified that there were no discrepancies between observed performance and PI reported statistics.

The inspectors selected the following emergency preparedness activity for review for a total of one sample:

- the MNGP Emergency Plant Drill, conducted on May 24, 2006.

b. Findings

No findings of significance were identified.

#### 4. OTHER ACTIVITIES

##### 4OA1 Performance Indicator Verification (71151)

##### **Cornerstones: Mitigating Systems, Barrier Integrity and Emergency Preparedness**

##### .1 Reactor Safety Strategic Area

##### a. Inspection Scope

The inspectors' review of PIs used guidance and definitions contained in Nuclear Energy Institute (NEI) Document 99-02, Revision 4, "Regulatory Assessment Performance Indicator Guideline," to assess the accuracy of the PI data. The inspectors' review included, but was not limited to, conditions and data from logs, licensee event reports (LERs), CAP documents, and calculations for each PI specified.

The following PIs were reviewed for a total of three samples:

- Safety System Functional Failures, for the period of July 2004 through March 2006 (Mitigating Systems Cornerstone);
- Reactor Coolant System Specific Activity, for the period of July 2004 through March 2006 (Barrier Integrity Cornerstone); and
- Reactor Coolant System Leakage, for the period of July 2004 through March 2006 (Barrier Integrity Cornerstone).

##### b. Findings

No findings of significance were identified.

##### .2 Emergency Preparedness Strategic Areas

##### a. Inspection Scope

The inspectors reviewed the licensee's records associated with the three EP performance indicators (PIs) listed below. The inspectors verified that the licensee accurately reported these indicators in accordance with relevant procedures and Nuclear Energy Institute guidance endorsed by the NRC with one minor exception that the licensee planned to correct in its next quarterly PI data submittal. Specifically, the inspectors reviewed licensee records associated with PI data reported to the NRC for the period of April 2005 through March 2006. Reviewed records included: procedural guidance on assessing opportunities for the three PIs; assessments of PI opportunities during pre-designated Control Room Simulator training sessions, the 2005 biennial

exercise, and several integrated emergency response facility drills; revisions of the roster of personnel assigned to key ERO positions; and results of ANS operability tests. The following PIs were reviewed:

- ANS;
- ERO Drill Participation; and
- Drill and Exercise Performance.

These activities completed three inspection samples.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

**Cornerstone: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness**

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As part of the routine inspections documented above, the inspectors verified that the licensee entered the problems identified during the inspection into their CAP. Additionally, the inspectors verified that the licensee was identifying issues at an appropriate threshold and entering them in the CAP, and verified that problems included in the licensee's CAP were properly addressed for resolution. Attributes reviewed included: complete and accurate identification of the problem; that timeliness was commensurate with the safety significance; that evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrence reviews were proper and adequate; and that the classification, prioritization and focus were commensurate with safety and sufficient to prevent recurrence of the issue.

b. Findings

No findings of significance were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished by reviewing daily CAP summary reports and attending corrective action review board meetings.

b. Findings

No findings of significance were identified.

.3 Annual Sample: Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on apparent cause evaluation (ACE) quality, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the 6 month period of January 2006 through June 2006, although some examples expanded beyond those dates when the scope of the trend warranted.

Inspectors reviewed adverse trend CAP items associated with various events that occurred during the period. The review also included issues documented outside the normal CAP in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self assessment reports, and maintenance rule assessments. The specific items reviewed are listed in the Documents Reviewed section attached to this report. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending documents. Corrective actions associated with a sample of the issues identified in the licensee's trend report were reviewed for adequacy.

The inspectors also evaluated the licensee's CAP documents against the requirements of the licensee's corrective action process as specified in 4 AWI-10.01.03, "Action Request Process (FP-PA-ARP-01)." Additional documents reviewed are listed in the Attachment to this report.

Assessment and Observations

The inspectors evaluated the licensee trending methodology and observed that the licensee had performed a detailed review. The licensee routinely reviewed cause codes, involved organizations, key words, and system links to identify potential trends in their CAP data. The inspectors compared the licensee process results with the results of the inspectors' daily screening and did not identify any discrepancies.

The licensee's CAP identified one issue of potential significance. This issue was related to a potential adverse trend in ACE quality. On February 14, 2006, CAP01014715 was written to document problems noted in root cause evaluation and ACE quality and documentation during a nuclear oversight (NOS) assessment. A second CAP was generated, CAP01015572, which identified a potential adverse trend in ACE quality. The inspectors recognized that both of these CAPs generated corrective actions to remedy the deficiencies identified by both NOS and licensee personnel. At the

conclusion of the current inspection period, several of these corrective action items were still open. Because these corrective actions had not been completed, the inspectors were not able to fully evaluate the effectiveness of the corrective actions.

b. Findings

No findings of significance were identified.

.4 Annual Sample: Recirculation Pump Motor-Generator Set Accelerated Brush Wear

a. Inspection Scope

From July of 2005 through April of 2006, the licensee recorded brush wear rates higher than expected on the generator of the 12 recirculation pump MG set. This accelerated wear had also occurred during the previous cycle and, as a result, the licensee reduced power and entered single loop operation to replace the brushes. The licensee had also previously experienced an unplanned plant trip while attempting to change brushes with the MG set on-line. The inspectors chose to perform an in-depth review of the licensee's corrective actions for the previous issues and determine if the licensee's actions were appropriately focused to correct the problem. Previous CAPs and work orders (WOs) pertaining to brush issues were also reviewed to ensure that the licensee's corrective actions were commensurate with the significance of previously identified issues.

b. Issues

The inspectors reviewed LER 85-013-00 which reported an event in which a recirculation pump tripped while the licensee was replacing the recirculation MG set exciter brushes. The licensee committed in this document to revise procedures to prevent recurrence.

The inspectors reviewed CAP033440, "Abnormal Brush Wear Noted on No. 12 Recirc MG Set Inbd Collector Ring" dated May 1, 2004, which discussed accelerated brush wear. This accelerated wear caused the licensee to reduce power and enter single loop operation to replace the brushes. Prior to 2004, a set of brushes was expected to last an entire fuel cycle. A subsequent cause evaluation was indeterminate as to the cause of the excessive brush wear. The licensee reviewed the available evidence and examined potential causes, but could not identify a specific cause.

The inspectors reviewed CAP040083, "Actions Taken to Resolve 2004 Brush Wear Problems May Not Be Effective" dated July 28, 2005. This condition action documents the recent issue of accelerated brush wear. The corrective action from this CAP is to install an alteration to facilitate on-line brush replacement. This would mitigate the requirement to enter single loop operation while reducing the risk of an unintended plant trip. This alteration is projected to be installed during the next refueling outage.

During an inspection to measure for the new brush holders, a small oil leak was identified from the outboard end bearing, which is directly adjacent to the brushes that



are experiencing the accelerated wear. The licensee initiated CAP01010042, "Small Oil Leak From 12 REC MG Outboard Bearing," which noted that the leak could potentially contribute to the accelerated brush wear. The licensee initiated a WO to repair the oil leak. This work is projected to be completed during the next refueling outage.

The inspectors concluded that the licensee's actions to date appear to be appropriately focused to correct the problem and were commensurate with the risk-significance of the issues. These corrective actions have not been completed yet as they are scheduled to be completed during the next refueling outage.

No findings of significance were identified.

#### 4OA3 Event Follow-up (71153)

.1 (Closed) LER 50-263/2006-001-00: "Unplanned LCO [Limiting Condition of Operation] due to Emergency Filter Flexible Connector Failure"

On February 2, 2006, the licensee declared both control room EFTs inoperable (see Section 4OA3.1 of Inspection Report 05000263/2006002). The condition was identified subsequent to the automatic tripping of the "A" EFT, which was caused by the failure of a rubber boot located at the suction of the fan that services the "A" EFT train. The licensee declared both "A" and "B" EFT trains inoperable due to the unevaluated impact that the failure had on the "B" EFT train and the as-found condition of a similar boot for the "B" EFT fan. The licensee evaluated these instances to be of very low safety significance because the risk of requiring control room ventilation to be isolated is negligible and degradation of EFT ventilation system reliability (loss of both trains, for example) poses a negligible risk impact. The licensee attributed the cause to a failure by the station to consider the effects of increased operation time on the preventive maintenance frequency for both EFTs. Corrective actions included replacing the rubber boots on the "A" and "B" EFT trains and revising the station procedures to increase the replacement frequency for the rubber boots. The LER was reviewed by the inspectors and no findings of significance were identified. The licensee entered this issue into their corrective action program as CAP01013115.

.2 Division I and II 4160 Volt Electrical Busses Inoperable Due to Loss of Ventilation

On May 27, 2006, at 1:10 a.m., the licensee made a 10 CFR 50.72 8-hour non-emergency report which discussed the status of the Division I and II 4160 volt busses. The Division II 4160 volt electrical busses were declared inoperable due to a loss of ventilation which led to room temperature exceeding the 104° F limit. The operators entered the abnormal procedure for loss of ventilation and took compensatory actions to open turbine building doors to provide additional cooling. Upon opening the required doors, operators declared the Division I 4160 volt electrical busses inoperable. At 5:45 p.m., ventilation was readjusted, all doors were closed, and the Division I and II 4160 volt busses were declared operable.



The inspectors evaluated the licensee's initial response to this event, which included actions taken to restore ventilation to the 4160 volt electrical bus rooms. No significant issues were identified during the initial evaluation.

.3 Partial Group 2 Isolation Due to the "A" Reactor Building Exhaust Plenum Radiation Monitor Spiking High

On June 18, 2006, at 3:07 a.m., the licensee made a 10 CFR 50.72 8-hour non-emergency report which discussed a partial Group 2 isolation due to a spike on the "A" reactor building exhaust plenum radiation monitor. The radiation monitor signal resulted in a closure of the drywell containment atmosphere monitor and the oxygen analyzer primary containment isolation valves, as well as a reactor building ventilation isolation, start of the "A" standby gas treatment system, and transfer of the control room ventilation to the high radiation mode.

The inspectors evaluated the licensee's initial response to this event, which included actions taken to declare the "A" reactor building plenum radiation monitor inoperable and place it in a downscale trip condition. No significant issues were identified during the initial evaluation.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. Conway and other members of licensee management on July 6, 2006. 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.

.2 Interim Exit Meetings

Interim exits were conducted for:

- Emergency Preparedness inspection with Mr. S. Radebaugh on June 30, 2006.

4OA7 Licensee-Identified Violations

None.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

J. Conway, Site Vice President  
R. Jacobs, Site Director for Operations  
B. Sawatzke, Plant Manager  
R. Baumer, Licensing  
B. Guldemon, Nuclear Safety Assurance Manager  
K. Jepsen, Radiation Protection Manager

#### Nuclear Regulatory Commission

B. Burgess, Chief, Reactor Projects Branch 2

### **LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

#### Opened and Closed

05000263/2006003-01	FIN	Improper Loose Material Storage Adjacent to LPCI Components (Section 1R05)
05000263/2006003-02	NCV	I&C Technicians Performed Unauthorized Post Maintenance Tests During a Torus to Reactor Building Vacuum Breaker Operability Check (Section 1R22)

#### Closed

50-263/2006-001-00	LER	Unplanned LCO Due to Emergency Filter Flexible Connector Failure (Section 4OA3)
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#### Discussed

None.

## **LIST OF DOCUMENTS REVIEWED**

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection reports.

### **Section 1R01: Adverse Weather**

1487 Site Loose Material Quarterly Inspection; Revision 1 (completed March 30, 2006)  
1150 Summer Checklist; Revision 38  
CP 0072; Seasonal Readiness; Revision 1  
4 AWI-04.02.01; Housekeeping; Revision 12  
CAP01017096; Summer Checklist Does Not Coordinate Summer Preparations  
CAP01018252; Question Raised on Potential Missile Hazards Near Subyard  
CAP040492; Loose Material Being Stored Outside of Parts Box for 10TR/XFMR in the Subyard

### **Section 1R04: Equipment Alignment**

2126-03; Plant Prestart Checklist 250 VDC batteries and DC Power System; Revision 16  
2126-02; Plant Prestart Checklist Batteries and DC Power System 125 VDC; Revision 14  
CA-04-047; Monticello 250 VDC Division II Battery Calculation; Revision 12  
NH-116629; Hard Pipe Vent System; Revision F  
NH-36248; Core Spray System; Revision AM

### **Section 1R05: Fire Protection**

Strategy A.3-1000; Site Mitigation Fire Strategy; Revision 0  
Strategy A.3-23-A; Intake Structure Pump Room; Revision 8  
Strategy A.3-31-A; EFT Building First Floor (Division I); Revision 8  
Strategy A.3-31-B; EFT Building First Floor (Division II); Revision 11  
Strategy A.3-32-A; EFT Building Second Floor (Division I); Revision 5  
Strategy A.3-32-A; EFT Building Second Floor (Division II); Revision 6  
Strategy A.3-33; EFT Building Third Floor ; Revision 6  
Strategy A.3-02-H; West Shutdown Cooling Area; Revision 4  
Strategy A.3-02-D; Railroad Shelter - Reactor Building; Revision 3  
Strategy A.3-05-B; Reactor Building 1001' Elevation North; Revision 4  
CAP01025249; NRC Question: Do Amertap Barrels Need to Be out of Fire Exclusion Area

### **Section 1R06: Flood Protection Measures**

NF-97433; MNGP Yard Drainage Line - Plan; Revision A  
Operations Manual A.6; Acts of Nature; Revision 23  
NSPLMI-95001; Monticello Individual Plant Examination of External Events; Revision 1

### **Section 1R12: Maintenance Effectiveness**

CAP037306; Failure of the #11 RPS MG Set Causes ESF [Engineered Safety Feature] Actuation  
WO0401297; PM 12 RPS MG Set  
WO0508056; Replace #12 RPS MG Set Generator  
WO0508053; Measure #12 RPS MG Set Motor and Generator Critical Geometry

CAP038710; 12 RPS MG Set - Minor Bearing Fault Detected in the Inboard Flywheel Bearing  
CAP01014583; Inadequate Focus by Site on Potential Critical Component Failure  
CAP01024710; Increase in Noise and Vibration on 12 RPS Flywheel Bearings  
WO282275; Replace Bearing on RPS MG Set Motor  
CAP01028065; Indication of Failing Bearing on #12 RPS MG Set Motor  
CAP01028020; 12 RPS MG Set Flywheel Housing Noise/Vibration  
CAP01023295; Temperature on G-4B #3 Bearing Not Trending Down as Expected  
CAP01023035; G-4B, 12 RPS MG Set, Squealing Sound and Potential Hot Bearing  
CAP01022634; Multiple Problems with MNGP Spares MNGP Stock # EZCSDT  
CAP01022326; Degraded Wiring in RPS MG Set Found During PM  
WO00141909; Replace #12 RPS MG Set Generator  
WO00141907; G-4B/MTR, Replace 12 RPS MG Set Motor

#### **Section 1R13: Maintenance Risk Assessments and Emergent Work Control**

CAP01027737; 1AR XO-Ground Transformer Ground Wire Found Disconnected  
WO289061; Task #2 Work Plan; Investigate STC Heat Exchanger E-10A for STC Leak  
WO290565; Walkdown Front Standard and Turbine Control Linkage in Condenser Room  
CAP01034568; Leakage From Bonnet/Packing Area of MO-2014  
CAP01034567; CV-1729, Air Leak on Air Line Into Valve Positioner  
CAP01034276; Stator Cooling Storage tank Level Indicates Leakage  
CAP01036957; Reactor Pressure Made Unexpected Step Change

#### **Section 1R14: Operator Performance During Non-Routine Plant Evolutions and Events**

2025; Reactivity Adjustment Request; dated April 20, 2006  
Reactivity Plan for the April 22, 2006, Rod Pattern Adjustment  
0255-04-IIC-3; RHR Shutdown Cooling Suction Piping System Leakage Test; Revision 1A  
Work Request 00005150; Replace FR-7288 and FY-7288  
Work Request 00008745; FR-7288 Recirculation Flow Recorder Intermittent Power Failure  
CAP01032033; FR-7288 Jet Pump Flow Recorder Has Intermittent Power Failure  
CAP01032100; FR-7288 Recirculation Flow Recorder Has Failed Twice in Two Months  
Reactivity Adjustment Request for the June 25, 2006 Down Power Reactivity Adjustment to Support Recirculation MG Set Brush Replacement; dated June 21, 2006

#### **Section 1R15: Operability Evaluations**

Work Request 00008008; B4416, Blown Control Power Fuse on V-EAC-14B, A/C Unit Compressor  
CAP01029532; Blown Control Power Fuse on B4416 V-EAC-14B Compressor Unit  
Work Request 00007583; Bad Light Socket for 'Compressor Off' on C-275B  
Operability Recommendation 1034568-01; MO-2014 (RHR Division I LPCI Injection Inboard Isolation Valve)  
Operability Recommendation 01036358-01; Diesel Oil Pump House, Diesel Oil Storage Tank T-44, and Offgas Storage Building HTV Exhaust Pipe Settling  
Procedure 1396; Equipment/Structures Settling Check; Revision 04

#### **Section 1R19: Post-Maintenance Testing**

WO134154; Work Plan: Replace Sudden Pressure Relay  
CAP01027471; Sudden Pressure Relay Procedure for 1ARS Transformer Omits Step  
CAP01027917; Temporary Change on Work Plan for 1ARS Required for Venting Relay

WO00289375; Erratic Spiking on Reactor Building Exhaust Plenum Radiation Monitor RM-17-452A  
CAP01034607; Unplanned LCO Entry for "A" Control Room Ventilation  
WO01034744; Actuator for Ventilation Damper VD-9175A Failed to Open on Control Room Ventilation Start  
WO00288392; V-EAC-14A, Division I Control Room Ventilation Unit Failed to Start  
WO00288428; VD-9715A, Investigate Controller Damper Operation  
WO00137428; Replace Brushes on the Generator and Exciter with Reactor at Power and the Motor Generator Set in Operation  
WO00152915; Replace Dual Coil Solenoid Valve SV-2277  
CAP01037660; Reactor Water Sulfates Increase to ~1.8 ppb After CDV B Maintenance

### **Section 1R22: Surveillance Testing**

0141; Reactor Building to Torus Vacuum Breaker Operability Check; Revision 25  
0060; Reactor Core Isolation Cooling Hi Steam Flow and Low Steam Pressure Sensor Test and Calibration Procedure; Revision 31  
0278-A; ATWS-Recirc Trips for Reactor Pressure and Level Trip Unit Test and Calibration; Revision 13  
CAP01033096; PIS-2-3-678D, ATWS Recirculation Pump Trip Reactor Pressure Out of As-Found

### **1EP2: Alert and Notification System Testing**

Letter; Federal Emergency Management Agency Region V to Minnesota Department of Public Safety; Approvals of Proposed Changes to Add Eleven Emergency Planning Zone Sirens to Wright County; dated May 30, 2006  
Public Alert Notification System (PANS) Fixed Siren Trend Reports; dated May 2004 through Nelcom Corporation Annual Preventative Maintenance and Siren Service Reports; dated August 2005 through June 2006  
EPWE-01.05; PANS Maintenance and Testing; Revision 7  
Form 1359; PANS Weekly Cancel Signal Test; dated May 2004 through March 2006  
Form 1409; PANS Monthly Siren Activation Testing; dated May 2004 through June 2006  
Action Request (AR) 01006734; Siren S-20 Indicated Current Failure During Test 1409; dated December 7, 2005  
AR 01014673; Possible Adverse Trend in Alert and Notification System Key Performance Indicator; dated February 4, 2006

### **1EP3: Emergency Response Organization Augmentation Testing**

Emergency Plan, Table 5.0-1; Minimum Shift Staffing and Capability for Addition for Nuclear Power Plant Emergencies; Revision 27  
Emergency Preparedness Telephone Directory May 2006 - July 2006  
EPWI-01.08; Emergency Preparedness Telephone Directory Updating; Revision 1  
Emergency Plan Implementing Procedure (EPIP) A.2-001; Emergency Organization; Revision 50  
Monticello Emergency Plan Offhour Unannounced Drill Critique Report Conducted June 2, 2004  
Surveillance 1317; Emergency Alert Notification System Test; dated August 2004 through May 2006  
Form 5790-104-04; Emergency Call List - Alert/Site Area/General; Revision 99

AR 00875134; A Duty Team Member for the Control Room Communicator Position Did Not Respond in ERO Test; dated August 9, 2005

**1EP5: Correction of Emergency Preparedness Weaknesses and Deficiencies**

EPIP A.2-204; Off-Site Protective Action Recommendations; Revision 20

2005-003-5-008, NOS Observation Report; NRC Security Order Implementation; dated September 4, 2005

2005-001-5-037, NOS Observation Report; Fleet Integrated EP Assessment - State and Local Interface; dated April 14, 2005

2005-001-5-038, NOS Observation Report; Fleet Integrated EP Assessment - Main Report; dated April 15, 2005

2005-003-5-011, NOS Observation Report; August 30, 2005, Full Scale EP Exercise; dated September 27, 2005

2006-001-5-017, NOS Observation Report; Fleet EP Assessment - Emergency Planning; dated March 31, 2006

2006-002-5-020, NOS Observation Report; Emergency Planning Drill - Emergent Assessment; dated June 26, 2006

2006-001-5-000, Focused Self-Assessment; May 8 through 12, 2006, Monticello Emergency Planning Focused Self-Assessment

AR 00795188; Emergency Plan Phone In TSC [Technical Support Center] Hallway for NRC Not Accessible from Operations Training Room; dated January 11, 2005

AR 00796191; Potential Violation Discussed during NRC EP Exit; dated January 13, 2005

AR 00882470; Monticello Off-Site PAR [Protection Action Recommendation] Procedures Provide Limited Guidance For PARS Beyond 10 Miles; dated August 31, 2005

AR 00886988; Access to MIDAS Using a PC Lost Due to XP Software Upgrade; dated September 16, 2005

AR 01014673; Possible Adverse Trend in Alert and Notification System Performance Indicators; dated February 14, 2006

AR 01016730; Potentially Inadequate Resolution of a Significant Condition Adverse to Quality; dated February 28, 2006

AR 01020124; Reported ERO Drill Results Not Supported by Collected Data; dated March 23, 2006

AR 01025325; Multiple Operations Documents Not Updated to Current Emergency Action Levels; dated April 21, 2006

**Section 40A1: Performance Indicator Verification**

MNGP 3530-08; PI RCS [Reactor Coolant System] Activity Worksheet Revision 4; 3<sup>rd</sup> Quarter 2004, 4<sup>th</sup> Quarter 2004, and 1<sup>st</sup> Quarter 2005

MNGP 3530-08; PI RCS Activity Worksheet Revision 5; 2<sup>nd</sup> Quarter 2005, 3<sup>rd</sup> Quarter 2005, 4<sup>th</sup> Quarter 2005, and 1<sup>st</sup> Quarter 2006

MNGP 3530-12; NRC PI Drywell Equipment Drain Leakage Worksheet; Revision 3; 3<sup>rd</sup> Quarter 2004, 4<sup>th</sup> Quarter 2004, and 1<sup>st</sup> Quarter 2005

MNGP 3530-12; NRC PI Drywell Equipment Drain Leakage Worksheet; Revision 5; 2<sup>nd</sup> Quarter 2005, 3<sup>rd</sup> Quarter 2005, 4<sup>th</sup> Quarter 2005, and 1<sup>st</sup> Quarter 2006

Monticello TS 3.6.C; Coolant Chemistry; Amendment 123

Monticello TS 3.6.D.1; Operational Leakage; Amendment 126

MNGP 3530-09; NRC PI - Safety System Functional Failures; Revision 3; 3<sup>rd</sup> Quarter 2004, 4<sup>th</sup> Quarter 2004, 1<sup>st</sup> Quarter 2005



MNGP 3530-09; NRC PI - Safety System Functional Failures; Revision 4; 2<sup>nd</sup> Quarter 2005, 3<sup>rd</sup> Quarter 2005, 4<sup>th</sup> Quarter 2005, 1<sup>st</sup> Quarter 2006  
NEI 99-02; Regulatory Assessment PI Guideline; Revision 3 (April 2005)  
NEI 99-02; Regulatory Assessment PI Guideline; Revision 4 (April 2006)  
CAP01036453; Fleet Procedure FP-R-LIC-09 Does Not Discuss all Safety System Functional Failure Reporting Requirements (NRC Identified)  
Quarterly ERO Participation Summary - Second Quarter 2005 through First Quarter 2006  
Quarterly Alert and Notification System Reliability Performance Indicator Summary - Second Quarter 2005 through First Quarter 2006  
Monthly Public Alert Notification System Failure Matrix; dated April 2005 through March 2006

#### **Section 4OA2: Identification and Resolution of Problems**

CAP 01023884; NRC Resident Questions Regarding I&C Worker Practices/Procedure Use and Adherence  
CAP 01025486; Loose Ladder Hanger in Substation Yard  
CAP 01025285; Resident Questioned Need for Kick Boards for F-100C Work  
CAP 01025287; NRC Question: Do Amertap Barrels Need to Be Out of Fire Exclusion Area 4935-PM; Recirc MG Set Brush Replacement; Revision 3  
CAP000934; Converted Issue #99001715 Recirc MG Set Brush Replaced with SRB; June 18, 1999  
CAP003054; Converted Issue #1001288 Foreign Material found on MG Set Rotor; March 5, 2001  
CAP009186; Converted XOE #2005781 OE 14000-RWR MG Set Tripped While Changing Generator Brushes; June 24, 2002  
CAP033440; Abnormal Brush Wear Noted on No. 12 Recirc MG Set Inbd Collector Ring; May 1, 2004  
CAP0033456; Missed Opportunity to Address Recirc MG Set Brush Wear During 5/21/04 Downpower; June 2, 2004  
CAP040083; Actions Taken to Resolve 2004 Brush Wear Problems May Not Be Effective; July 28, 2005  
CAP 01010042; Small Oil Leak From 12 REC MG Outboard Bearing; January 10, 2006  
LER 85-013-00; Recirculation Pump Tripped While Replacing the Recirc Mg Set Exciter Brushes; July 29, 1985  
Alteration 05A005; Recirc M/G Brush and Brush Holder Changes

#### **Section 4OA3: Event Follow-up**

MNGP 3195; Event Notification Worksheet for Event Notification 42607; Revision 30  
CAP01032665; V-CH-27 Tripped on High Discharge Pressure  
CAP01032706; Procedure Issue with C.4-B.08.07.A During Execution  
CAP01032830; 4KV Switchgear Room Chiller Classified as Noncritical  
Calculation CA-95-029; Effects of Short Term Ambient Temperature Excursions; Revision 0  
Monticello Station Logs for May 27 and 28, 2006  
Operations Manual C.4-B.08.07.A; Ventilation System Failure; Revision 22  
Annunciator Response Procedure C.6-V4K500; Turbine Building 911' 4KV Area Hi Temperature; Revision 3  
Annunciator Response Procedure C.6-V4K501; Turbine Building 931' 4KV Area Hi Temperature; Revision 3  
Monticello Station Logs for June 18 and 19, 2006

MNGP 3195; Event Notification Worksheet for Event Notification 42652; Revision 30  
CAP01035994; SCRAM in Loss of Ventilation Procedure C.4 May Not be Appropriate  
CAP01035996; "A" Reactor Building Exhaust Plenum Radiation Monitor Spiking Causing ESF  
Actuation  
CAP01015572; Potential Adverse Trend in ACE Quality  
CAP01028014; Potential Trend CAPs Not Upgraded When Trend is Confirmed  
CAP01014715; Problems Noted in RCE [Root Cause Evaluation]/ACE Quality and  
Documentation  
FP-PA-ARP-01; CAP Action Request Process; Revision 11  
CAP01013066; CAPs Written for Failed ACEs Were Closed With No Assignments



## LIST OF ACRONYMS USED

ACE	Apparent Cause Evaluation
ANS	Alert and Notification System
AR	Action Request
ATWS	Anticipated Transient Without Scram
AWI	Administrative Work Instruction
CAP	Corrective Action Program
CFR	Code of Federal Regulations
DC	Direct Current
degrees	degrees Fahrenheit
DP	Differential Pressure
DPIS	Differential Pressure Indicating Switch
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EFT	Emergency Filtration Train
EP	Emergency Preparedness
EPIP	Emergency Plan Implementing Procedures
ERO	Emergency Response Organization
ESF	Engineered Safety Feature
FIN	Finding
I&C	Instrumentation & Controls
IMC	Inspection Manual Chapter
kV	Kilovolt
LCO	Limiting Condition of Operation
LER	Licensee Event Report
LPCI	Low Pressure Coolant Injection
MG	Motor Generator
MNGP	Monticello Nuclear Generating Plant
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NMC	Nuclear Management Company
NOS	Nuclear Oversight
NRC	U.S. Nuclear Regulatory Commission
PANS	Public Alert and Notification System
PARS	Publicly Available Records
PI	Performance Indicator
PM	Planned or Preventative Maintenance
RA	Risk Assessment
RCE	Root Cause Evaluation
RCS	Reactor Coolant System
RHR	Residual Heat Removal
RPS	Reactor Protection System
Rx	Reactor
SDP	Significance Determination Process
TS	Technical Specification
Vdc	Volts Direct Current
WO	Work Order