



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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February 9, 2011

Mr. Timothy J. O'Connor
Site Vice President
Monticello Nuclear Generating Plant
Northern States Power Company, Minnesota
2807 West County Road 75
Monticello, MN 55362-9637

**SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT
NRC INTEGRATED INSPECTION REPORT 05000263/2010005**

Dear Mr. O'Connor:

On December 31, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Monticello Nuclear Generating Plant. The enclosed report documents the inspection findings, which were discussed on January 6, 2011, 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, two NRC-identified findings of very low safety significance were identified. One of the findings involved a violation of NRC requirements. However, because of its very low safety significance, and because the issue was entered into your corrective action program, the NRC is treating this issue as a non-cited violation (NCV) in accordance with Section 2.3.2 of the NRC Enforcement Policy. Additionally, a licensee-identified violation is listed in Section 4OA7 of this report.

If you contest the subject or severity of this NCV, 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 addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Monticello Nuclear Generating Plant.

T. O'Connor

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Kenneth Riemer, Chief
Branch 2
Division of Reactor Projects

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

Enclosure: Inspection Report 05000263/2010005
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000263/2010005

Licensee: Northern States Power Company, Minnesota

Facility: Monticello Nuclear Generating Plant

Location: Monticello, MN

Dates: October 1 through December 31, 2010

Inspectors: S. Thomas, Senior Resident Inspector
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Branch 2
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000263/2010005, 10/01/2010 – 12/31/2010; Monticello Nuclear Generating Plant.
Follow-Up of Events and Notices of Enforcement Discretion.

This report covers a three-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. Two Green findings were identified by the inspectors. One of the findings was considered a non-cited violation (NCV) of NRC regulations. 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 4, dated December 2006.

A. NRC-Identified and Self-Revealed Findings

Mitigating Systems

- Green. A finding of very low safety significance was identified by the inspectors when the licensee failed to properly control loose material located above the sensing lines for the safety-related residual heat removal pump minimum flow switches. No violation of NRC requirements associated with this finding was identified. Once informed of the issue, the licensee took action to relocate the material to a proper storage location. The inspectors determined that the contributing cause that provided the most insight into the performance deficiency was associated with the cross-cutting area of Human Performance, having Work Practices components, and involving aspects associated with the licensee defining and effectively communicating expectations regarding procedural compliance and personnel following procedures. [H.4(b)]

The inspectors determined that the licensee's failure to properly store loose material located in close proximity to safety-related equipment was a performance deficiency, because it was the result of the failure to meet a requirement; the cause was reasonably within the licensee's ability to foresee and correct; and should have been prevented. The inspectors screened the performance deficiency per IMC 0612, Power Reactor Inspection Reports, Appendix B, and determined that the issue was more than minor because it impacted the protection against external events attribute of the Mitigating System Cornerstone's objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors applied IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," to this finding. The inspectors utilized Column 2 of the Table 4a worksheet to screen the finding. As a result of the inspectors answering "No" to all five questions, the finding was screened to be of very low safety significance. (Section 1RO5)

Cornerstone: Barrier Integrity

- Green. A finding of very low safety significance and associated NCV of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, was identified by the inspectors when the licensee failed to implement corrective actions for a condition adverse to quality. The condition adverse to quality was a deficiency associated with the door interlock on

airlock 413 which contributed to a loss of secondary containment boundary event. Subsequent to the August 5, 2010, event, the licensee initiated administrative controls on all airlocks with a similar design to airlock 413 and are currently evaluating other means of addressing air lock integrity. The inspectors determined that the contributing cause that provided the most insight into the performance deficiency was associated with the cross-cutting area of Problem Identification and Resolution, having Corrective Action components, and involving aspects associated with thoroughly evaluating problems such that the resolution addresses the causes and extent of condition as necessary. [P.1(c)]

The inspectors determined that the licensee's failure to implement corrective actions for a condition adverse to quality was a performance deficiency because it was the result of the failure to meet a requirement; the cause was reasonably within the licensee's ability to foresee and correct; and should have been prevented. The inspectors screened the performance deficiency per IMC 0612, Power Reactor Inspection Reports, Appendix B, and determined that the issue was more than minor because it impacted the configuration control attribute of the Barrier Integrity Cornerstone's objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The inspectors applied IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," to this finding. The inspectors applied Inspection Manual Chapter (IMC) 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," to this finding. Since the finding resulted in a momentary loss of the secondary containment boundary, the inspectors evaluated the finding under the Containment Barrier Cornerstone. Utilizing Column 4 of the Table 4a worksheet, the inspectors answered "Yes" to Question 1. Since the finding only resulted in the degradation of the radiological barrier function provided for the control room; auxiliary building; spent fuel pool; or standby gas treatment system; the finding was screened to be of very low safety significance. (Section 4OA3)

B. Licensee-Identified Violations

Violations of very low safety significance, that were identified by the licensee, have been reviewed by inspectors. Corrective actions planned or taken by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

During this inspection period, full power operation was challenged by tube leakage in the 15B high pressure feedwater heater. Initially, small power adjustments to approximately 95 percent power were necessary to maintain appropriate operating margins for secondary plant equipment. As a result of a progressive increase in the rate of tube leakage, the licensee reduced power to approximately 50 percent and removed the feedwater heater from service. An additional power reduction to approximately 10 percent power was made in an attempt to repair the feedwater heater without shutting down the reactor. After attempts to adequately isolate the feedwater heater proved unsuccessful, on November 17, 2010, the licensee shut down the reactor and repaired the feedwater heater. On November 22, 2010, the licensee performed a reactor startup and on November 24, 2010, placed the generator online. Except as discussed above, the licensee operated the unit at or near full power.

A. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity, Emergency Preparedness

1R01 Adverse Weather Protection (71111.01)

1. Winter Seasonal Readiness Preparations

a. Inspection Scope

The inspectors conducted a review of the licensee's preparations for winter conditions to verify that the plant's design features and implementation of procedures were sufficient to protect mitigating systems from the effects of adverse weather. Documentation for selected risk-significant systems was reviewed to ensure that these systems would remain functional when challenged by inclement weather. During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Safety Analysis Report (USAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific procedures. Cold weather protection, such as heat tracing and area heaters, was verified to be in operation, where applicable. The inspectors also reviewed corrective action program (CAP) items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the Attachment to this report. The inspectors' reviews focused specifically on the following plant systems due to their risk significance or susceptibility to cold weather issues:

- reactor building chilled water and cooling tower systems.

This inspection constituted one winter seasonal readiness preparations sample as defined in Inspection Procedure (IP) 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

1. Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- Division II 250 Vdc and 125 Vdc systems during an 11 emergency diesel generator (EDG) maintenance window;
- Division II emergency service water (ESW) following a leak repair on the system; and
- high pressure coolant injection (HPCI) with reactor core isolation cooling (RCIC) out-of-service for planned maintenance.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, USAR and Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted three partial system walkdown samples as defined in IP 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Fire Zone 5-C (fuel pool skimmer tank room);
- Fire Zone 6 (refuel floor);
- Fire Zone 24 (diesel fire pump room);
- Fire Zone 34/35 (east electrical equipment room/13 diesel generator room);
- Fire Zone 9 (control room); and
- Fire Zone 1-B (11 residual heat removal (RHR) and core spray pump room).

The inspectors reviewed these 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 implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan.

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 with later additional insights; their potential to impact equipment which could initiate or mitigate a plant transient; or their impact on the plant's ability to respond to a security event.

Using the documents listed in the Attachment to this report, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP.

These activities constituted six quarterly fire protection inspection samples as defined in IP 71111.05-05.

b. Findings

Introduction

The inspectors identified a finding of very low safety significance associated with the licensee's failure to control loose material located above the sensing lines for safety-related RHR pump minimum flow switches. No violation of NRC requirements associated with this finding was identified.

Description

On December 17, 2010, the inspectors conducted a fire protection inspection of the 11 RHR and core spray pump room. During this inspection, the inspectors identified a valve wrench, with an approximate weight of four pounds, stored on top of differential

pressure indicator DPI-7846A, which is located approximately four feet directly above the sensing lines for safety-related flow switches FS-10-121A and FS-10-121C. The function of these two flow switches is to monitor the discharge flow from 11 and 13 RHR pumps and to open minimum flow control valves if a minimum flow rate is not achieved within a given time period. The inspectors concluded that during a seismic event, the valve wrench could fall and impact the sensing lines for the flow switches, potentially impacting the operation of the safety-related flow switches.

Administrative Work Instruction 4 AWI-04.02.01, "Housekeeping", Revision 17, 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 4.3.2(B) states that tools, books, or other loose items SHALL NOT be placed on or above safety-related equipment if falling or shifting of the items during a seismic event could affect equipment operability." Additionally, Step 4.3.3 states that exceptions to the above policies SHALL require prior approval of the Manager System Engineering. In regard 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. This issue was entered into the licensee's corrective action program as CAP 1263509, "Valve Wrench Found Stored above Safety Related Equipment."

Analysis

The inspectors determined that the licensee's failure to properly store loose material located in close proximity to safety-related equipment was a performance deficiency, because it was the result of the failure to meet a requirement or a standard; the cause was reasonably within the licensee's ability to foresee and correct; and should have been prevented. The inspectors determined that the contributing cause that provided the most insight into the performance deficiency was associated with the cross-cutting area of Human Performance, having Work Practices components, and involving aspects associated with the licensee defining and effectively communicating expectations regarding procedural compliance and personnel following procedures. [H.4(b)]

The inspectors screened the performance deficiency per Inspection Manual Chapter (IMC) 0612, Power Reactor Inspection Reports, Appendix B, and determined that the issue was more than minor because it impacted the protection against external events attribute of the Mitigating System Cornerstone's objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors applied IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," to this finding. The inspectors utilized Column 2 of the Table 4a worksheet to screen the finding. As a result of the inspectors answering "No" to all five questions, the finding was screened to be of very low safety significance. (Green)

Enforcement

The inspectors concluded that no violation of NRC requirements occurred. The licensee entered this finding into their corrective action program (CAP 1263509) and took action to relocate the loose material to an appropriate storage location. This issue was

considered a finding of very low safety significance (FIN 05000263/2010005-01; Failure to Properly Store Loose Material in Close Proximity to Safety-Related Equipment).

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On October 19, 2010, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification examinations to verify that operator performance was adequate; evaluators were identifying and documenting crew performance problems; and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator requalification program sample as defined in IP 71111.11.

b. Findings

No findings were identified.

.2 Examination Security

a. Inspection Scope

The inspectors observed and reviewed the licensee's overall licensed operator requalification examination security program related to examination physical security (e.g., access restrictions and simulator considerations) and integrity (e.g., predictability and bias) to verify compliance with 10 CFR 55.49, "Integrity of Examinations and Tests."

b. Findings

During administration of the operating test, one examination security issue was discovered. The password for a Simulator Exam Scenario was inadvertently removed from the simulator scenario computer file and the file could have been viewed by

unauthorized personnel. The licensee removed the unprotected scenario from the 2010 licensed operator requalification exam and replaced it with an exam-secure backup scenario. Corrective Action Document CAP 1252468 was submitted to document the details of the issue. Since the potentially compromised scenario had not been used previously in the exam cycle, no exam compromise occurred.

No findings were identified.

.3 Annual Operating Test Results (71111.11B)

a. Inspection Scope

The inspector reviewed the overall pass/fail results of the individual Job Performance Measure operating tests, and the simulator operating tests (required to be given per 10 CFR 55.59(a)(2)) administered by the licensee from September 20, 2010, through October 29, 2010, as part of the licensee's operator licensing requalification cycle. These results were compared to the thresholds established in IMC 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process (SDP)." The evaluations were also performed to determine if the licensee effectively implemented operator requalification guidelines established in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," and IP 71111.11, "Licensed Operator Requalification Program." The documents reviewed during this inspection are listed in the Attachment to this report.

Completion of this section constituted one biennial licensed operator requalification inspection sample as defined in IP 71111.11B.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant systems:

- snubbers;
- turbine stop valve (SV-4) per operational decision making issue (ODMI) 10-19; and
- area radiation monitors.

The inspectors reviewed events, such as where ineffective equipment maintenance had resulted in valid or invalid automatic actuations of engineered safeguards systems, and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;

- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2), or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

This inspection constituted three quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

No findings were identified.

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

.1 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- 'B' standby gas treatment (SBGT) system unplanned inoperability due to heater cycling;
- unplanned lock-up of 12 reactor recirculation motor-generator set scoop tube;
- reactor flow limit inhibiting turbine valve movement; and
- failure of 'A' fuel pool and reactor building ventilation radiation monitor power supply.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work; discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor; and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Documents reviewed are listed in the Attachment to this report.

These maintenance risk assessments and emergent work control activities constituted four samples as defined in IP 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Evaluations (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- reactor steam dome pressure permissive-bypass timer does not reflect current plant conditions;
- high energy line break (HELB) railroad doors obstructed by roofing crane;
- standby liquid control (SBLC) system test tank seismic qualification;
- review of operable but degraded (OBD) and operable but non-conforming (OBN) items prior to plant startup from outage; and
- non-conservative minimum voltage assumptions for motor-operated valves (MOVs).

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available, such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and USAR to the licensee's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

These operability inspections constituted five samples as defined in IP 71111.15-05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the following post-maintenance (PM) activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- No. 11 EDG pump and valve tests subsequent to No. 11 ESW pump psid rebaseline;
- 'B' control room emergency filtration (CREF) in support of V-ERF-12 'B' emergency filtration train (EFT) emergency filter fan breaker checks, B4423;
- condensate storage tank (CST) level instrument calibration after switch replacement;
- 'B' residual heat removal service water (RHRSW) testing following PM; and
- HPCI system testing following instrument PM.

These activities were selected based upon the SSCs ability to impact risk.

The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TS, the USAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with PM tests to determine whether the licensee was identifying problems and entering them in the CAP, and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

These inspections constituted five PM testing samples as defined in IP 71111.19-05.

b. Findings

No findings were identified.

1R20 Outage Activities (71111.20)

.1 Other Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities for a planned outage that began on November 17, 2010, and continued through November 22, 2010. The inspectors

reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors observed or reviewed the reactor shutdown and cooldown; outage equipment configuration and risk management; electrical lineups; selected clearances; control and monitoring of decay heat removal; control of containment activities; startup and heatup activities; and identification and resolution of problems associated with the outage. The plant was shutdown to repair leaking tubes on the 15B feedwater heater. Due to an outstanding OBN item associated with the safety relief valves (SRVs), valve components were also replaced on all eight SRVs prior to startup.

This inspection constituted one other outage sample as defined in IP 71111.20-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- 0006; scram discharge volume high level scram test and calibration (routine); and
- 0030; emergency core cooling system (ECCS) high drywell pressure sensor test (routine).

The inspectors observed in-plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- were the effects of the testing adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- were acceptance criteria clearly stated, demonstrated operational readiness, and consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and the calibration frequency were in accordance with TSs, the USAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy, applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability, tests were performed in accordance with the test procedures and other applicable procedures, jumpers and lifted leads were controlled and restored where used;

- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for inservice testing (IST) activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers code, and reference values were consistent with the system design basis;
- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

These inspections constituted two routine surveillance testing samples, as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

.1 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

Since the last NRC inspection of this program area, Emergency Action Level and Emergency Plan changes were implemented based on the site's determination, in accordance with 10 CFR 50.54(q), that the changes resulted in no decrease in effectiveness of the Plan, and that the revised Plan as changed continues to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. Revisions to the emergency action levels and Emergency Plan reviewed by the inspectors included:

- Monticello Nuclear Generating Station Emergency Plan; Revision 33; and
- Monticello Nuclear Generating Station Emergency Plan; Revision 34.

The inspectors conducted a sampling review of the Emergency Plan changes and a review of the Emergency Action Level changes to evaluate for potential decreases in effectiveness of the Plan. However, this review does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

This emergency action level and emergency plan changes inspection constituted one sample as defined in IP 71114.04-05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Training Observation

a. Inspection Scope

The inspectors observed a simulator training evolution for licensed operators on November 29, 2010, which required emergency plan implementation by a licensee operations crew. This evolution was planned to be evaluated and included in performance indicator (PI) data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that the licensee evaluators noted the same issues and entered them into the CAP. As part of the inspection, the inspectors reviewed the scenario package and other documents listed in the Attachment to this report.

This inspection of the licensee's training evolution with emergency preparedness drill aspects constituted one sample as defined in IP 71114.06-05.

b. Findings

No findings were identified.

RADIATION SAFETY

Cornerstones: Public and Occupational Radiation Safety

2RS3 In-Plant Airborne Radioactivity Control and Mitigation (71124.03)

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the plant Final Safety Analysis Report (FSAR) to identify areas of the plant designed as potential airborne radiation areas and any associated ventilation systems or airborne monitoring instrumentation. Instrumentation review included continuous air monitors (continuous air monitors and particulate-iodine-noble-gas-type instruments) used to identify changing airborne radiological conditions, such that actions to prevent an overexposure may be taken. The review included an overview of the respiratory protection program and a description of the types of devices used. The inspectors reviewed FSAR, TSs, and emergency planning documents to identify location and quantity of respiratory protection devices stored for emergency use.

Inspectors reviewed the licensee's procedures for maintenance; inspection; and use of respiratory protection equipment, including self-contained breathing apparatus, as well as procedures for air quality maintenance.

The inspectors reviewed reported PIs to identify any which were related to unintended dose resulting from intakes of radioactive material.

b. Findings

No findings were identified.

.2 Engineering Controls (02.02)

a. Inspection Scope

The inspectors reviewed the licensee's use of permanent and temporary ventilation to determine whether the licensee uses ventilation systems as part of its engineering controls (in lieu of respiratory protection devices) to control airborne radioactivity.

The inspectors reviewed procedural guidance for use of installed plant systems, such as containment purge; spent fuel pool ventilation; and auxiliary building ventilation; and assessed whether the systems are used, to the extent practicable, during high-risk activities (e.g., using containment purge during cavity flood-up).

The inspectors selected installed ventilation systems used to mitigate the potential for airborne radioactivity, and evaluated whether the ventilation airflow capacity; flow path (including the alignment of the suction and discharges); and filter/charcoal unit efficiencies, as appropriate, were consistent with maintaining concentrations of airborne radioactivity in work areas below the concentrations of an airborne area to the extent practicable.

The inspectors selected temporary ventilation system setups (high-efficiency particulate air/charcoal negative pressure units, down draft tables, tents, metal "Kelly buildings," and other enclosures) used to support work in contaminated areas. The inspectors assessed whether the use of these systems is consistent with licensee procedural guidance and as-low-as-is-reasonably-achievable (ALARA) concept.

The inspectors reviewed airborne monitoring protocols by selecting installed systems used to monitor and warn of changing airborne concentrations in the plant and evaluating whether the alarms and setpoints are sufficient to prompt licensee/worker action to ensure that doses are maintained within the limits of 10 CFR Part 20 and the ALARA concept.

The inspectors assessed whether the licensee had established trigger points (e.g., the Electric Power Research Institute's "Alpha Monitoring Guidelines for Operating Nuclear Power Stations") for evaluating levels of airborne beta-emitting (e.g., plutonium-241) and alpha-emitting radionuclides.

b. Findings

No findings were identified.

.3 Use of Respiratory Protection Devices (02.03)

a. Inspection Scope

For those situations where it is impractical to employ engineering controls to minimize airborne radioactivity, the inspectors assessed whether the licensee provided respiratory protective devices, such that occupational doses are ALARA. The inspectors selected work activities where respiratory protection devices were used to limit the intake of radioactive materials, and assessed whether the licensee performed an evaluation concluding that further engineering controls were not practical and that the use of respirators is ALARA. The inspectors also evaluated whether the licensee had established means (such as routine bioassay) to determine if the level of protection (protection factor) provided by the respiratory protection devices during use was at least as good as that assumed in the licensee's work controls and dose assessment.

The inspectors assessed whether respiratory protection devices used to limit the intake of radioactive materials were certified by the National Institute for Occupational Safety and Health/Mine Safety and Health Administration or have been approved by the NRC per 10 CFR 20.1703(b). The inspectors selected work activities where respiratory protection devices were used. The inspectors evaluated whether the devices were used consistent with their National Institute for Occupational Safety and Health/Mine Safety and Health Administration certification or any conditions of their NRC approval.

The inspectors reviewed records of air testing for supplied-air devices and self-contained breathing apparatus bottles to assess whether the air used in these devices meets or exceeds Grade D quality. The inspectors reviewed plant breathing air supply systems to determine whether they meet the minimum pressure and airflow requirements for the devices in use.

The inspectors selected several individuals qualified to use respiratory protection devices, and assessed whether they have been deemed fit to use the devices by a physician.

The inspectors selected several individuals assigned to wear a respiratory protection device and observed them donning; doffing; and functionally checking the device as appropriate. Through interviews with these individuals, the inspectors evaluated whether they knew how to safely use the device and how to properly respond to any device malfunction or unusual occurrence (loss of power, loss of air, etc.).

The inspectors chose multiple respiratory protection devices staged and ready for use in the plant or stocked for issuance for use. The inspectors assessed the physical condition of the device components (mask or hood, harnesses, air lines, regulators, air bottles, etc.) and reviewed records of routine inspection for each. The inspectors selected several of the devices and reviewed records of maintenance on the vital components (e.g., pressure regulators, inhalation/exhalation valves, hose couplings).

b. Findings

No findings were identified.

.4 Self-Contained Breathing Apparatus for Emergency Use (02.04)

a. Inspection Scope

Based on the FSAR, TSs, and emergency operating procedure requirements, the inspectors reviewed the status and surveillance records of self-contained breathing apparatuses staged in-plant for use during emergencies. The inspectors reviewed the licensee's capability for refilling and transporting self-contained breathing apparatus air bottles to and from the control room and operations support center during emergency conditions.

The inspectors selected several individuals on control room shift crews and from designated departments currently assigned emergency duties (e.g., onsite search and rescue duties) to assess whether control room operators and other emergency response and radiation protection personnel (assigned in-plant search and rescue duties, or as required by emergency operating procedures or the emergency plan) were trained and qualified in the use of self-contained breathing apparatuses (including personal bottle changeout). The inspectors evaluated whether personnel assigned to refill bottles were trained and qualified for that task.

The inspectors determined whether appropriate mask sizes and types are available for use (i.e., in-field mask size and type match what was used in fit-testing). The inspectors determined whether on-shift operators had no facial hair that would interfere with the sealing of the mask to the face and whether vision correction (e.g., glasses inserts or corrected lenses) was available, as appropriate.

The inspectors reviewed the past two years of maintenance records for select self-contained breathing apparatus units used to support operator activities during accident conditions and designated as "ready for service" to assess whether any maintenance or repairs on any self-contained breathing apparatus unit's vital components were performed by an individual, or individuals, certified by the manufacturer of the device to perform the work. The vital components typically are the pressure-demand air regulator and the low-pressure alarm. The inspectors reviewed the onsite maintenance procedures governing vital component work to determine any inconsistencies with the self-contained breathing apparatus manufacturer's recommended practices. For those self-contained breathing apparatuses designated as "ready for service," the inspectors determined whether the required, periodic air cylinder hydrostatic testing was documented and up-to-date, and the retest air cylinder markings required by the U.S. Department of Transportation were in place.

b. Findings

No findings were identified.

.5 Problem Identification and Resolution (02.05)

a. Inspection Scope

The inspectors evaluated whether problems associated with the control and mitigation of in-plant airborne radioactivity were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee CAP. The inspectors assessed whether the corrective actions were appropriate for a selected

sample of problems involving airborne radioactivity and were appropriately documented by the licensee.

b. Findings

No findings were identified.

2RS4 Occupational Dose Assessment (71124.04)

This inspection constituted one complete sample as defined in IP 71124.04-05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the results of radiation protection program audits related to internal and external dosimetry (e.g., licensee's quality assurance audits, self-assessments, or other independent audits) to gain insights into overall licensee performance in the area of dose assessment and focus the inspection activities consistent with the principle of "smart sampling."

The inspectors reviewed the most recent National Voluntary Laboratory Accreditation Program accreditation report on the vendor's most recent results to determine the status of the contractor's accreditation.

A review was conducted of the licensee procedures associated with dosimetry operations, including issuance/use of external dosimetry (routine, multi-badging, extremity, neutron, etc.), assessment of internal dose (operation of whole body counter, assignment of dose based on derived air concentration-hours, urinalysis, etc.), and evaluation of and dose assessment for radiological incidents (distributed contamination, hot particles, loss of dosimetry, etc.).

The inspectors evaluated whether the licensee had established procedural requirements for determining when external and internal dosimetry is required.

b. Findings

No findings were identified.

.2 External Dosimetry (02.02)

a. Inspection Scope

The inspectors evaluated whether the licensee's dosimetry vendor is accredited by National Voluntary Laboratory Accreditation Program and if the approved irradiation test categories for each type of personnel dosimeter used are consistent with the types and energies of the radiation present and the way the dosimeter is being used (e.g., to measure deep dose equivalent, shallow dose equivalent, or lens dose equivalent).

The inspectors evaluated the onsite storage of dosimeters before their issuance, during use, and before processing/reading. The inspectors also reviewed the guidance provided to rad-workers with respect to care and storage of dosimeters.

The inspectors assessed whether non-National Voluntary Laboratory Accreditation Program accredited passive dosimeters (e.g., direct ion storage sight read dosimeters) were used according to licensee procedures that provide for periodic calibration, application of calibration factors, usage, reading (dose assessment), and zeroing.

The inspectors assessed the use of active dosimeters (electronic personal dosimeters) to determine if the licensee uses a "correction factor" to address the response of the electronic personal dosimeter as compared to the passive dosimeter for situations when the electronic personal dosimeter must be used to assign dose and whether the correction factor is based on sound technical principles.

The inspectors reviewed dosimetry occurrence reports or corrective action program documents for adverse trends related to electronic dosimeters, such as interference from electromagnetic frequency, dropping or bumping, failure to hear alarms, etc. The inspectors assessed whether the licensee had identified any trends and implemented appropriate corrective actions.

b. Findings

No findings were identified.

.3 Internal Dosimetry (02.03)

Routine Bioassay (In Vivo)

a. Inspection Scope

The inspectors reviewed procedures used to assess the dose from internally deposited nuclides using whole body counting equipment. The inspectors evaluated whether the procedures addressed methods for differentiating between internal and external contamination, the release of contaminated individuals, the route of intake and the assignment of dose.

The inspectors reviewed the whole body count process to determine if the frequency of measurements was consistent with the biological half-life of the nuclides available for intake.

The inspectors reviewed the licensee's evaluation for use of its portal radiation monitors as a passive monitoring system to determine if instrument minimum detectable activities were adequate to determine the potential for internally deposited radionuclides sufficient to prompt additional investigation.

The inspectors selected several whole body counts and evaluated whether the counting system used had sufficient counting time/low background to ensure appropriate sensitivity for the potential radionuclides of interest. The inspectors reviewed the radionuclide library used for the count system to determine its appropriateness. The inspectors evaluated whether any anomalous count peaks/nuclides indicated in each output spectra received appropriate disposition. The inspectors reviewed the

licensee's 10 CFR Part 61 data analyses to determine whether the nuclide libraries included appropriate gamma-emitting nuclides. The inspectors evaluated how the licensee accounts for hard-to-detect nuclides in the dose assessment.

b. Findings

No findings were identified.

Special Bioassay (In-Vitro)

a. Inspection Scope

There was no internal dose assessments obtained using in-vitro monitoring for the inspectors to review. The inspectors reviewed and assessed the adequacy of the licensee's program for in-vitro monitoring (i.e., urinalysis and fecal analysis) of radionuclides (tritium, fission products, and activation products), including collection and storage of samples.

The inspectors reviewed the vendor laboratory quality assurance program and assessed whether the laboratory participated in an industry recognized cross-check program, including whether out-of-tolerance results were resolved appropriately.

b. Findings

No findings were identified.

Internal Dose Assessment – Airborne Monitoring

a. Inspection Scope

The licensee had not performed dose assessments using airborne/derived air concentration monitoring since the last inspection.

b. Findings

No findings were identified.

Internal Dose Assessment – Whole Body Count Analyses

a. Inspection Scope

The inspectors reviewed several dose assessments performed by the licensee using the results of whole body count analyses. The inspectors determined whether affected personnel were properly monitored with calibrated equipment and that internal exposures were assessed consistent with the licensee's procedures.

b. Findings

No findings were identified.

.4 Special Dosimetric Situations (02.04)

Declared Pregnant Workers

a. Inspection Scope

The inspectors assessed whether the licensee informs workers, as appropriate, of the risks of radiation exposure to the embryo/fetus, the regulatory aspects of declaring a pregnancy, and the specific process to be used for (voluntarily) declaring a pregnancy.

The inspectors selected individuals who had declared pregnancy during the current assessment period and evaluated whether the licensee's radiological monitoring program (internal and external) for declared pregnant workers is technically adequate to assess the dose to the embryo/fetus. The inspectors reviewed exposure results and monitoring controls employed by the licensee and with respect to the requirements of 10 CFR Part 20.

b. Findings

No findings were identified.

Dosimeter Placement and Assessment of Effective Dose Equivalent for External Exposures

a. Inspection Scope

The inspectors reviewed the licensee's methodology for monitoring external dose in non-uniform radiation fields or where large dose gradients exist. The inspectors evaluated the licensee's criteria for determining when alternate monitoring, such as use of multi-badging, was to be implemented.

The inspectors reviewed dose assessments performed using multi-badging to evaluate whether the assessment was performed consistently with licensee procedures and dosimetric standards.

b. Findings

No findings were identified.

Shallow Dose Equivalent

a. Inspection Scope

The inspectors reviewed shallow dose equivalent dose assessments for adequacy. The inspectors evaluated the licensee's method (e.g., VARSKIN or similar code) for calculating shallow dose equivalent from distributed skin contamination or discrete radioactive particles.

b. Findings

No findings were identified.

Neutron Dose Assessment

a. Inspection Scope

The inspectors evaluated the licensee's neutron dosimetry program, including dosimeter types and/or survey instrumentation.

The inspectors reviewed neutron exposure situations (e.g., independent spent fuel storage installation operations or at-power containment entries) and assessed whether (a) dosimetry and/or instrumentation was appropriate for the expected neutron spectra; (b) there was sufficient sensitivity for low dose and/or dose rate measurement; and (c) neutron dosimetry was properly calibrated. The inspectors also assessed whether interference by gamma radiation had been accounted for in the calibration and whether time and motion evaluations were representative of actual neutron exposure events, as applicable.

b. Findings

No findings were identified.

Assigning Dose of Record

a. Inspection Scope

For the special dosimetric situations reviewed in this section, the inspectors assessed how the licensee assigns dose of record for total effective dose equivalent, shallow dose equivalent, and lens dose equivalent. This included an assessment of external and internal monitoring results; supplementary information on individual exposures (e.g., radiation incident investigation reports and skin contamination reports); and radiation surveys and/or air monitoring results when dosimetry was based on these techniques.

b. Findings

No findings were identified.

.5 Problem Identification and Resolution (02.05)

a. Inspection Scope

The inspectors assessed whether problems associated with occupational dose assessment are being identified by the licensee at an appropriate threshold and are properly addressed for resolution in the licensee CAP. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee involving occupational dose assessment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index - Residual Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI) - RHR System PI for the period from the Third Quarter 2009 through the Second Quarter 2010. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, MSPI derivation reports, event reports and NRC Integrated Inspection Reports for the period of July, 2009, through June, 2010, to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one MSPI RHR system sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index - Cooling Water Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI - Cooling Water Systems PI for the period from the Third Quarter 2009 through the Second Quarter 2010. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, MSPI derivation reports, event reports and NRC Integrated Inspection Reports for the period of July, 2009, through June, 2010, to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one MSPI cooling water system sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.3 Reactor Coolant System Specific Activity

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system (RCS) specific activity PI for MNGP for the period from the Fourth Quarter 2009 through the Third Quarter 2010. The inspectors used PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's RCS chemistry samples, technical specification requirements, issue reports, event reports and NRC Integrated Inspection Reports for the period of Fourth Quarter 2009 through the Third Quarter 2010 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator, and none were identified. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze a RCS sample. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one RCS specific activity sample as defined in IP 71151-05.

b. Findings

No findings were identified.

40A2 Identification and Resolution of Problems (71152)

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection

.1 Routine Review of Items Entered into the Corrective Action Program

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's CAP at an appropriate threshold; that adequate attention was being given to timely corrective actions; and that adverse trends were identified and addressed. Attributes reviewed included: identification of the problem was complete and accurate; timeliness was commensurate with the safety significance; evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue.

Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the Attachment to this report.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure, they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings 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 through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 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 repetitive equipment issues, 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 six month period of May 2010 through October 2010, although some examples expanded beyond those dates where the scope of the trend warranted.

This 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 inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

This review constituted a single semi-annual trend inspection sample as defined in IP 71152-05.

b. Findings

No findings were identified.

.4 Selected Issue Follow-Up Inspection: Unexpected Change in Core Thermal Power Heat Balance After 15B Heater Isolated

a. Inspection Scope

During a review of items entered in the licensee's CAP, the inspectors recognized a corrective action item documenting a condition where all four average power range monitor (APRMs) were inoperable during power reduction activities to support isolation of the 15B feedwater heater on November 4, 2010. The inspectors reviewed circumstances surrounding the event; apparent and contributing causes; reactor safety implications; corrective actions taken or planned; and actions to measure the effectiveness of corrective actions.

This review constituted one in-depth problem identification and resolution sample as defined in IP 71152-05.

b. Findings

No findings were identified.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 Reactor Power Reduction to 50 Percent Due to 15B Feedwater Heater Tube Rupture

a. Inspection Scope

The inspectors reviewed the plant's response to a 15B feedwater heater tube rupture that exceeded ODMI criteria. Per the ODMI criteria, the licensee reduced reactor power from approximately 93 percent to 48 percent on November 4, 2010. Following the power reduction, the 'B' high pressure feedwater heater string was isolated in order to isolate the tube rupture. The inspectors reviewed the power reduction activities and system isolations in the main control room to verify that the activities were being conducted in accordance with approved procedures and processes. Additional activities to further reduce reactor power to facilitate 15B feedwater heater is discussed in Section 4OA3.2 below. One licensee-identified violation of NRC requirements was identified and is documented in Section 4OA7 of this report. Documents reviewed in this inspection are listed in the Attachment to this report.

This event follow-up review constituted one sample as defined in IP 71153-05.

b. Findings

No findings were identified.

.2 Reactor Power Reduction to 10 Percent to Facilitate 15B Feedwater Repairs

a. Inspection Scope

On November 13, 2010, the licensee made the decision to reduce power to approximately 10 percent to establish plant condition that would support the repair of 15B feedwater heater. Early on November 14, 2010, the licensee reached approximately 10 percent reactor power and at 01:18, the main generator was taken offline.

The inspectors reviewed the power reduction activities from the control room and monitored operator performance while the plant was being maintained at reduced power for an extended period of time. In addition to the control room observations, the inspectors reviewed applicable procedures, clearance orders, and work control document; and attended several licensee management and challenge meetings. Documents reviewed in this inspection are listed in the Attachment to this report.

This event follow-up review constituted one sample as defined in IP 71153-05.

b. Findings

No findings were identified.

.3 Establishing Plant Configuration and Conditions to Repair 15B Feedwater Heater Tubes

a. Inspection Scope

The inspectors reviewed a non-routine evolution to establish atmospheric conditions between the 15B feedwater heater and high pressure turbine. This planned activity was performed in order to allow for freeze seal installations and ultimate isolation of the 15B feedwater heater to repair tube ruptures. During the November 15, 2010, performance of Procedure 8395, "E-15B Feedwater Heater Repair at 10% Power," Revision 0, the licensee could not establish the requisite temperatures on a 14" extraction steam line which was to have a freeze seal installed for personnel safety reasons. The licensee revised Procedure 8395 (Revision 2) in order to re-establish condenser vacuum within the main high pressure turbine and 15B feedwater heater. Procedure 8395 also provided for cooling of the extraction steam line via normal feedwater, and installation of the freeze seal jacket. The freeze seal was successfully established on November 17, 2010; however, isolation valve leakage was not low enough to allow for isolation of the 15B feedwater heater and a subsequent breach of the heater to further tube repairs.

The inspectors observed activities in the main control room and in the plant to verify that procedures were being implemented appropriately. The inspectors also attended plant oversight review committee meetings and management challenge boards as licensee decisions were made. On November 18, 2010, the licensee made the determination to shutdown the plant to cold shutdown to repair the 15B feedwater heater. Section 1R20 of this report outlines the outage activities observed by the inspectors. Documents reviewed in this inspection are listed in the Attachment to this report.

This event follow-up review constituted one sample as defined in IP 71153-05.

b. Findings

No findings were identified.

.4 (Closed) Licensee Event Report (LER) 05000263/2010-002-00: Secondary Containment Briefly Degraded; and LER 05000263/2010-003-00: Secondary Containment Briefly Degraded

Introduction

A finding of very low safety significance and NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action" was identified by the inspectors when the licensee failed to implement corrective actions for a condition adverse to quality.

Description

On February 22, 2007, both doors for airlock 413 (985' pump room) were inadvertently opened simultaneously, breaching the SCT boundary. The licensee entered the appropriate TS action, ensured that the airlock doors were closed, and subsequently declared the SCT to be operable. The licensee documented the issue as a condition adverse to quality in CAP 10708818. As part of the condition evaluation associated with this issue, the licensee recognized that the design of the door interlock installed on airlock 413 would allow simultaneous opening of both doors. However, the inspectors determined that no corrective actions were taken by the licensee to address the design deficiency of the door. The condition evaluation concluded, in part, that "it is recognized that the risk still existed but was acceptable based on the minimal use of the doors."

On June 3, 2010, with the plant operating in Mode 1 at approximately 100 percent power, both doors for airlock 413 were inadvertently opened simultaneously, breaching the SCT boundary. The licensee entered the appropriate TS action, ensured that the airlock doors were closed, and subsequently declared the SCT operable. The licensee determined that the event was reportable under 10 CFR 50.72 (b)(3)(v)(C) and (D) – event or condition that could have prevented fulfillment of a safety function, and classified the event as a safety system functional failure because, during the time when both airlock doors were open, SCT was inoperable and could not have prevented a ground level release of radiation if there had been a release of activity within SCT. Licensee Event Report (LER) 2010-002, "Secondary Containment Briefly Degraded," documented that the cause of the event "was the design of the interlock between the doors in the 985' pump room does not prevent a simultaneous entry." This condition adverse to quality was entered into the licensee's corrective action program as CAP 1235877. Again, the inspectors determined that no corrective actions were implemented by the licensee to address the design deficiency of the door.

On August 5, 2010, with the plant operating in Mode 1 at approximately 100 percent power, both doors for airlock 413 were inadvertently opened simultaneously, breaching the SCT boundary. The licensee entered the appropriate TS action, ensured that the airlock doors were closed, and subsequently declared the SCT operable. The licensee determined that the event was reportable under 10 CFR 50.72 (b)(3)(v)(C) and (D) – event or condition that could have prevented fulfillment of a safety function, and classified the event as a safety system functional failure because, during the time when both airlock doors were open, SCT was inoperable and could not have prevented a ground level release of radiation if there had been a release of activity within SCT.

When the inspectors challenged licensee management regarding if corrective actions had been implemented subsequent to the June 3, 2010, event, they were informed that no corrective actions had been put in place to address the known deficiency in the design of the airlock door interlock. On October 4, 2010, the licensee submitted LER 2010-003, "Secondary Containment Briefly Degraded." In this LER, the licensee again stated that the cause of the event was the design of the interlock on airlock 413 and also stated that the site did not take interim corrective actions for the event which occurred on June 3, 2010.

The licensee entered the August 5, 2010, event in their corrective action program as CAP 1244459. The station initiated administrative controls on all airlocks having a similar design to airlock 413, and are currently evaluating other means of addressing air lock integrity.

Licensee Event Report (LER) 05000263/2010-002-00 and LER 05000263/2010-003-00 are closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

Analysis

The inspectors determined that the licensee's failure to take corrective actions to address a known deficiency with the door interlock on airlock 413, which resulted in a momentary loss of the SCT boundary, was a performance deficiency because it was the result of the failure to meet a requirement or a standard; the cause was reasonably within the licensee's ability to foresee and correct; and should have been prevented. The inspectors determined that the contributing cause that provided the most insight into the performance deficiency was associated with the cross-cutting area of Problem Identification and Resolution, having Corrective Action components, and involving aspects associated with thoroughly evaluating problems such that the resolution addresses the causes and extent of condition as necessary. [P.1(c)]

The inspectors screened the performance deficiency per IMC 0612, Power Reactor Inspection Reports, Appendix B, and determined that the issue was more than minor because it impacted the configuration control attribute of the Barrier Integrity Cornerstone's objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The inspectors applied IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," to this finding. Since the finding resulted in a momentary loss of the SCT boundary, the inspectors evaluated the finding under the Containment Barrier Cornerstone. Utilizing Column 4 of the Table 4a worksheet, the inspectors answered "Yes" to Question 1. Since the finding only resulted in the degradation of the radiological barrier function provided for the control room; auxiliary building; spent fuel pool; or SBGT system, the finding was screened to be of very low safety significance. (Green).

Enforcement

Title 10 CFR 50, Appendix B, Criterion XVI requires, in part, that measures shall be established to assure that conditions adverse to quality, such as deficiencies, are promptly identified and corrected. Contrary to this requirement, as of August 5, 2010, the licensee failed to implement corrective actions to address a design deficiency

associated with the door interlock on airlock 413 first identified on February 22, 2007, and re-identified on June 3, 2010. Because the violation was of very low safety significance and was entered into the licensee's corrective action program (AR 1244459), this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. (NCV 05000263/2010005-02, Failure to Implement Adequate Corrective Actions to Address a Deficiency Associated with the Door Interlock on Airlock 413).

.5 (Closed) Licensee Event Report (LER) 05000263/2010-005-00: Average Power Range Monitor Indication Outside Allowable Range

On November 4, 2010, the licensee reduced power to approximately 50 percent rated thermal power (RTP) to establish plant conditions necessary to isolate and facilitate repair of the 15B feedwater heater. Subsequent to the isolation of the feedwater heater, a greater than expected increase in calculated core thermal power (CTP) occurred. This resulted in a delta between calculated CTP and the APRMs in excess of the TS requirement of a maximum delta of 2 percent of RTP while operating at greater than or equal to 25 percent of RTP. The licensee declared all four APRMs inoperable, and APRM gains were adjusted upward to restore APRM operability and compliance with TSs. On November 6, 2010, control room operators noted generator electrical power output was lower than expected for the existing calculated CTP. An investigation revealed the calculated CTP was indicating high due to the unexpected contribution of a very low feed flow signal from the isolated heater string. The licensee determined that actual thermal power was approximately 50 megawatt thermal lower than the calculated CTP. The feed flow error was corrected and the APRM gains were lowered to match calculated CTP and meet the requirements of TSs.

This event was selected by the inspectors for additional evaluation as a selected issue follow-up inspection sample and is documented in Section 4OA2 of this report. As part of that inspection, the inspectors reviewed circumstances surrounding the event; apparent and contributing causes; reactor safety implications; corrective actions taken or planned; and actions to measure the effectiveness of corrective actions. A licensee-identified NCV was identified for the failure of the licensee to report to the NRC on November 5, 2010, the inoperability of all four APRMs; a condition applicable to 10 CFR 50.72(b)(3)(v), within eight hours. The enforcement aspects of the violation are discussed in Section 4OA7 of this report. This LER is closed.

4OA6 Management Meetings

.1 Exit Meeting Summary

On January 6, 2010, the inspectors presented the inspection results to Mr. T. O'Connor, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for:

- The annual review of Emergency Action Level and Emergency Plan changes with the licensee's Emergency Preparedness Manager, Mr. J. Earl, Emergency

- Preparedness Coordinator, G. Holthaus, and Regulatory Affairs Analyst, Sandra Oswald via telephone on November 29, 2010;
- In-Plant Airborne Radioactivity Control and Mitigation, Occupational Dose Assessment, and Verification of the Performance Indicator for Barrier Integrity for Reactor Coolant System Dose Equivalent Iodine with Mr. T. O'Connor, Site Vice President, on December 3, 2010;
 - The results of the Licensed Operator Requalification Training Program Inspection with P. Norgaard, Supervisor, Operations Continuing Training, via telephone on December 3, 2010.

The inspectors confirmed that none of the potential report input discussed was considered proprietary. Proprietary material received during the inspection was returned to the licensee.

4OA7 Licensee-Identified Violations

The following violation of very low significance (Green) or Severity Level IV was identified by the licensee and is a violation of NRC requirements, which meets the criteria of the NRC Enforcement Policy for being dispositioned as an NCV.

- Title 10 CFR 50.72(b)(3)(v) requires, in part, that the licensee shall notify the NRC as soon as practical, and in all cases within eight hours, of the occurrence of any condition that at the time of discovery could have prevented the fulfillment of the safety function of systems that are needed to: shut down the reactor and maintain it in a safe shutdown condition, and mitigate the consequences of an accident. Contrary to this requirement, the licensee failed to report to the NRC on November 5, 2010, the inoperability of all four average power range monitors (APRMs); a condition applicable to 10 CFR 50.72(b)(3)(v), within eight hours. Specifically, because the APRMs provide the reactor protection system with scram safety functions, the inoperability of all APRMs resulted in a condition that could have prevented the fulfillment of specific reactor protection system safety functions. Per NRC Enforcement Policy, Section 6.9.d.9, the failure to make a report required by 10 CFR 50.72 is categorized as a Severity Level IV violation. Because this violation was not repetitive or willful, and it was entered into the licensee's corrective action program as CAP 01257379, this violation is being treated as a Severity Level IV NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

T. O'Connor, Site Vice President
J. Grubb, Plant Manager
W. Paulhardt, Assistant Plant Manager
N. Haskell, Site Engineering Director
K. Jepson, Business Support Manager
S. Radebaugh, Maintenance Manager
M. Holmes, Radiation Protection/Chemistry Manager
D. Neve, Regulatory Affairs Manager
J. Earl, Emergency Preparedness Manager
G. Holthaus, Emergency Preparedness Coordinator
P. Norgaard, Supervisor, Operations Continuing Training

Nuclear Regulatory Commission

K. Riemer, Chief, Reactor Projects Branch 2

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

05000263/2010005-01	FIN	Failure to Properly Store Loose Material in Close Proximity to Safety Related Equipment (Section 1R05)
05000263/2010005-02	NCV	Failure to Implement Corrective Actions to Address a Deficiency Associated with the Door Interlock on Airlock 413 (Section 4OA3.4)

Closed

05000263/2010-002-00	LER	Secondary Containment Briefly Degraded (Section 4OA3.4)
05000263/2010-003-00	LER	Secondary Containment Briefly Degraded (Section 4OA3.4)
05000263/2010-005-00	LER	Average Power Range Monitor Indication Outside Allowable Range (Section 4OA3.5)

Discussed

None.

LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections or 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 report.

Section 1R01

1151; Winter Checklist; Revision 65
CAP 01251408; B1417: V-P-12A Supply Breaker Burnt Coil
CAP 01251900; Resources Cycled due to Work Order Execution

Section 1R04

B.09.08; Emergency Diesel Generators; Revision 5
B.09.09; 250 VDC System; Revision 1
B.09.10; 125 VDC System; Revision 5
B.09.11; 24 VDC System; Revision 1
2154-34; Emergency Service Water System Prestart Valve Checklist; Revision 26
2154-10; HPCI Prestart Checklist; Revision 28
2118; Plant Prestart Checklist; Revision 15

Section 1R05

Strategy A.3-05-C; Fuel Pool Skimmer Tank Room; Revision 3
Strategy A.3-06; Refuel Floor; Revision 6
Strategy A.3-24; Diesel Fire Pump Room; Revision 8
Strategy A.3-09; Control Room; Revision 9
Strategy A.3-34; East Electrical Equipment Room, 13 Diesel Generator and Day Tank Room; Revision 10
Strategy A.3-01-B; No.11 RHR and Core Spray Pump Room; Revision 3
CAP 01263509; Valve Wrench Found Stored above Safety Related Equipment

Section 1R11

SEG RQ-SS-101
SEG RQ-SS-111

Section 1R12

EWI-08.02.01; Snubber Program; Revision 11
NSPM-1; Quality Assurance Topical Report; Revision 3
Program Health Report; Snubbers; June 30, 2010
ODMI 10-19; SV-4 Switch Replacement; October 4, 2010
ACE for AR 01237137; Turbine Stop Valve No. 4 Scram Switch Malfunction
WO 407001 Trouble Shooting Plan for SV-4
Monticello Operating Exam Results; Revision 0; November 29, 2010

Section 1R13

CAP 1255433; E-34B-1, 'B' Standby Gas Train Heater, Cycles Off/On Frequently
CAP 01246929; FS-2950 not Performing as Desired
WO 416371; MECH-CHV-2946, Inspect for Soft Spring
CAP 01256842; Roofing Crane Blocking Turbine RR Doors
CAP 01164618; Door 24 Difficult to Open Due to Obstruction
Past Operability Evaluation 01164618-02; Door 24 Difficult to Open Due to Obstruction
Past Operability Evaluation 01256842; Roofing Crane Blocking Turbine RR Doors
CAP 01256559; Unexpected Scoop Tube Lock on No. 12 Recirculation Pump
WO 394933; VT-2-184-21B, Action Pack Replacement PM
WO 416655; Unexpected Scoop Tube Lock on No. 12 Recirculation Pump
CAP 01260604; Reactor Flow Limit Inhibiting Turbine Valve Movement
Calculation 98-282; Change Reactor Flow Limit Setting to Support Rerate; Revision 02
NX-8435-150-1 and 2; Turbine Control Diagram
WO 418226-04; Adjust Turbine Flow Limit Setting; Revision 01

Section 1R15

CAP 1253620; Design Basis for ADS Bypass Timer Needs Update
CAP 01257944; SBLC Test Tank (T-201) Concerns
0255-02-III-1A; SBLC Comprehensive Pump and Valve Tests; Revision 12
CAP 01263913; MO-2035, Incorrect Voltage Used In MOV Calculation
CAP 01264018; MOV Calculations – Incorrect Voltage Assumptions Used

Section 1R19

0187-01A; No. 11 EDG Comprehensive Pump and Valve Test; Revision 22
4027-PM; Klockner-Moeller B34 and B44 Maintenance Procedure; Revision 20
0468-02; V-FE-12 RMVL Effluent Test; Revision 7
7050; CST Level Instrument Calibration Procedure; Revision 5
CAP 01256900; Level Switches Found Outside As Found Tolerance
WO 00404381; CST Instruments, Perform 7050 Calibration Procedure
WP 00381251; Replace CST Level Switch Relays Per EC-13633
0058; HPCI Steam Line Area Temperature Test and Calibration Procedure; Revision 28
7130; HPCI System Instrument Maintenance; Revision 31
0056; HPCI Hi Steam Flow and Low Steam Pressure Sensor Test and Calibration Procedure;
Revision 49
0255-06-IA-1; HPCI Quarterly Pump and Valve Tests; Revision 84
CAP 01262774; HPCI – One Vibration Measurement Point is Above Trend Range

Section 1R20

Operations Manual C.3; Shutdown Procedure; Revision 60
C.4-A; Reactor Scram; Revision 34
4 AWI-08.15.03; Risk Management for Outages; Revision 6

Section 1R22

0006; SDV High Level Scram Test and Calibration Procedure; Revision 30
0030; ECCS High Drywell Pressure Test; Revision 16

Section 1EP4

Monticello Nuclear Generating Station Emergency Plan; Revision 33
Monticello Nuclear Generating Station Emergency Plan; Revision 34
10 CFR 50.54(q) for Monticello Nuclear Generating Station Emergency Plan Changes; Revision 33, dated March 5, 2010
10 CFR 50.54(q) for Monticello Nuclear Generating Station Emergency Plan Changes; Revision 34, dated July 2, 2010
10 CFR 50.54(q) for Monticello Nuclear Generating Station Emergency Plan Changes; Revision 34, August 19, 2010

Section 2RS3

0386; Drywell Particulate Monitor Calibration; Revision 26
1.05.04; Drywell Atmosphere Radioactivity Sampling and Operation; Revision 27
1.06.04; Laboratory Quality Control; Revision 14
4AWI-08.04.01; Radiation Protection Plan; Revision 29
4AWI-08.04.04; Respiratory Protection; Revision 16
5598-01; Semiannual Smear Counter Functional Checks; February 2010
5646; Service Air Composition Tests; February 2010
5848; AMS-4 Calibration Data Sheets; August 2010
AR 1251719-15; Snap-Shot Self-Assessment; Preparation for NRC Inspection Module 71124.03; November 01, 2010
Certificate of Analysis; Praxair – Breathing Grade Air Quality; October, 2010
List of Operations Shift Staffing and Qualifications; November 20, 2010
List of Qualified Respirator Users; November 29, 2010
List of Qualified SCBA Users; November 30, 2010
NVLAP Certifications; July 2010 through June 2011
R.05.07; SCBA Inspection and Functional Check; Revision 22
R.05.08; Service Air Composition Test; Revision 05
R.09.31; NMC Continuous Air Monitors; Revision 17
R.12.12; Vacuum Cleaner and HEPA Usage in the Radiologically Controlled Area; Revision 12
RWP 836; Work on Non-Irradiated Support Equipment in the Spent Fuel Pool; February 2008
RWP 886; SRV Change Out Main Valve/Topworks/Surveillance Test; November 2010
RWP 1298; AO-2702 Inspection and Repair; August 2010

Section 2RS4

5866; Radionuclide Analysis Summary Sheet; June 2010
AR 01150143; Dosimetry Issuance for Untrained Workers needs Enhancement; September 2008
AR 01173236; Current Air Sample Alpha Analysis May Not Be Adequate; March 2009
AR 01177481; Air Sample Unidentified Alpha and Beta DAC Ratio Calculations May Require Revision; April 2009
AR 01196952; Low Level of Tritium Detected in Monitoring Well (MW-9); September 9, 2009
AR 1251719-16; Snap-Shot Self-Assessment; Occupational Dose Assessment; November 5, 2010
AR 01258992; Tritium Found in Condenser Room Wall Wee-Page; November 17, 2010
GAR 01130691; Evaluation of the PM-7 Portal Monitor and Argos 4AB Zeus to Detect Internally Deposited Radionuclides; March 20, 2008

Form 1206; Radiological Work Assessment Form; Revision 06
FG-RP-BSR-01; Bioassay Sample Report; Revision 01
FG-RP-EDM-01; External Dosimetry: Multi-Pack Assembly, Issue, and Return; Revision 03
FG-RP-RAL-01; Restrictions, Administrative Limits and PEI; Revision 02
FG-RP-SEN-01; PTI Sentinel; Total Exposure; Revision 05
FP-RP-BR-01; Bioassay Program; Revision 05
FP-RP-DP-01; Dosimetry Program; Revision 03
FP-RP-JPP-01; RP Job Planning; Revision 08
FP-RP-SD-01; Special Dosimetry; Revision 07
R.02.02; Surface Contamination Surveys; Revision 25
R.02.04; Analysis of Airborne Radioactivity Samples; Revision 21
R.02.05; Personnel Contamination Assessment and Decontamination; Revision 14
R.03.08; Smear Counters and Miniscalers; Revision 26
R.07.02; Area Posting, Special Status Signs and Hot Spot Stickers; Revision 37
R.13.11; Televue Monitoring System; Revision 06
R.14.02; Whole Body Counting (Fastscan); Revision 12
R.14.08; Dose Assessment; Revision 09
R.14.21; In-Vitro Bioassay Sampling; Revision 03

Section 4OA1

Monticello MSPI Derivation Report for Unavailability Index, R System; July 2009 through June 2010
Monticello MSPI Derivation Report for Unreliability Index, Residual Heat Removal System; July 2009 through June 2010
Monticello MSPI Derivation Report for Performance Limit Exceeded, Residual Heat Removal System; July, 2009 through June, 2010
Monticello MSPI Derivation Report for Unavailability Index, Residual Heat Removal System; July, 2009 through June, 2010
Monticello MSPI Derivation Report for Unreliability Index, Residual Heat Removal System; July 2009 through June 2010
Monticello MSPI Derivation Report for Performance Limit Exceeded, Residual Heat Removal System; July 2009 through June 2010
CAP 01256496; Discrepancy Found Between Maintenance Rule Database and MSPI Reported Unavailability
0122; Reactor Coolant I-131 Dose Equivalent Activity; Revision 26
1.03.13; Reactor Water and Clean-Up System Iodine; Revision 13
1.03.39; MCA Operation/Gamma Isotopic Analysis; Revision 09
1.05.11; Sample Hood Sample Procedure; Revision 08
QF-0445: NRC/INPO/WANO Data Collection and Submittal Forms; RCS Activity Fuel Performance and Chemistry (BWR); various dates 2009 and 2010.

Section 4OA2

RCE 01257298-01; All 4 APRMs Declared Inoperable, NRC 50.72 Notification not Made within Required Time
CAP 01257509; Unexpected Change in Core Thermal Power Heat Balance After 15B Heater Isolated
FG-PA-CTC-01; CAP Trend Code Manual; Revision 12
FG-PA-DRUM-01; Department Roll Up Meeting (DRUM) Manual – Department Performance Trending

Performance Assessment Third Quarter 2010 Station Trend Report; October 11, 2010
CAP 01246629; Adverse Trend in Security Human Performance
CAP 01248684; Adverse Trend in Security Force Members Reporting Significant Events
CAP 01249159; Potential Adverse Trend in H.2.c Documentation
CAP 01197202; CDBI—Calculation Quality—Adverse Trend
CAP 01247030; Organizational Weakness Results in Work Management Challenges
Work Process & Activity Trending Reports; May 2010-October 2010
First and Second Quarter 2010 Site Roll-up Meeting Results
Second Quarter 2010 Security Department Roll-up Meeting Results
Second Quarter 2010 Engineering Department Roll-up Meeting Results
Third Quarter 2010 Security Department Roll-up Meeting Results
Third Quarter 2010 Engineering Department Roll-up Meeting Results

Section 4OA3

C.2-05; Power Operation – System Operation; Revision 38
FP-OP-ODM-01; Operational Decision Making; Revision 3
C.3; Shutdown Procedure; Revision 60
B.06.05-05; Condensate and Reactor Feedwater – System Operation; Revision 16
CAP 01257101; 15B Heater Tube Leakage Increases to 525 K#/hr
CAP 01257137; ODMI Trigger Point Exceeded for 15B FW Heater
CAP 01257276; RV-1129, 12 Reactor Feed Pump Suction Relief Valve, is Leaking
CAP 01257285; Exceeded Specified Flow Rate on Condenser Drawing for 15B Baffle
CAP 01257292; Feedwater Temperature/Thermal Power Effects from
15B Feedwater Heater Isolation
CAP 01257293; CV-1019, 15A Feedwater Heater Drain Valve Reaction Sluggish
CAP 01257298; All Four APRM's Declared Inoperable after 15B Heater Isolation
CAP 01257379; 10 CFR 50.72 Non-Emergency Notification to NRC Made Late
CAP 01257509; Unexpected Change in Core Thermal Power Heat Balance after
15B Heater Isolation
8394; Power Adjustments for Support of 15B Feedwater Heater Repair; Revision 1
8395; E-15B Feedwater Heater Repair At 10 Percent Power; Revision 2
CAP 01244459; Door-72 and Door-82 (SCT airlocks) Opened Simultaneously
CAP 01078818; Both 985' RW Pump Room Airlock Doors Opened Simultaneously
CAP 01236079; Improper Interlock Testing on Secondary Containment Doors
CAP 01235877; Secondary Containment Lost at 985' RW Pump Room
CAP 01252628; No Interim Actions for SCT Airlock (June, August Breach)

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access Management System
ALARA	As-Low-As-Is-Reasonably-Achievable
APRM	Average Power Range Monitor
AWI	Administrative Work Instruction
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CREF	Control Room Emergency Filtration
CST	Condensate Storage Tank
CTP	Core Thermal Power
DRP	Division of Reactor Projects
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EFT	Emergency Filtration Train
ESW	Emergency Service Water
FSAR	Final Safety Analysis Report
HELB	High Energy Line Break
HPCI	High Pressure Coolant Injection
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
IST	Inservice Testing
LER	Licensee Event Report
MNGP	Monticello Nuclear Generating Plant
MOV	Motor-Operated Valve
MSPI	Mitigating Systems Performance Index
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
OBD	Operable But Degraded
OBN	Operable But Non-Conforming
ODMI	Operational Decision Making Issue
PARS	Publicly Available Records System
PI	Performance Indicator
PM	Post-Maintenance
RCIC	Reactor Core Isolation Cooling
RCS	Reactor Coolant System
RHR	Residual Heat Removal
RHRSW	Residual Heat Removal Service Water
RTP	Rated Thermal Power
SBGT	Standby Gas Treatment
SBLC	Standby Liquid Control
SCT	Secondary Containment
SDP	Significance Determination Process
SRV	Safety Relief Valve
SSC	Structure, System, and Component
TS	Technical Specification
USAR	Updated Safety Analysis Report
Vdc	Volts Direct Current
WO	Work Order

T. O'Connor

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Sincerely,

/RA/

Kenneth Riemer, Chief
Branch 2
Division of Reactor Projects

Docket No. 50-263
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SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT
NRC INTEGRATED INSPECTION REPORT 05000263/2010005

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