Millstone 2
2Q/2004 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ADEQUATELY IMPLEMENT PROCEDURES FOR DRAINING THE RCS
The inspectors identified a non-cited violation of Technical Specification 6.8.1a for the failure to adequately implement procedures for draining the reactor coolant system (RCS). During the October 2003 refueling outage, Dominion drained down the RCS for an approximate 1.5 hour period with only one accurate means of level indication. The operator dedicated to monitoring refuel pool level was released from his duties prior to completion of the draindown and the operators in the control room were mis-reading the remote camera indication of the refuel pool level. Also, a recent revision of the procedure controlling the draindown had removed the steps required to conduct a valve line-up of the RCS mid-loop wide range level indicator (LI-112). As a result, LI-112 was not on scale as expected because it was isolated due to a previous maintenance activity. During this period, the only accurate means of refuel pool level was mass balance. This finding is more than minor because it is associated with the initiating event cornerstone attribute of configuration control during shutdown and affected the likelihood of causing a loss of reactor water inventory to the point that shutdown cooling could be lost. The significance was low because multiple corrective measures available to ensure reactor cooling were maintained. Operators could have stopped the draindown by closing one valve from the control room, the draindown would have been automatically terminated once low pressure safety injection pump pressure lost suction, and operators could have restored shutdown cooling if it was lost. This finding is related to the cross-cutting issue of Human Performance.
Inspection Report# : 2004006*(pdf)*

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ADEQUATELY IMPLEMENT PROCEDURES FOR STEAM GENERATOR FEED PUMP TESTING WHICH LED TO A REACTOR TRIP
A self-revealing non-cited violation of Technical Specification (TS) 6.8.1a was identified for the failure to adequately implement procedures for Steam Generator Feed Pump (SGFP) testing which led to a reactor trip. On March 15, 2004, the Unit 2 reactor automatically tripped from 100% power while operators were performing quarterly testing of the "B" SGFP. An event review team eliminated equipment failure as a root cause and determined that the root cause of the reactor trip was most likely due to the operators failing to maintain the lockout control switch in position during the surveillance. The lockout control switch is a spring return switch which is held in place by an operator to lockout the SGFP trip circuit while testing the SGFP.

This finding is more than minor because it is associated with the human performance attribute of the Initiating Events cornerstone and is associated with an increase in the likelihood of an initiating event in that a reactor trip actually occurred. The significance of the finding was determined to be very low since this finding did not contribute to the likelihood of a primary or secondary loss of coolant accident initiator, did not contribute to both the likelihood of a reactor trip and the unavailability of mitigation equipment or functions, and did not increase the likelihood of a fire or internal/external flood. This finding is related to the cross-cutting issue of Human Performance.
Inspection Report# : 2004005*(pdf)*

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ADEQUATELY IMPLEMENT VENDOR TECHNICAL MANUAL REQUIREMENTS INTO WRITTEN PROCEDURES WHICH CONTROL THE ALIGNMENT AND OPERATION OF ELECTRICAL POWER SOURCES TO VITAL SHUTDOWN COOLING COMPONENTS
A self-revealing non-cited violation of Technical Specification (TS) 6.8.1 was identified for the inadequate implementation of vendor technical manual requirements into operating procedures for vital shutdown cooling component power supplies. Specifically, an incorrect version of a vendor technical manual was used as the basis for establishing switch lineups in a procedure that paralleled two alternating current (AC) sources to a vital electrical panel. The incorrect steps allowed the two AC sources to be paralleled out of phase. The electrical panel was supplying power to shutdown cooling equipment and the improper switch lineup resulted in paralleling the two AC sources without synchronous protection. When the sources were paralleled, they were out of phase resulting in the loss of both power supplies and a temporary loss of shutdown cooling. Dominion restored power within 15 minutes, the shutdown cooling system configuration was regained, and control of reactor coolant system temperature was reestablished.

The finding is more than minor because it was associated with the initiating event cornerstone attribute of procedure quality and affected the likelihood of a loss of shutdown cooling (SDC) in that an actual loss of SDC occurred. However, the finding was determined to be of very low safety significance (Green) since there was not a significant loss of thermal margin and the finding did not degrade Dominion's ability to recover shutdown cooling once it was lost. This finding is related to Dominion's Problem Identification and Resolution process.
Inspection Report# : 2004005*(pdf)*

Mitigating Systems

Significance: G Feb 27, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT ADEQUATE DESIGN CONTROL AND SUITABLY TEST A MODIFICATION TO THE CHARGING SYSTEM
The team identified a non-cited violation of 10 CFR 50 Appendix B, Criterion III, "Design Control," which requires that design control measures be established and implemented to assure that applicable regulatory requirements and the design basis for structures, systems, and components are correctly translated into specifications, drawings, procedures, and instructions. The charging system was modified to install pulsation dampeners, however, a suitable test program was not developed to ensure that the dampeners would remain available to support the charging system during postulated events. This finding was more than minor because the condition of the pulsation dampeners subsequently degraded, which affected the design control and equipment performance attributes and the availability, reliability, and capability objective of the mitigating systems cornerstone. The degraded condition of the pulsation dampeners challenged the reliability of the charging system to mitigate design basis events. This finding was determined to be of very low safety significance (Green) based on the results of a bounding risk assessment.
Inspection Report# : 2004002*(pdf)*

Significance: G Feb 27, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECT SAFETY INJECTION TANK LEAKAGE
The team identified a non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, "Corrective Action," which requires that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected. The licensee failed to take appropriate corrective actions in a timely manner to address and correct repeat instances, over a multiple year period, of safety injection tank (SIT) leakage at Unit 2.
The finding was more than minor because it affected the equipment performance attribute and the availability, reliability, and capability of the mitigating systems cornerstone. The chronic leakage problem resulted in an increased unavailability of a high pressure safety injection system train during the periods of time when the system was realigned and used to fill the SITs. This finding was determined to be of very low safety significance (Green) since an actual loss of the safety system function had not occurred and the high pressure safety injection train was removed from service for less than the Technical Specification allowed outage time.
Inspection Report# : 2004002*(pdf)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
WEST 480 VAC SWITCHGEAR ROOM COMPENSATORY COOLING
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III (Design Control), for the failure to take measures to assure that the design basis was correctly translated into procedures for the installation of temporary cooling when normal cooling is lost to the West 480 Volt AC switchgear room and to verify that the design was effective. The required air flow and flow path for the West 480 Volt AC temporary room cooling that had been evaluated in the design calculation were not correctly translated to the applicable procedure developed to install the temporary equipment and to establish the air flow path in the room. These temporary room cooling measures are designed to be implemented on the loss of normal cooling to retain operability of the vital switchgear located in the room. When the failure of these compensatory measures was recognized, the licensee took additional action outside of the design basis to maintain room temperature below design temperature limits. The finding is more than minor because the failure to provide the appropriate direction for establishing temporary cooling to the affected vital switchgear room resulted in inadequate room cooling which, if left uncorrected, could have resulted in exceeding the design temperature limit of the safety related and risk significant electrical equipment in the room.

This finding is associated with the equipment performance attribute of the initiating events and mitigating systems cornerstones, and the containment SSC and barrier performance attribute of the barrier integrity cornerstone. Since more that one cornerstone was affected a Reactor Safety Significance Determination Process Phase 2 analysis was performed. The analysis resulted in a finding of very low safety significance (Green) because the improper installation of the compensatory measures did not result in an actual loss of the supported 480 Volt AC System or electro hydraulic control functions. This finding is related to licensee's problem identification & resolution process.
Inspection Report# : 2003010*(pdf)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM ADEQUATE POST-MODIFICATION TEST OF DESIGN CHANGES TO THE CHARGING SYSTEM
The inspectors identified a non-cited violation for failure to comply with 10 CFR 50, Appendix B, Criterion III, Design Control, for two design changes which adversely affected the charging system and for which post-modification testing was not specified, or performed to ensure the charging system could fulfill its design function under anticipated conditions. However, the NCV was inadvertently left out of Inspection Report 05000336/2003004

dated November 10, 2003. As a result, the description of the issue and its safety significance is included in this report and the NCV will be documented under this report number. This finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone objective. Specifically, the charging system was not capable of providing adequate high pressure injection to the reactor coolant system following an initiating event that resulted in the simultaneous auto-start of the two standby charging pumps. Inspection Report 05000336/2003004 contains a detailed description of the Phase 3 assessment of the safety significance of this issue. The inspectors concluded in this assessment that the performance deficiency was of very low safety significance (Green). This finding is related to licensee's problem identification & resolution process.
Inspection Report# : 2003010*(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: N/A Feb 27, 2004
Identified By: NRC
Item Type: FIN Finding
PROBLEM IDENTIFICATION AND RESOLUTION TEAM INSPECTION RESULTS
The team determined that the licensee was generally effective at identifying discrepant conditions at an appropriate threshold and entering them into the corrective action program. Once entered into the system, issues were usually prioritized appropriately and in a timely fashion; and were properly evaluated commensurate with the safety significance. Overall, the evaluations reasonably identified the causes of the problem, the extent of the condition, and provided for corrective actions to address the causes. However, in some cases, the corrective action program was not effectively used to resolve and prevent problems. There were some instances where issue evaluations, as well as the associated corrective actions, were not effective in resolving problems. There were also some examples in which condition reports were characterized at a lower category than prescribed by the corrective action program.
Inspection Report# : 2004002*(pdf)*

Last modified : September 08, 2004