

## Monticello

# 1Q/2015 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 31, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

#### **FAILURE TO MAINTAIN FIRE PROTECTION PROGRAM PROCEDURES FOR CONTROL OF PORTABLE HEATER/EXTENSION CORD FIRE HAZARDS.**

A finding of very low safety significance and an associated NCV of Technical Specification (TS) 5.4.1.d was self-revealed when the licensee failed to maintain procedures for Fire Protection Program Implementation to ensure that ignition sources (space heaters) were properly controlled to prevent plant fires. Specifically, on January 26, 2015, the licensee failed to maintain Fire Protection Program implementation procedures to include controls to ensure space heaters used in the plant stayed within allowable load ratings and were plugged directly into outlets without the use of extension cords. This resulted in a fire in the plant recombiner building which was extinguished within 13 minutes, nearing the 15 minute time limit at which a Notification of Unusual Event (NOUE) would have needed to be declared. It also resulted in a space heater causing an overloaded outlet at a location in the reactor building, near 'A' residual heat removal (RHR) equipment. Upon discovery of the recombiner area fire, the licensee dispatched the fire brigade to ensure the fire was extinguished, performed extent of condition walkdowns in the plant, and took action to improve controls on extension cord and portable heater use in the power block. This issue was entered into the licensee's corrective action program (CAP 1463506).

The inspectors determined that the failure to maintain fire program procedures to ensure ignition sources (space heaters) were appropriately controlled was a performance deficiency requiring evaluation. The inspectors determined the issue was more than minor because, if left uncorrected, the failure to adequately control portable heater related fire hazards in the plant could lead to more significant safety concerns. In addition, the finding was more than minor because it was associated with the Initiating Events Cornerstone attribute of Protection Against External Factors—including fire, and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors assessed the significance of this finding in accordance with IMC 0609 and determined that it was of very low safety significance. 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, Evaluation aspect because of the failure to thoroughly evaluate issues to ensure that resolutions address causes and extent of conditions commensurate with their safety significance [P.2].

Inspection Report# : [2015001](#) (*pdf*)

**Significance:**  Jun 30, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **FAILURE TO COMPLY WITH ASME CODE PIPING DESIGN REQUIREMENTS.**

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," when the licensee failed to comply with the appropriate American Society of Mechanical Engineers (ASME) Code requirements during implementation of the temporary modification (TMOD) of the recirculation pump seal coolers. Specifically, the licensee failed to meet the ASME Code, Section III,

Subsection NB 3671.3, Class I piping design requirements for the end cap joint design on the vent line in this TMOD.

The inspectors determined that the performance deficiency was more than minor, and a finding because it was associated with the Design Control attribute of the Initiating Systems Cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the licensee inadequately designed the vent line end cap such that the design was non-compliant with ASME Code, Section III, Subsection NB 3671.3 requirements and, therefore, potentially challenged plant stability. The inspectors reviewed Attachment 0609.04, "Initial Characterization of Findings," Table 3—SDP Appendix Router. The inspectors answered 'Yes' to all of the questions in Sections A through E of Table 3, and, therefore, the finding was evaluated using the SDP in accordance with IMC 0609, "The Significance Determination Process (SDP) for Shutdown Operations," Appendix G, Attachment 1, Exhibit 2, "Initiating Events Screening Questions." The inspectors answered all the questions in Exhibit 2 and determined that this finding did not increase the likelihood of a plant initiating event during shutdown operations nor did it affect any shutdown safety functions. Therefore, the finding was determined to have very low safety significance. This finding has a cross-cutting aspect in the area of Human Performance, Avoid Complacency, because the licensee failed to recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Specifically, the licensee failed to recognize the latent issue concerning appropriate reactor coolant system pressure boundary identification and subsequent ASME Code piping design requirements for piping systems associated with this TMOD (H.12).

Inspection Report# : [2014003](#) (*pdf*)

## Mitigating Systems

**Significance:** G Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **FAILURE TO IDENTIFY HIGH PRESSURE COOLANT INJECTION (HPCI) SEISMIC SUPPORT NONCONFORMANCE.**

The inspectors identified a finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to promptly identify conditions adverse to quality, such as deficiencies, deviations, and nonconformances. Specifically, on February 11, 2015, the inspectors identified a safety related seismic support for high pressure coolant injection (HPCI) turbine trip instrumentation that was not rigidly attached, supported, and restrained in accordance with plant construction code and installation specifications, a nonconformance which the licensee had failed to identify since initial plant construction. Corrective actions for this issue included repairs to the seismic support to rigidly connect the instrument line restraint and installation of a standalone support for the instrument tray. This issue was entered into the licensee's corrective action program (CAP 1465906).

The inspectors determined that the failure to promptly identify an HPCI instrument line support nonconformance was a performance deficiency requiring evaluation. The inspectors determined that the issue was more than minor because it adversely impacted the Mitigating Systems Cornerstone attribute of Protection Against External Factors, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The inspectors assessed the significance of this finding in accordance with IMC 0609 and determined that it was of very low safety significance. 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, and the aspect of Identification because the licensee failed to implement a CAP with a low threshold for identifying issues [P.1].

Inspection Report# : [2015001](#) (pdf)

**Significance:**  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**TWO EMERGENCY DIESELS INOPERABLE DUE TO HUMAN ERROR.**

A self-revealing finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings,” was identified on December 28, 2014, due to the failure to properly implement Procedure 0187-02B, “12 Emergency Diesel Generator /12 ESW [Emergency Service Water] Monthly Pump and Valve Tests.” Specifically, operations personnel failed to comply with Step 42 which directed the 12 EDG local governor control switch to be lowered to idle setting. The failure to implement the actions directed by Step 42 resulted in the 11 EDG being inoperable. Corrective actions for this issue included procedure revisions to require: protection/flagging of redundant equipment when technical specification equipment is declared inoperable for any reason, including planned maintenance and surveillance; peer checking or concurrent verification for manipulation of operable technical specification related equipment; and all equipment manipulations require a hard match (between procedure and equipment labeling). This issue was entered into the licensee’s corrective action program (CAP 1460675).

The issue was more than minor because if left uncorrected, the failure to properly implement procedures associated with safety-related equipment would have the potential to lead to a more significant safety concern. Specifically, the failure to follow procedure resulted in the 11 EDG being made inoperable coincident with the 12 EDG being inoperable. The inspectors utilized IMC 0609 and determined that the issue was of very low safety significance. 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, Avoid Complacency aspect because of a failure of individuals to implement error reduction tools [H.12].

Inspection Report# : [2015001](#) (pdf)

**Significance:**  Dec 02, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

**FAILURE TO MAINTAIN PROCEDURES TO ENSURE DESIGN REQUIREMENTS WOULD BE MET DURING CONSTRUCTION OF THE EXTERNAL FLOODING PROTECTION LEVEE.**

The inspectors identified a finding of very low safety significance with an associated NCV of Technical Specification 5.4.1.a for the licensee’s failure to maintain adequate procedures to protect the plant from external flooding events. Specifically, the licensee failed to maintain Procedure 8300-02, “External Flooding Protection Implementation to Support A.6 Acts of Nature,” in that it lacked sufficient instructions to ensure testing of materials necessary to its external flooding mitigation plan were adequately controlled. The licensee entered this violation into its corrective action program (CAP) to evaluate changes to its procedures to correct the problem.

The finding was of more than minor significance because it was associated with the Protection Against External Factors and Procedure Quality attributes and adversely affected the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the instructions for constructing the flood control levee lacked specific details on how the licensee would ensure it was constructed, compacted, and tested to at least 90 percent compaction. The finding was a licensee performance deficiency of very low safety significance because it did not involve a loss or degradation of equipment or function specifically designed to mitigate a seismic, flooding, or severe weather initiating event (e.g., seismic snubbers, flooding barriers, tornado doors). This determination was based on reasonable assurance the licensee could construct and compact the levee to at least 90 percent compaction. The inspectors determined this

finding affected the cross-cutting area of human performance and the work management aspect due to the licensee's failure to implement a process of planning, controlling, and executing work activities such that safety is the overriding priority. Specifically, the licensee's process for developing and validating the work instructions for construction of the levee did not ensure appropriate quality control steps were incorporated for critical design attributes.

Inspection Report# : [2014009](#) (*pdf*)

**Significance:**  Dec 02, 2014

Identified By: NRC

Item Type: FIN Finding

**SAFETY/SECURITY INTERFACE ASSESSMENT FAILURE.**

The inspectors identified a finding of very low security significance for the licensee's failure to adequately assess and manage the potential for adverse effects on safety and security associated with the development and planned implementation of its external flooding mitigation plan. Specifically, 10 CFR 73.58(b)(3)(i) requires the licensee to have the capabilities to detect, assess, interdict and neutralize threats up to and including the design basis threat of radiological sabotage at all times. The failure to adequately review and evaluate the security measures and changes that would be implemented in response to a flooding event would have resulted in the requirements of 10 CFR 73.58 (b)(3)(i) not being adequately maintained. This finding is not a violation of the regulatory requirements since the licensee had not actually implemented the changes that could have adversely impacted the site's security equipment, systems, and protective measures. The licensee entered the issue into its CAP to perform and document the assessments required to manage the planned changes, and to evaluate and develop potential corrective actions.

The finding was of more than minor significance because it adversely affected the Security Cornerstone objective to provide high assurance that the licensee's security system uses a defense-in-depth approach and can protect against the design basis threat of radiological sabotage from external and internal threats. Specifically, the licensee failed to assess and manage changes to security equipment, systems, and protective measures that would be required in the event of the implementation of its external flooding mitigation plan to determine whether these changes could adversely impact its ability to implement the site's protective plan, which could potentially lead to a loss of defense-in-depth. The finding was of very low security significance because the total point value of this performance issue was determined to be one (1) when it was screened using the guidance provided in IMC 0609, "Significance Determination Process," Appendix E, Part 1, "Baseline Security Significance Determination Process (SDP) for Power Reactors," dated January 15, 2014. The inspectors determined this finding affected the cross-cutting area of human performance with a cross-cutting aspect of change management due to the licensee's failure to use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. Specifically, the licensee did not provide validation of the security plan by conducting integrated tabletops and reviews and perform additional assessment based on feedback from its external reviewers to determine whether these changes could adversely impact its ability to implement the site's protective plan.

Inspection Report# : [2014009](#) (*pdf*)

**Significance:**  Jun 30, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

**INADEQUATE STANDBY LIQUID CONTROL QUARTERLY PUMP AND VALVE TEST DUE TO PROCEDURALIZED UNACCEPTABLE PRECONDITIONING.**

The inspectors identified a finding of very low safety significance and a non cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," on May 7, 2014, for the licensee's failure to ensure that activities affecting quality were prescribed by documented procedures of a type appropriate to the circumstances. Specifically, the site changed Procedure 0255-02-III, "SBLC [standby liquid control] Quarterly

Pumps and Valve Test,” to include allowances for starting the safety-related SBLC pumps and adjusting a throttle valve to achieve the desired pump discharge pressure prior to performance of in service testing, actions which, without evaluation, constituted unacceptable preconditioning.

The inspectors determined that the licensee’s failure to ensure the SBLC pump and valve test surveillance procedure was appropriate to the circumstances was a performance deficiency requiring evaluation. The inspectors screened the performance deficiency and determined that the issue was more than minor because it adversely impacted the Mitigating Systems Cornerstone attribute of Procedure Quality, and affected the cornerstone objective to ensure the availability, reliability, and capability that respond to initiating events to prevent undesirable consequences (i.e., core damage). In addition, if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, proceduralizing actions which could constitute unacceptable preconditioning, such as manipulating the physical condition of a structure, system or component (SSC) before or during TS surveillance or ASME Code testing, could mask the actual as-found condition of the SSC and result in an inability to verify the operability of the SSC.

The inspectors determined that this finding was of very low safety significance because each question listed in IMC 0609, Appendix A, Exhibit 2, “Mitigating Systems Screening Questions,” was answered ‘No’. The inspectors concluded that this finding was cross-cutting in the Human Performance, Change Management aspect, because the licensee did not use a systematic process for evaluating and implementing change so nuclear safety remains the overriding priority. Specifically, revising procedures to allow the SBLC pump to be started for test configuration flow adjustments immediately prior to a surveillance test, without an evaluation of preconditioning acceptability, could mask the ability to detect degraded equipment performance (H.3).

Inspection Report# : [2014003](#) (pdf)

## Barrier Integrity

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **FAILURE TO COMPLY WITH ASME CODE AND MAINTAIN CONFIGURATION APPROVED BY IST RELIEF REQUEST.**

The inspectors identified a finding of very low safety significance and NCV of 10 CFR 50.55a(f)(4) for the licensee’s failure to test main steam line drain containment isolation valves MO–2373 and MO–2374 in accordance with the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) code requirements or maintain the valves in the alternative configuration specified in an NRC-approved Relief Request (VRR–05). Specifically, on October 17, 2014, the NRC identified that the licensee had failed to maintain the approved alternative configuration which had been accepted by the NRC in lieu of the required quarterly stroke testing of MO–2373 and MO–2374. Corrective actions for this event included immediate restoration of the NRC-approved configuration specified in the relief request, cancellation of the noncompliant procedure temporary revisions, and cancellation of the associated 10 CFR50.59 screening. The licensee also initiated an apparent cause evaluation, which was in progress at the end of this inspection period.

The inspectors determined that the failure to test MO–2373 and MO–2374 in accordance with the ASME OM code or maintain the relief request approved plant configuration was a performance deficiency. The inspectors evaluated the issue and determined that the finding was more than minor in accordance with IMC 0612, Appendix B, because it adversely impacted the Barrier Integrity Cornerstone attributes of Design Control and Configuration Control, and affected the cornerstone objective to provide reasonable assurance that physical design barriers, including

containment, protect the public from radionuclide releases caused by accidents or events. The inspectors assessed the significance of this finding in accordance with IMC 0609, and determined that this finding was of very low safety significance because it did not represent an actual open pathway in the physical integrity of reactor containment, and did not involve an actual reduction in function of hydrogen igniters in the reactor containment. The inspectors concluded that this finding was cross-cutting in the Human Performance Decision making aspect because of the failure to use a consistent, systematic approach to make decisions and a failure to ensure that risk insights are incorporated as appropriate.

Inspection Report# : [2014005](#) (*pdf*)

**Significance:**  Sep 30, 2014

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

**FAILURE TO FOLLOW REACTIVITY MANAGEMENT PROCEDURE.**

A finding of very low safety significance and a NCV of Technical Specification (TS) 5.4.1, “Procedures,” was self-revealed when the licensee failed to implement requirements specified in FP–OP–RM–01, “Reactivity Management Program.” Specifically, the licensee failed to ensure that the licensed operators were aware of the consequences of the reactivity changes they were making, as required by FP–OP–RM–01. As a result, the licensed operators were unaware that their actions to increase recirculation flow would result in the plant exceeding the minimum critical power ratio (MCPR) operating limit. This issue was entered into the licensee’s corrective action program (CAP) 1446848. Immediate corrective actions included restoration of the plant to within the MCPR operating limit, halting of power changes, disqualification of individuals directly involved, increased management oversight, a detailed review of the reactivity plan and procedures planned for use during the reactivity plan, and site-wide communication of the event. The site initiated a root cause evaluation (RCE), which was in progress at the end of the inspection period.

The inspectors determined that the failure to perform reactivity manipulations in accordance with reactivity management requirements was a performance deficiency requiring evaluation. The inspectors determined that the finding was more than minor in accordance with IMC 0612, Appendix B, because it adversely impacted the Barrier Integrity Cornerstone attributes of Configuration Control and Procedure Quality, and affected the cornerstone objective to provide reasonable assurance that physical design barriers, including fuel cladding, protect the public from radionuclide releases caused by accidents or events. The inspectors assessed the significance of this finding in accordance with IMC 0609 Appendix M, “Significance Determination Process Using Qualitative Criteria” and determined this finding was of very low safety significance. The inspectors concluded that this finding was cross-cutting in the Human Performance, Documentation aspect because of the failure to ensure that the procedures being used to make the reactivity manipulations were complete, accurate, and up-to-date.

Inspection Report# : [2014004](#) (*pdf*)

## Emergency Preparedness

**Significance:**  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**FAILURE TO MAINTAIN A STANDARD EMERGENCY ACTION LEVEL SCHEME FOR FLOODING.**

The inspectors identified a finding of very low safety significance and an NCV of Title 10 CFR 50.54(q)(2) and 10 CFR 50.47(b)(4) for the licensee’s failure to maintain the effectiveness of the emergency plan. Specifically, from May

28, 2014, until February 26, 2015, the HA1.6 Emergency Action Level (EAL) threshold was in conflict with the EAL basis for the alert classification. Additionally, both the revised EAL threshold and original NRC-approved safety evaluation report EAL threshold were later found to be greater than the actual river level that could lead to damage of safe shutdown equipment. The licensee's corrective actions documented that the current river level was 906' and if flooding were to occur the licensee would have relied on Procedure A.6, "Acts of Nature," and that an event response team would have been formed to monitor river level during the duration of a flood event. The licensee concluded that the shift manager, Event Response team, and plant management would have monitored for indication of degraded performance of equipment or structures necessary for safe shutdown for event classification escalation to the Alert level. The licensee entered this issue into the Corrective Action Program (CAP 1454593).

The inspectors determined that establishing a flooding EAL threshold that was in conflict with approved EAL basis as required by 10 CFR 50.47(b)(4), and subsequent failure to determine the actual level that could lead to damage of safe shutdown equipment for the alert classification High River Level EAL HA1.6 was a performance deficiency. The inspectors determined that the issue was more than minor because it is associated with the Procedure Quality attribute of the Emergency Preparedness (EP) cornerstone and adversely affected the cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The inspectors assessed the significance of this finding in accordance with IMC 0609 and determined that it was of very low safety significance. 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, Evaluation aspect because the licensee did not thoroughly evaluate the identified engineering error issue to ensure that resolutions address causes and extent of conditions commensurate with their safety significance [P.2].

Inspection Report# : [2015001](#) (*pdf*)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## Miscellaneous

Last modified : June 16, 2015