

# Monticello

## 2Q/2007 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 31, 2007

Identified By: Self-Revealing

Item Type: FIN Finding

#### **INADEQUATE PREPARATION TO ADDRESS THE POTENTIAL LOSS OF THE STATION HEATING BOILER PRIOR TO THE ONSET OF EXTREME COLD OUTSIDE AMBIENT TEMPERATURES.**

A finding of very low safety significance was self-revealed when, due to the licensee's inadequate preparation to address the potential loss of the station heating boiler prior to the onset of extreme cold outside ambient temperatures, a temporary heating boiler could not be expeditiously installed subsequent to the loss of the station heating boiler on February 16, 2007. The licensee entered this issue into their corrective action program and performed a condition evaluation to determine specific items required to ensure that the installation of a temporary heating boiler could be performed, if needed, without jeopardizing plant operation. No violation of regulatory requirements occurred.

The inspectors determined that the finding was more than minor because it affected the procedure adequacy attribute of the Initiating Events cornerstone objective of limiting those events that upset plant stability and challenge critical safety functions during power operations. The finding was of very low safety significance because the finding: (1) was not associated with the likelihood of a primary or secondary system loss of coolant accident (LOCA) initiation; (2) did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation systems would be unavailable; and (3) was not associated with a fire or flood. The inspectors determined that the performance deficiency affected the cross-cutting area of Human Performance, having resource components, and involving aspects associated with having adequate and available facilities and equipment.

Inspection Report# : [2007002](#) (*pdf*)

**Significance:**  Mar 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

#### **INADEQUATE CLEARANCE ORDER FOR BUS 16 ISOLATION RESULTING IN LOSS OF BUS 16 AND GROUP II ISOLATION.**

A self-revealed finding of very low safety significance was identified for a violation of 10 Code of Federal Regulations (CFR) 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," when the Division II essential 4160 Vac Bus 16 was lost, resulting in a reactor protection system (RPS) trip, scram, and Group II containment isolation on March 17, 2007. Specifically, while in Mode 5 refueling with Division I equipment protected, the loss of Bus 16 occurred due to the licensee's failure to fully evaluate the scheduling and operational impact of removing a potential transformer (POT) drawer associated with isolation activities for the 1AR transformer while Bus 16 was energized. After the loss of Bus 16, the licensee took immediate corrective actions, including: restoring plant equipment alignment, placing all electrical clearance orders/isolations on hold pending independent reviews, and generating corrective action program (CAP) document 01082734 to review the root cause of the event.

The inspectors determined that the finding was more than minor because it affected the procedure quality attribute of the Initiating Events cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown operations. The inspectors evaluated the finding using IMC 0609, Appendix G, Phase 1 Screening, and determined that Checklist 8, "Boiling Water Reactor (BWR) Cold Shutdown or Refueling Operation Time to Boil > 2 Hours: reactor coolant system (RCS) Level < 23' Above Top of Flange," applied. However, because all qualitative criteria within the Core Heat Removal, Inventory Control, Power Availability, and Containment guidelines were met; because the finding did not meet the Checklist 8 criteria for Phase 2 or Phase 3 quantitative analysis (the finding did not: increase the likelihood of a loss of RCS inventory; degrade the licensee's ability to terminate a leak path or add RCS inventory when needed; significantly degrade the licensee's ability to recover decay heat removal once it was lost; or involve only one or less safety relief valves available to establish a

heat removal path to the suppression pool due to the vessel head being removed); and because no event occurred that could be characterized as a loss of control as listed in Table 1 of IMC 0609, Appendix G, the finding was considered to be of very low safety significance. The inspectors determined that the performance deficiency affected the cross-cutting area of Human Performance, having work control components, and involving aspects associated with the failure to appropriately coordinate the work activity by incorporating actions to address the operational impact of the testing.

Inspection Report# : [2007002](#) (*pdf*)

**G**

**Significance:** Dec 31, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **UNEXPECTED HALF SCRAM DUE TO INADEQUATE WORK PLAN.**

A self-revealed finding of very low safety significance was identified for a violation of 10 Code of Federal Regulations (CFR) 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," when an unexpected half scram occurred on October 3, 2006. Specifically, the half scram occurred due to the licensee's failure to fully evaluate the impact of installing test equipment used to perform Work Order 293156, "Document Operating Point of FCI SDV Level Switches." The inspectors determined that the performance deficiency affected the cross-cutting area of Human Performance, having Work Control components, and involving aspects associated with the failure to appropriately coordinate the work activity by incorporating actions to address the operational impact of the testing.

This finding was more than minor because the performance deficiency affected the procedure quality attribute of the Initiating Events cornerstone's objective of limiting the likelihood of events that upset plant stability. The inspectors determined that the finding was of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available.

Inspection Report# : [2006005](#) (*pdf*)

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## **Mitigating Systems**

**G**

**Significance:** Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO ACCOMPLISH SERVICE WATER INSPECTION PROGRAM REQUIREMENTS.**

A finding of very low safety significance was identified by the inspectors for a violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," associated with the licensee's failure to perform portions of Fleet Procedure FP-PE-SW-01, "Service Water and Fire Protection Inspection Program." Contrary to the requirements of the procedure, the licensee did not increase monitoring or determine degradation mechanisms when emergency service water (ESW) system pipe wall thickness indications were found to meet thresholds that required additional monitoring. As a result of an apparent cause evaluation and service water focused self-assessment, several corrective actions were developed to correct procedural and equipment deficiencies associated with the ESW and other raw water systems at Monticello. The inspectors determined that the performance deficiency affected the cross-cutting area of Human Performance, having resource components and involving aspects associated with maintaining long-term plant safety by the maintenance of design margins and the minimization of long-standing equipment issues [H.2 (a)].

The finding was more than minor because the performance deficiency affected the procedure quality attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the finding using Inspection Manual Chapter (IMC) 0609, Appendix G, "Phase 1 Screening," and determined that Checklist 8, "Boiling Water Reactor (BWR) Cold Shutdown or Refueling Operation Time to Boil > 2 Hours: Reactor Coolant System (RCS) Level < 23 Feet Above Top of Flange," applied. However; because all qualitative criteria within the Core Heat Removal, Inventory Control, Power Availability, and Containment guidelines were met; because the finding did not

meet the Checklist 8 criteria for Phase 2 or Phase 3 quantitative analysis; and because no event occurred that could be characterized as a loss of control as listed in Table 1 of IMC 0609, Appendix G, the finding was considered to be of very low safety significance.

Inspection Report# : [2007003](#) (*pdf*)

**G**

**Significance:** Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PROVIDE WRITTEN INSTRUCTIONS FOR THE COMPENSATORY ACTIONS DENOTED IN OPERABILITY RECOMMENDATION.**

An inspector-identified finding of very low safety significance was identified for a violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," when the licensee failed to provide written instructions for the compensatory actions denoted in Operability Recommendation (OPR) 01076631-03 associated with a degraded condition for the 14 emergency service water (ESW) pump and equipment supported by that pump. Upon being notified of these deficiencies by the inspectors, the shift manager implemented procedure change requests for the required procedure revisions, prepared an Operations Memorandum which discussed the limitations imposed by the OPR, and entered the issue into the corrective action program.

The finding was more than minor because the performance deficiency affected the procedure quality attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance because the finding did not represent a loss of system safety function nor an actual loss of safety function of a single train for more than its Technical Specification allowed outage time. The inspectors determined that the performance deficiency affected the cross-cutting area of Human Performance, having resource components, and involving aspects associated with having complete, accurate and up-to-date procedures.

Inspection Report# : [2007002](#) (*pdf*)

**G**

**Significance:** Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**INADEQUATE 14 EMERGENCY SERVICE WATER SURVEILLANCE PROCEDURE.**

An inspector-identified finding of very low safety significance was identified for a violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," when the licensee failed to maintain written instructions which adequately verified that sufficient ESW flow was supplied to the 'B' residual heat removal (RHR) room to maintain the operability of the 12 core spray (CS) pump, 14 RHR pump, and the 'B' RHR room cooler under worst case ESW system operating conditions. Upon being notified of the issue by the inspectors, the licensee performed an apparent cause evaluation to evaluate the issue. As a result of the apparent cause evaluation, several corrective actions were developed to correct procedural and equipment deficiencies associated with the 'B' ESW system.

The finding was more than minor because the performance deficiency affected the equipment performance attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance because the finding did not represent a loss of system safety function nor an actual loss of safety function of a single train for more than its Technical Specification allowed outage time. The inspectors determined that the performance deficiency affected the cross-cutting area of Human Performance, having resource components, and involving aspects associated with maintaining long-term plant safety by the maintenance of design margins and the minimization of long-standing equipment issues.

Inspection Report# : [2007002](#) (*pdf*)

**Significance: SL-IV** Mar 02, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**INADEQUATE 10 CFR 50.59 EVALUATION FOR DIESEL GENERATOR EXHAUST MISSILE PROTECTION.**

The inspectors identified a Severity Level IV Non-Cited Violation (NCV) for an inadequate 10 CFR 50.59, "Changes, Tests, and Experiments," evaluation resulting in failure to receive prior NRC approval for changes in licensed

activities associated with protection of the emergency diesel generator exhaust stacks against tornado generated missiles. Specifically, the licensee did not provide an adequate response to the question posed in 10 CFR 50.59(c)(2) (viii) and did not demonstrate that the proposed change did not result in a departure from a method of evaluation described in the Final Safety Analysis Report (as updated) used in establishing the design bases or in the safety analyses. As part of the corrective actions, the licensee verified that the emergency diesel generators remained operable and initiated actions to submit a licensee amendment request for use of the new methodology.

Because the Significance Determination Process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, this issue was dispositioned using the traditional enforcement process in accordance with Section IV of the NRC Enforcement Policy. However, the results of the violation, that is, the failure to demonstrate that the proposed change did not result in a departure from a method of evaluation, were assessed using the Significance Determination Process.

The finding was determined to be greater than minor because the change had the potential for impacting the NRC's ability to perform its regulatory function as the inspectors determined the change would have required prior NRC approval. The finding was of very low safety significance based on the completed analysis for the emergency diesel generator exhausts. This was determined to be a Severity Level IV NCV of 10 CFR 50.59.

Inspection Report# : [2007006](#) (*pdf*)

**Significance:**  Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

#### **LICENSEE ANNOUNCED FIRE DRILL IMPLEMENTATION PRACTICE INCONSISTENT WITH THE REQUIREMENTS OF APPENDIX R.**

A finding of very low safety significance was identified by the inspectors for a violation of 10 CFR 50, Appendix R, Section III.I.3.e, when the licensee did not demonstrate the minimum-required attributes to successfully complete a required quarterly announced fire brigade drill. Specifically, by completely pre-briefing the fire brigade members and the control room staff on the exact fire scenario just prior to the execution of the drill, the licensee was unable to effectively assess the fire brigade's selection and use of equipment and fire fighting strategies; each brigade member's knowledge of his or her role in the fire fighting strategy for the area assumed to contain the fire; and the fire brigade leader's direction of the fire fighting effort as to thoroughness, accuracy, and effectiveness. Specific corrective actions taken by the licensee to address this issue included counting the specific drill as unsuccessful, re-performing the drill for the specific fire brigade within 30 days of the unsuccessful drill, and revising the fire drill procedure to eliminate the pre-briefing of fire scenarios during announced fire brigade drills. The inspectors determined that the performance deficiency affected the cross-cutting area of Problem Identification and Resolution, having Self and Independent Assessment components, and involving aspects associated with the failure to conduct independent assessments of sufficient scope and depth to identify the deficiencies associated with the conduct of their announced fire brigade drills.

The finding was more than minor because the failure to conduct adequate announced fire brigade drills could adversely impact the fire brigade's ability to fight a fire. The finding was related to the performance of the fire brigade and was not suitable for SDP evaluation. Therefore, the finding was reviewed by NRC management and determined to be of very low safety significance due to the licensee's demonstration of at least minimal fire brigade capability combined with credit for installed fixed fire protection systems and robust plant design.

Inspection Report# : [2006005](#) (*pdf*)

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## **Barrier Integrity**

**Significance:**  Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

#### **LICENSEE FAILED TO INCORPORATED CURRENT LICENSING BASIS INFORMATION INTO THE ENGINEERING CHANGE PACKAGE AND 50.59 SCREEN PRIOR TO THE IMPLEMENTING THE**

## **MODIFICATION.**

A finding of very low safety significance was identified by the inspectors for a violation of 10 CFR 50, Appendix B, Criterion III, when the licensee failed to incorporate current licensing basis information into the engineering change package and 50.59 screening for a modification of safety-related equipment associated with the south spent fuel pool diffuser piping prior to the implementation of the modification. Specifically, both the engineering change package and associated 50.59 screening referenced the spent fuel pool level requirements as outlined in the Custom Technical Specifications, and did not consider the requirements of the station's current design basis under Improved Technical Specifications. Once identified, the licensee immediately stopped the work associated with the engineering change, restored the spent fuel pool level, and entered the issue into their corrective action program. The inspectors determined that the performance deficiency affected the cross-cutting area of Human Performance, having Work Control components, and involving aspects associated with the failure to effectively implement those procedures prior to the implementation of the design change associated with the south spent fuel pool sparger.

The finding was more than minor because the performance deficiency affected the spent fuel pool cooling system design control attribute associated with the Barrier Integrity Cornerstone's objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radio nuclide releases caused by accidents or events. Per Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the issue was determined to be of very low safety significance because the inspectors determined that the finding only represented a degradation of the radiological barrier function provided by the spent fuel pool.

Inspection Report# : [2006005](#) (*pdf*)

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **Physical Protection**

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## **Miscellaneous**

**Significance:** N/A Dec 01, 2006

Identified By: NRC

Item Type: FIN Finding

### **2006 Binnial Problem Identification and Resoluion Inspection**

The team identified that the licensee was effectively prioritizing, evaluating, and correcting issues. However, the team identified several problems with the licensee's corrective action program that were similar to previous issues identified during inspections occurring in 2004 and 2005. The team identified that some of the internal CAP performance indicators, which showed potential deficiencies in the program, had not been evaluated by the licensee.

There were also examples where the documentation of an issue did not clearly indicate whether it had been properly evaluated, what the status of the corrective actions were, or whether it had been effectively resolved. The team also noted that operating experience was not always considered as a precursor to events. In particular, the licensee's guidance for performing apparent cause evaluations specifically precluded a review of operating experience as part of the evaluation.

Licensee audits and self-assessments were generally thorough, probing, and made good use of outside resources to maintain independence. The team noted that identified issues were properly tracked in the CAP. Workers were generally encouraged to identify issues through the CAP and were familiar with the various other avenues available. However, the team observed that the licensee's lack of rigor associated with the Differing Professional Opinions program may result in some individuals being reluctant to use this process in the future.

Inspection Report# : [2006008](#) (*pdf*)

Last modified : August 24, 2007