Millstone 3
2Q/2016 Plant Inspection Findings

Initiating Events

Significance: G Aug 01, 2014
Identified By: NRC
Item Type: FIN Finding
Inadequate Implementation of Dominion's Design Change Process
The NRC identified a finding of very low safety significance (Green), in that Dominion did not ensure correct implementation of their design change process procedure when establishing licensing basis requirements for removal of the SPS. Specifically, Dominion did not correctly evaluate the impact of removing the system on the requirements of General Design Criterion (GDC) 17 and did not address the failure mechanism of this new design in the design change documents, as required by their design change procedure. Dominion entered this issue into the corrective action program for resolution (CR 553967 and CR 551068).
The team determined that Dominion's failure to implement their design change process procedure was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and power operations. The team performed a risk screening in accordance with IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 1, "Initiating Events Screening Questions," Section C, "Support System Initiators." The answer to the question in Section C would be NO, because the finding did not increase the likelihood of a loss of two transmission lines with one line out of service (OOS), and affect mitigation equipment. The team determined that this finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because the design change process procedure was not adequately followed, in that the impact of the change on the current design basis and licensing bases was not evaluated correctly [H.8]
Inspection Report# : 2014011 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2016
Identified By: NRC
Item Type: VIO Violation
Repetitive Failures to Correct Unit 3 Turbine Driven Auxiliary Feedwater Pump Performance Issues
The inspectors identified a Green NOV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," for Dominion's repetitive failure to take effective corrective actions for significant conditions adverse to quality involving the degradation of the Unit 3 turbine driven auxiliary feedwater (TDAFW) pump turbine control valve linkage. Specifically, Dominion's corrective actions to correct the TDAFW control system have not fully considered all potential failure modes such that continued unreliable operation due to linkage and control systems problems resulted in an overspeed trip of the TDAFW system in February 2016. Inspectors have previously documented this condition under two separate violations of 10 CFR 50, Appendix B, Criterion XVI.

The performance deficiency was determined to be more than minor since it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined this issue required a detailed risk evaluation based on the finding representing an actual loss of function of a single train for greater than its technical specification (TS) allowed outage time. A Region I Senior Reactor Analyst (SRA) completed a detailed risk evaluation and concluded the risk significance of this issue was in the high E-8 range, or very low safety significance (Green). In accordance with IMC 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014, this finding has a cross-cutting aspect in Human Performance, Design Margins, in that the organization failed to operate and maintain equipment within design margins. The Unit 3 TDAFW has little margin to inoperability. Dominion did not pursue a thorough review of the potential interactions of different failure modes after correcting the obvious causes from past failures, which contributed to the February 22, 2016, overspeed event.

Inspection Report# : 2016001 *(pdf)*

Significance: G Mar 31, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure of Feedwater Isolation Valve to Close Due to Electrical Jumper Being Installed
The inspectors identified a self-revealing Green NCV of TS 3.3.2 for Dominion's failure to meet the operability requirements for the 'C' feedwater isolation valve (FWIV) testing and valve limit testing work associated with Design Change MP3-09-01030, an electrical jumper was left installed in the 'C' FWIV (3FWS*CTV41C) control circuit. This prevented both channels of the engineered safety features actuation system (ESFAS) signal from closing the 'C' FWIV when called upon during an actual feedwater isolation actuation associated with the reactor trip on January 25, 2016. The installed jumper rendered the 'C' FWIV inoperable for over one year. Dominion's immediate corrective actions included restoring the channels for 3FWS*CTV41C to operable status by removing the electrical jumper, inspecting the other FWIV control circuits for electrical jumpers, and retesting all of the FWIVs for proper operation.

The performance deficiency was determined to be more than minor because it adversely affected the configuration control attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to remove an electrical jumper on the 'C' FWIV during the implementation of a design change led to the failure of the valve to perform its closure safety function when called upon. The finding was evaluated in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined to be of very low safety significance (Green) since it did not represent an actual loss of safety function of the system as there was a redundant means of feedwater isolation. The finding has a cross-cutting aspect in Human Performance, Work Management, because Dominion did not implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, maintenance and operations personnel did not follow the work management procedure for generating a new work order when the additional electrical jumper was installed.
Inspection Report# : 2016001 *(pdf)*

Significance: G Nov 13, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Change of Pump Reference Values Contrary to ASME OM
The inspectors identified a Green NCV of Millstone Unit 3 Technical Specification (TS) Surveillance Requirement 4.0.5 because Dominion did not implement the Inservice Testing (IST) Program in accordance with the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code of Record, 2001 through 2003

incorporated addenda. On July 18, 2015, Dominion changed the reference values of the 'B' control building air conditioning booster pump, 3SWP*P2B, prior to determining the cause of the condition which resulted in the pump performing in the Action Range (ISTB-6200(b)) in April 2015.

This finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it represented a challenge to the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The reliability of 3SWP*P2B was challenged based upon Dominion's change in the pump's reference values contrary to the ASME OM code of record for Millstone Unit 3 which could result in the degradation of the equipment remaining undetected. The finding screened to be of very low safety significance (Green) because the safety function of 3SWP*P2B was not lost based on analysis of design basis flow requirements. The inspectors determined the finding has a cross-cutting aspect in Problem Identification and Resolution, Evaluation, in that the organization failed to evaluate the issue to ensure that resolution addressed causes and extent of conditions commensurate with their safety significance. Specifically, Dominion's analysis of the April 2015 pump failures was not thorough enough to understand a new potential failure mode (impeller movement) and how it may impact system performance.

Inspection Report# : 2015003 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2016
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Secondary Containment Inoperability Due to Inadequate Procedures
The inspectors identified a self-revealing Green NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because Dominion did not develop a Unit 3 Supplementary Leak Collection and Release System (SLCRS) damper preventative maintenance procedure that was adequate to prevent the inoperability of the system. Specifically, deficiencies in maintenance procedure SP 3614I.3A, "Supplementary Leak Collection and Release System Boundary Isolation Damper Test," as well as the SLCRS damper monitoring program and preventative maintenance strategy, led to both trains of the Unit 3 SLCRS failing their respective surveillance tests resulting in the inoperability of secondary containment. After the issue was identified, Dominion entered the condition into their CAP (CR1033408), declared the secondary containment inoperable until the plant entered a mode of tech Spec non-applicability, and conducted walkdowns and repairs to the system to restore it to compliance.

This performance deficiency was considered to be more than minor because it adversely affected the SSC and barrier performance attribute of the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, inadequate maintenance of the SLCRS system led to a system differential pressure during operation that was not adequate to meet its design basis surveillance requirement and thus rendered the system inoperable. Additionally, the performance deficiency was similar to IMC 0612, Appendix E minor example 2.a. The finding was evaluated in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined to be of very low safety significance (Green) since it only represented a degradation of the radiological barrier function provided for the auxiliary building. The finding is related to the cross-cutting aspect of Human Performance – Design Margins, because Dominion did not operate and maintain equipment within design margins. Specifically, Dominion did not appropriately monitor and maintain the SLCRS system in such a way that declining damper performance trends were identified and prevented prior to the inoperability of the system.

Inspection Report# : 2016002 *(pdf)*

Significance: G Nov 13, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate Procedural Direction to Mitigate a LOCA and Failure of an RSS Heat Exchanger Tube
The inspectors identified a Green NCV of Millstone Unit 3 TS 6.8.1, as specified by Regulatory Guide (RG) 1.33, associated with Dominion's failure to implement adequate procedures to address a hypothetical large break loss of coolant accident (LBLOCA) inside containment with a failure of a recirculation spray system (RSS) heat exchanger tube resulting in a loss of coolant accident (LOCA) that bypasses the containment barrier.
Dominion did not provide adequate procedural direction or training to the operators for the control of the emergency core cooling systems (ECCS) during this hypothetical event in June of 2015. Dominion entered the issue into their corrective action program as condition report (CR) 1008205.

The finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, as it represented a challenge to the procedure quality attribute of the Barrier Integrity cornerstone to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding was screened to be of very low safety significance (Green) as the deficiency did not represent an actual open pathway in the physical integrity of reactor containment in accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 3, "Barrier integrity Screening Questions," Section B, "Reactor Containment." The inspectors identified a cross-cutting aspect in Problem Identification and Resolution, Evaluation, because the organization failed to evaluate the issue to ensure that resolution addressed causes and extent of conditions commensurate with their safety significance.

Inspection Report# : 2015003 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

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.

Miscellaneous

Last modified : August 29, 2016