



Home > Nuclear Reactors > Operating Reactors > Reactor Oversight Process > Plant Summaries > Monticello > Quarterly Plant Inspection Findings

Monticello – Quarterly Plant Inspection Findings

2Q/2017 – Plant Inspection Findings

On this page:

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness
- Occupational Radiation Safety
- Public Radiation Safety
- Security

Initiating Events

Significance: G Apr 15, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

LOW REACTOR WATER LEVEL DURING SHUTDOWN OF 11 REACTOR FEEDWATER PUMP.

A self revealed finding of very low safety significance and an NCV of Technical Specification (TS) 5.4.1.a occurred on April 15, 2017, due the licensee's failure to establish, implement and maintain procedures regarding shutdown operations. Specifically, Operations Manual B.06.05 05 did not account for the state of the opposite train of feedwater when shutting down the 11 Reactor Feedwater Pump (RFP). Licensee use of the inadequate procedure placed equipment in a configuration where no condensate flow path to the reactor existed causing reactor water level to lower to a point where trip/isolation set points were reached. This caused an unplanned Reactor Protection System (RPS) trip and Partial Group II isolation. The licensee initiated Corrective Action Program (CAP) 1555785 to document the reactor water level transient, RPS trip and Partial Group II Isolation. Immediate corrective actions included opening the 11 RFP discharge valve to restore reactor water level allowing reset of the Group II isolation and RPS trip. Subsequent licensee actions included development of expectations via an Operations Memo and revision to Operations Manual B.06.05-05 as well as procedures 2204 and 2167 to ensure abnormal equipment lineups are addressed such that unexpected procedure interactions are avoided.

The inspectors determined the failure to establish, implement and maintain procedures regarding shutdown operations as required by TS 5.4.1.a was a performance deficiency that required an evaluation. The inspectors assessed the significance of this finding using IMC 0609, Attachment 4, and IMC 0609, Appendix A, Exhibit 1, Section B and determined a detailed risk evaluation was required because the finding caused a reactor trip and loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition (e.g. loss of feedwater). A Senior Reactor Analyst (SRA) performed a detailed risk evaluation using bounding assumptions and the change in Core Damage Frequency (CDF) was calculated to be 9E-7/year (Green). 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, Change Management aspect, because licensee leaders did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. [H.3]. (Section 40A3)

Inspection Report# : 2017002 (*pdf*)

Significance: G Sep 30, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

FAILURE TO FOLLOW PROCEDURES WHILE PERFORMING ACTIVITIES AFFECTING QUALITY.

Green. Inspectors identified a self revealed, finding of very low safety significance (Green) and associated Non Cited Violation (NCV) of Technical Specification 5.4.1.a, on June 24, 2016, when the licensee failed to follow procedures while performing activities affecting quality. Specifically, the licensee failed to accomplish activities affecting quality in accordance with FP-G-DOC-03; "Procedure and Work Instruction Use and Adherence," in that operators performed the Standby Gas Treatment (SBGT) A Train, Quarterly Test (0253-01) and failed to follow steps in that procedure. This resulted in an unanticipated trip of the turbine building ventilation and reactor building exhaust plenum fans causing an increase of steam chase temperatures which had the potential to upset plant stability by initiating a Group 1 Isolation. Immediate corrective actions included restoring ventilation to reduce the steam chase temperature, and entering the issue into the licensee's Corrective Action Program (CAP 1526310).

The inspectors determined that the licensee's failure to follow procedures while performing activities affecting quality was a performance deficiency requiring evaluation. The finding was determined to be more than minor because it adversely impacted the Initiating Events Cornerstone attribute of Human Performance in the area of human error, 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. Specifically, the failure to follow procedures resulted in conditions that had the likelihood to upset plant stability and challenge critical safety functions, in this case, the potential to initiate a Group 1 Isolation due to high steam chase temperatures. The inspectors evaluated the finding in accordance with IMC 0609 and determined it to be of very low safety significance (Green).

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; Individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Individuals implement appropriate error reduction tools [H.12]. (Section 1R15)

Inspection Report# : 2016003 (*pdf*)

Mitigating Systems

Significance: G Jun 09, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

FAILURE TO ENSURE ADEQUATE DESIGN CONTROLS DURING INSTALLATION OF FLEXIBLE HOSE ON HIGH PRESSURE COOLANT INJECTION AUXILIARY OIL SYSTEM (SECTION 40A4).

A finding of very low safety significance and associated Non-Cited Violation (NCV) of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion III, "Design Control," was self-revealed as a result of an equipment cause investigation following failure of a pipe nipple in the safety-related piping for the HPCI system on March 22, 2016. Specifically, during original installation of the HPCI system, the licensee failed to correctly install a flexible hose to isolate vibrations in the system. Immediate

corrective actions taken by the licensee included installing the flexible hose in the correct location to ensure isolation of vibrations in the system and performing walkdowns of other risk-significant systems to verify flexible hoses were installed in accordance with design. The issue was captured in the licensee's corrective action program under CAP 1516361.

The inspector determined that the failure of the licensee to implement adequate design control measures and assure any deviations from Design Drawing NX-8292-8 were properly controlled during installation of the flexible hose in the HPCI system was contrary to 10 CFR Part 50, Appendix B, Criterion III, "Design Control," and was a performance deficiency. The performance deficiency was determined to be more than minor, and thus a finding, because it was associated with the Mitigating Systems Cornerstone attribute of Design Control and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to install the flexible hose in the correct location in the HPCI oil system resulted in increased vibrations and loads throughout the HPCI system which had the potential to further degrade and decrease the reliability of the system. The finding was screened using Inspection Manual Chapter 0609, Appendix A, against the Mitigating Systems Cornerstone and determined to be of very low safety significance (Green), because the inspectors answered "No" to all of the questions in Exhibit 2, "Mitigating Systems Screening Questions," Section A, "Mitigating SSCs and Functionality." A cross-cutting aspect was not assigned to this finding since the performance deficiency occurred during the original installation of the HPCI system and was determined not to be indicative of current licensee performance. (Section 4OA4)
Inspection Report# : 2017010 (*pdf*)

Significance:  Oct 03, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

INADEQUATE PROCEDURE FOR IDENTIFICATION OF SIGNIFICANT CONDITIONS ADVERSE TO QUALITY.

Green. The inspectors identified a finding of very low safety significance and non-cited violation of Title 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the licensee's failure to prescribe a procedure appropriate to the circumstances with respect to the identification of a significant condition adverse to quality (SCAQ). Specifically, FP-PA-ARP-01, "CAP Action Request Process," provided an overly restrictive definition of what constituted a SCAQ. Consequently, the failure to provide an adequate definition of a SCAQ could result in a failure to identify a SCAQ and therefore, failure to implement corrective actions that preclude repetitive failures of safety-related equipment. The licensee entered this issue into the CAP as action request (AR) 1536735.

The inspectors determined that the licensee's failure to prescribe a procedure appropriate to the circumstances under FP-PA-ARP-01 was a performance deficiency. The performance deficiency was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because, if left uncorrected the performance deficiency would have the potential to lead to a more significant safety concern. Although, this issue could potentially affect each of the Reactor Safety Cornerstones, the inspectors elected to evaluate this issue under the Mitigating Systems Cornerstone because inspectors concluded it impacted the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage) more than the attributes of the other Cornerstones. The inspectors utilized IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined that the finding screened as very low

safety significance (Green) since the inspectors answered "No" to each of the questions in Exhibit 2, Section A, "Mitigating Systems Screening Questions." The inspectors determined that the performance characteristic of the finding that was the most significant causal factor of the performance deficiency was associated with the cross-cutting aspect of Problem Identification and Resolution, Self-Assessment, and involving the organization routinely conducting self-critical and objective assessments of its programs and practices. Specifically, the failure to identify the overly restrictive definition of SCAQ during previous audits of the CAP was caused by an insufficiently self-critical audit focus. [P.6]

Inspection Report# : 2016007 (*pdf*)

Significance: **W** Aug 31, 2016

Identified By: NRC

Item Type: VIO Violation

FAILURE TO PLAN AND PERFORM MAINTENANCE TO CORRECT HPCI OIL LEAK.

A self-revealing finding preliminarily determined to be of low to moderate safety significance (White), and an associated apparent violation of Technical Specification 5.4.1.a, were identified for the licensee's failure to plan and perform maintenance affecting the safety-related high pressure coolant injection (HPCI) system in accordance with written documents appropriate to the circumstance as required by Regulatory Guide 1.33, Appendix A, Section 9, Procedures for Performing Maintenance. Specifically, improperly planned and performed pre-April 2005 maintenance initiated a crack in a safety-related HPCI oil pipe and, for numerous years, the licensee failed to perform maintenance to resolve repeated identification of HPCI oil leakage. These failures resulted in a sudden increase in oil leakage on March 22, 2016, extending the unavailability of HPCI during a maintenance window and causing a loss of safety function. The licensee documented the issue in the corrective action program (CAP) as CAP 1516361 prior to repairing the oil leak and restoring the HPCI safety function. The inspectors determined that the licensee's failure to pre-plan and perform maintenance on safety-related equipment was a performance deficiency; the cause was reasonably within the licensee's ability to foresee and correct; and should have been prevented. The inspectors determined the issue was more than minor because it adversely impacted the Mitigating Systems Cornerstone attribute of Equipment Performance, 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). Specifically, improperly planned and performed 2005 maintenance initiated a crack in a safety-related HPCI oil pipe and, for numerous years, the licensee failed to perform maintenance to resolve repeated identification of HPCI oil leakage. These failures resulted in a sudden increase in oil leakage on March 22, 2016, extending the unavailability of HPCI during a maintenance window and causing a loss of safety function.

The finding was determined to be of low to moderate safety significance (White) as documented in NRC Inspection Report No. 05000263/2016011

Inspection Report# : 2016010 (*pdf*)

Inspection Report# : 2016011 (*pdf*)

Inspection Report# : 2017010 (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

Miscellaneous

Current data as of : September 05, 2017

Page Last Reviewed/Updated Wednesday, June 07, 2017