U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

Monticello – Quarterly Plant Inspection Findings

4Q/2017 – Plant Inspection Findings

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Initiating Events

Significance: G Aug 11, 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 4OA3)

Inspection Report# : 2017002 *(pdf)*

Mitigating Systems

Significance: G Jul 14, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
IMPLEMENTATION OF INADEQUATE ALTERNATE COMPENSATORY MEASURE FOR DEGRADED FIRE BARRIER (SECTION 1R05.11b).
The inspectors identified a finding of very-low significance (Green) and an associated Non-Cited Violation of License Condition 2.C.4 of the Monticello Nuclear Generating Plant, Unit No. 1, Renewed Facility Operating License for implementing an alternative compensatory measure that was adverse to safety shutdown. Specifically, the licensee approved the installation of a temporary fuel oil pump, in lieu of a continuous fire watch, which reduced the defense in depth of the Fire Protection Program.

The inspectors determined that the use of a temporary fuel oil pump in the event of a fire, in lieu of a continuous fire watch, constituted an adverse change to the Fire Protection Program, was contrary to License Condition 2.C.4 and a performance deficiency. The performance deficiency was more-than-minor because it affected the Protection Against External Factors attribute of the Initiating Events 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 use of the alternative compensatory measure reduced the defense in depth of the Fire Protection Program by failing to provide compensatory measures to reduce the likelihood of occurrence of a fire and failing to provide prompt detection of a fire. In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," Table 2 the inspectors determined the finding affected the Initiating Events cornerstone. The finding degraded fire protection defense-in-depth strategies, and the inspectors determined, using Table 3, that it could be evaluated using Appendix F, "Fire Protection Significance Determination Process." The inspectors determined that the finding represented a low degradation and was screened as having very-low safety significance (Green) in Task 1.3.1 of IMC 0609, Appendix F, because repair activities were in place that would have maintained safe shutdown (SSD) conditions and were reasonably achievable. This finding had a cross-cutting aspect in the Conservative Bias component of the Human Performance cross-cutting area. Specifically, the licensee implemented an alternate compensatory measure that only focused on the emergency diesel generator operability and hence, the post-SSD strategy of the plant without considering the defense in depth requirements of their Fire Protection Program to prevent, detect, and suppress a fire that could affect equipment needed for SSD of the plant. (Section 1R05.11b)
Inspection Report# : 2017007 *(pdf)*

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 4OA4).
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)*

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 : February 01, 2018

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