Millstone 3
1Q/2006 Plant Inspection Findings

Initiating Events

Significance: G Mar 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
MISPOSITIONING OF BORIC ACID VALVES RESULTING IN UNINTENDED POSITIVE REACTIVITY ADDITION
A Green self-revealing non-cited violation of Technical Specification 6.8.1, “Procedures”, was identified for adequate implementation of procedures which resulted in an unintended positive reactivity addition. On February 17, 2006, Operations personnel mis-positioned three valves which isolated the “A” boric acid gravity feed flow path and the “A” boric acid transfer pump. This issue manifested itself the following day during a planned blended makeup to the Volume Control Tank which resulted in small positive reactivity addition. Dominion entered their procedural compliance error into their corrective action program for resolution. This issue involved the cross-cutting aspects of human performance in that operators failed to adequately implement procedures which lead to an unintended reactivity addition. This issue was more than minor because it is associated with the human performance and configuration control attributes of the Initiating Events cornerstone. The finding is associated with an increase in the likelihood of initiating events in that an inadvertent positive reactivity addition actually occurred. The inspectors determined that the self-revealing finding was of very low safety significance because the amount of reactivity added was small (approximately 6 pcm) and did not contribute to both the likelihood of a reactor trip and the unavailability of mitigation equipment or functions. (Section 1R14)

Inspection Report# : 2006002*(pdf)*

Significance: G Mar 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM EVALUATIONS ON BORIC ACID LEAKS
The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" for Dominion's failure to follow Boric Acid Corrosion Control Program (BACCP) procedures. Specifically, plant personal routinely failed to perform boric acid leak evaluations as required per Dominion procedure DNAP-1004, "Boric Acid Corrosion Control Program," despite the specified threshold having been met. This finding is more than minor because it is associated with the Initiating Events Cornerstone attribute of human performance and it affects the cornerstone's objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The licensee entered this condition into the corrective action program as CR-06-02088. This finding was characterized as a loss-of-coolant-accident (LOCA) initiator and was determined to be of very low safety significance (Green) because it did not result in exceeding the Technical Specification limit for identified reactor coolant system (RCS) leakage or affect other mitigation systems resulting in a total loss of their safety function. Corrective actions included a planned revision to the Boric Acid Corrosion Control program to ensure evaluations are performed and documented. In addition, the licensee conducted a Boric Acid Corrosion Control program peer review using another nuclear power station boric acid program owner. This finding is related to the cross-cutting area of human performance in that on at least 22 occasions, station personnel did not follow established station procedures requiring boric acid evaluation.
Inspection Report# : 2006006*(pdf)*

Significance: G Jun 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO EVALUATE EXCEEDING SPECIFIED FIRE LOADING LIMIT FOR MAIN STEAM VALVE ENCLOSURE
The inspectors identified a non-cited violation of License Condition 2.H to Facility Operating License NPF-49 for the failure to properly evaluate transient combustible fire loading for the Main Steam Valve Enclosure Building (Fire Area, MSV-1) from April 1999 to July 2005. Specifically, Dominion did not accurately account for the amount of transient combustibles present in the area which caused the licensee to unknowingly, and without evaluation, exceed the fire severity classification threshold for this area. The inspectors determined that the failure to properly evaluate the transient combustibles for the fire area MSV-1 was more than minor based on a similar example described in Manual Chapter 0612, "Power Reactor Inspection Reports", Appendix E, "Examples of Minor Issues", Section 4k. Specifically, the fire loading exceeded the fire hazard analysis and was not properly evaluated. This finding is associated with the initiating event cornerstone and involves the fire initiator attribute of the cornerstone. The safety significance of the finding was determined to be low based on the plywood being fire retardant and the increase in the fire loading remained significantly less than the maximum allowed by the higher severity classification of "low". This finding is related to the cross-cutting area of Problem Identification and Resolution in that neither the monthly inspection of the fire areas and permits nor the annual review of temporary fire permits identified the issue despite the condition having existed for approximately six years.

Inspection Report# : 2005003*(pdf)*

Significance: G May 18, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
LESS THAN ADEQUATE CORRECTIVE ACTIONS FOR POTENTIAL RCS PRESSURE BOUNDARD DEGRADATION DUE TO BORIC ACID CORROSION
The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action" in that DNC's did not promptly identify and correct a condition adverse to quality involving boric acid leaks in containment. The finding was more than minor because it affected the Initiating Events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations; if left uncorrected it could become a more significant concern, such as excessive leakage or the loss of RCS integrity. In addition, this performance deficiency is related to the cross-cutting area of problem identification and resolution in two respects. First, after approximately six days and several containment entries, DNC had not identified the presence of 12 additional boric acid leaks. Second, although aware of the leak on a loop drain isolation valve, DNC did not re-evaluate or resolve the leakage impact on adjacent safety-related SSCs until questioned by the inspectors. This finding was determined to be Green (very low safety significance) based on IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations. The leakage is characterized as a LOCA initiator, but assuming worst case degradation, the leakage would not have resulted in exceeding a TS limit for identified RCS leakage or have adversely impacted other mitigating systems.
Inspection Report# : 2005012*(pdf)*

Mitigating Systems

Significance: G Mar 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO INCLUDE ACCEPTANCE CRITERIA IN MAINTENANCE PROCEDURES
The inspectors identified a Green NCV of 10 CFR 50, Criterion V, "Instructions, Procedures, and Drawings" for failing to include appropriate acceptance criteria associated with the measurement of the Unit 3 TDAFW pump governor control valve stuffing box inner diameter in the applicable maintenance procedure. In addition, the maintenance procedure did not specify the equipment required to measure the control valve stem/gap measurements and did not require the recording of measurements needed to verify the maintenance activity had been satisfactorily accomplished in accordance with vendor requirements. The licensee evaluated this issue for immediate operability and entered the issue into their corrective action program as CR-06-02043 and CR-06-02044. Corrective actions included revising the maintenance procedure to update the clearance values as well as instructing maintenance system team personnel on the event relative to utilizing the correct MT&E for the work scope. This finding is more than minor because it affected the procedure quality attribute of the Mitigating Systems Cornerstone. Specifically, if left uncorrected, the finding would become a more significant safety concern as governor stuffing box internal diameters continued to increase resulting in additional control valve stem binding issues and associated TDAFW pump overspeed and failure events. The inspectors determined that the finding was of very low safety significance (Green) because the finding did not involve a design or qualification deficiency, represent an actual loss of system or TDAFW pump safety function, or involve seismic, flooding, or severe weather initiating events. This finding is related to the cross-cutting aspect of problem identification and resolution in that the licensee failed to translate appropriate vendor acceptance criteria into the TDAFW governor control valve maintenance procedure despite receipt of new vendor requirements which were published and available in 1999.
Inspection Report# : 2006006*(pdf)*

Significance: G Mar 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO EVALUATE AND CORRECT CONDITION ADVERSE TO QUALITY ASSOCIATED WITH TDAFW PUMP
The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure to take effective corrective action to prevent a repeat failure of the Unit 3 turbine-driven auxiliary feedwater (TDAFW) pump. Specifically, following identification and documentation of excessive internal stuffing box wear, which was identified following an overspeed trip event that occurred in April 2005, the licensee failed to fully evaluate this condition which was later documented as a contributing cause to a recurring failure that occurred on January 9, 2006. The licensee entered this condition into their corrective action program as CR-06-00244. Corrective actions for this issue included repacking of the TDAFW pump governor control valve, repair of a cam plate, and plans to conduct a stuffing box repair within three months of the January 2006 pump failure. This finding is more than minor because it is associated with the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, because the degraded stuffing box was not adequately evaluated and corrected in April 2005, the reliability of the TDAFW pump was adversely affected. Following Phase 1, 2, and 3 SDP evaluations, this finding was determined to be of very low safety significance (Green) since TDAFW pump recovery credit was given during a restart attempt that would occur during a design basis event. This finding is related to the cross-cutting area of problem identification and resolution in that the licensee did not fully evaluate and correct an identified degraded condition.

Inspection Report# : 2006006*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROPERLY ASSESS AND CORRECT KNOWN WATER LEAKAGE INTO THE "B" EDG ROCKER ARM LUBE OIL SYSTEM
The inspectors identified a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to properly assess compensatory actions and to take timely actions to correct the introduction of water into the Unit 3 'B' EDG rocker arm (RA) lubricating oil (LO) system. Following the discovery of elevated water content in the 'B' EDG RA LO system on June 17, 2005, and the determination on July 11, that the EDG was fully qualified, Dominion; 1) did not specify compensatory actions to ensure the EDG was maintained in a fully qualified status while the degradation continued to exist, 2) did not establish a threshold for water content in the RA LO system beyond which the EDG would be considered inoperable, and 3) did not schedule the timely completion of maintenance activities to correct the in-leakage. While Dominion took several actions in response to the discovery of water in the LO system, these actions were not sufficient to preclude the development of significant water leakage into the RA LO system which resulted in the subsequent declaration of inoperability of the EDG on September 27, 2005, and the unavailability of the 'B' EDG for approximately 5 days while corrective maintenance was performed. This finding is related to the cross-cutting area of problem identification and resolution in that, once the source of the water contamination had been identified, Dominion did not properly assess compensatory actions and take effective corrective actions to preclude significant water in-leakage into the 'B' EDG RA LO system. The finding was more than minor because it affected the equipment performance attribute of the mitigating system cornerstone and the availability and reliability of the 'B' EDG to respond to initiating events. The inspectors determined that this finding was of very low safety significance because the finding was not a design or qualification deficiency, did not represent a loss of safety system function, did not represent an actual loss of safety function of a single train or one or more non-technical specification trains based on a 24 hour probabilistic risk assessment mission time, and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events.
Inspection Report# : 2005005*(pdf)*

Significance: G Oct 15, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO ADEQUATELY IMPLEMENT OPERABILITY DETERMINATION PROCEDURE ON THREE OCCASIONS
The inspectors identified a finding where Dominion did not adequately implement their Operability Determination (OD) procedure on three occasions which affected the basis for operability for degraded conditions identified on safety-related systems. Dominion has initiated corrective actions to conduct an assessment of their current operability determination process, evaluate the assessment results, and implement corrective actions to improve their process. Specifically;
•Dominion did not perform a prompt operability determination for approximately 8 days to evaluate whether a fence installed over the Unit 2 turbine-driven auxiliary feedwater pump (TDAFWP) cubicle high energy line break blowout panel adversely impacted the panel's ability to perform its design function. After investigation, Dominion determined that a supporting engineering evaluation did not exist, declared all three auxiliary feedwater pumps inoperable, and took prompt action to reroute the fencing around the blowout panel.
•Dominion did not revise an operability determination on the Unit 2 charging system when new information discovered during system troubleshooting showed that the basis for the operability determination was in question. Dominion ultimately decided to close the operability determination to previous troubleshooting and maintenance activities associated with the degraded condition.
Dominion described as the basis for operability in a condition report (CR) that a technical evaluation existed that showed that a Unit 3 high pressure safety injection (SIH) pump could meet its mission time with an oil leak of up to six drops per minute. The referenced technical evaluation however, did not discuss mission time, but calculated the time to deplete a high pressure safety injection pump oil reservoir in the presence of a four drop per minute and six drop per minute leak.
This finding was more than minor because it affected the equipment performance attribute and the availability, reliability, and capability objective of the Mitigating System cornerstone. Specifically, Dominion did not adequately evaluate the availability of Mitigating Systems with degraded conditions to ensure their availability to perform the intended safety function. This finding was determined to be of very low safety significance (Green) since there was not a loss of function for the TDAFW and charging system examples and since the SIH pump would have completed its safety function within the Probabilistic Risk Assessment 24 hour evaluation time. This finding is related to the cross-cutting area of Problem Identification and Resolution (PI&R) because of the failure to conduct timely and adequate evaluations of degraded and non-conforming conditions.
Inspection Report# : 2005004*(pdf)*

Significance: G May 18, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT APPROPRIATE PMS ON THE TDAFW PUMP CONTROL VALVE
The inspectors identified a Green non-cited violation of TS 6.8.1 regarding the deletion an 18-month control valve PM for TDAFW pump in August 2000 without performing a thorough change evaluation per CBM 105, Revision 004-03, Preventive Maintenance Program. This performance deficiency was a primary contributor to the TDAFW pump overspeed trip. This NRC-identified finding was of more than minor safety significance because it affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, because the PM was not completed, the reliability

of the TDAFW pump was adversely affected. In evaluating this finding, the Significance Determination Process (SDP) (Phase 1) screening identified that a SDP workbook (Phase 2) evaluation was needed because the TDAFW pump was potentially inoperable in excess of its TS Allowed Outage Time of three days. Since the Phase 2 evaluation exceeded a risk threshold, an NRC Region I Senior Reactor Analyst (SRA) conducted a Phase 3 evaluation to more accurately account for the exposure time and to appropriately credit operator actions to recover the TDAFW pump after it automatically tripped on April 17. The Phase 3 evaluation determined that this finding represented a change in core damage probability of low to mid E-7, which is of very low risk significance (Green).
Inspection Report# : 2005012*(pdf)*

Significance: G May 18, 2005
Identified By: NRC
Item Type: FIN Finding
IMPROPER EVENT DIAGNOSIS LED TO E-PLAN DECLARATION
The inspectors identified a Green finding because procedure MP-14-MMM, Revision 006-01, "Operations" was not adequately implemented. The team identified problems with crew diagnosis and communications during the event which led to an emergency plan declaration when actual conditions for that declaration did not exist. This NRC-identified finding is considered to be of more than minor safety significance because if left uncorrected, ineffective monitoring and diagnosis of plant conditions during significant plant events could lead to a more significant safety concern. In addition, this performance deficiency is related to the cross cutting area of human performance in that, during the actual event, the operating crew did not diagnose that the MSSVs were functioning as designed and crew briefings did not provide a complete perspective of known plant conditions. This finding was not suitable for the an NRC SDP evaluation, but was reviewed by NRC management in accordance with IMC 0612, Section 05.04c and determined to be of very low safety significance (Green).
Inspection Report# : 2005012*(pdf)*

Significance: G May 18, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
EOP E-0 STEP NOT PERFORMED AS REQUIRED
The inspectors identified a Green non-cited violation of Technical Specification (TS) 6.8.1 because the operating crew did not take control of reactor coolant system (RCS) temperature in accordance with Step 21 of Emergency Operating Procedure (EOP), E-0, "Reactor Trip or Safety Injection". Consequently, the main steam safety valves (MSSVs) automatically operated to control RCS temperature for approximately 30 minutes longer than was necessary. This NRC-identified finding is considered to be of more than minor significance because it adversely impacts 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 unnecessary cycling of the MSSVs increased the chance that a previously cycled MSSV would not open or would fail to reseat following an additional opening. The finding was determined to be Green (very low safety significance) in accordance with IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations.
Inspection Report# : 2005012*(pdf)*

Significance: G May 18, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
SIMULATOR RESPONSE DID NOT ADEQUATELY MODEL MSSV RESPONSE
The inspectors identified a Green non-cited violation for failure of the Millstone Unit 3 simulator to correctly model main steam safety valve operation as required by 10 CFR 55.46(c)(1), "Plant-Referenced Simulators." This NRC- identified finding is more than minor because it affected the human performance attribute of the mitigating systems cornerstone. This finding was evaluated using the Operator Requalification Human Performance SDP (IMC 0609 Appendix I) because it is a requalification training issue related to simulator fidelity. The SDP, Appendix I, Block 12, requires the inspector to determine if deviations between the plant and simulator could result in negative training or could have a negative impact on operator actions. "Negative Training" is defined, in a later version of the standard (ANSI 3.5-1993), as "training on a simulator whose configuration or performance leads the operator to incorrect response or understanding of the reference unit." During the event of April 17, 2005, operators were influenced by negative training on the simulator to erroneously believe that a safety valve in the plant was stuck open when it was actually still functioning as designed.
Inspection Report# : 2005012*(pdf)*

Significance: G May 18, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FALSE OR MISLEADING CONTROL ROOM INDICATIONS
The inspectors identified a Green non-cited violation in that DNC did not comply with 10 CFR 50, Appendix B, Criterion III, "Design Control," regarding the suitability of a control room indicator in providing information needed by operators to ensure appropriate decision making while implementing emergency operating procedures. This violation is related to the misleading control room indication for Charging/Safety Injection (CHG/SI) flow indication which led operators to take improper actions in EOP E-0, "Reactor Trip or Safety Injection" because the flow indicator (3SIH-FI917), despite the existence of adequate injection flow to the core, indicated zero gallons per minute (GPM) flow. This self-revealing finding was of more than minor safety significance because it was associated with the design control

attribute of the mitigating systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be Green (very low safety significance) based upon IMC 0609, Appendix A, Phase 1 SDP worksheet for at-power situations. The inspectors determined that the finding represented a design deficiency that did not result in a loss function per Generic Letter (GL) 91-18, Revision 1.
Inspection Report# : 2005012*(pdf)*

Barrier Integrity

Significance: G Mar 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT EFFECTIVE CORRECTIVE ACTIONS ASSOCIATED WITH REPETITIVE LLRT FAILURES
The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action", for failure to take adequate corrective actions to prevent repetitive local leak rate test failures associated with the Unit 3 reactor plant chilled water system (CDS) inboard containment isolation valve, 3CDS*CTV40A. As a result, there was a loss of redundancy which reduced reliability of the containment isolation function. This condition was entered into the licensee's corrective action program as CR-05-10651, a condition report which documented a licensee action to create a plan to resolve the failures. This finding is more than minor because it is associated with the Barrier Integrity Cornerstone objective of maintaining containment functionality and the attribute of structure/system/component (SSC) and Barrier Performance. This finding is of very low safety significance because there was no actual open pathway in the physical integrity of the reactor containment or an actual reduction of the atmospheric pressure control function of the containment. This finding is related to the cross-cutting area of problem identification and resolution in that the licensee did not implement effective corrective actions to prevent a recurring component failure.
Inspection Report# : 2006006*(pdf)*

Emergency Preparedness

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: FIN Finding
INEFFECTIVE CORRECTIVE ACTIONS TO PREVENT SERO QUALIFICATION LAPSES
The inspector identified a Green finding for the failure to take effective corrective actions in that since 2004, on several occasions, staff assigned to the site emergency response organization (SERO) did not maintain their qualifications current. The corrective actions taken to prevent recurrence of this problem were not effective as highlighted by repeat examples of lapsed SERO qualifications. Individuals identified during the inspection with the lapsed qualifications were immediately removed from the SERO callout system until their training was completed. The cause of the finding is related to the cross-cutting element of problem identification and resolution in that the corrective actions taken were not effective in preventing reoccurrence. The finding is more than minor because it is associated with the EP cornerstone attribute of emergency response organization readiness (training). It affects the cornerstone objective of ensuring the capability to implement measures to protect the health and safety of the public during an emergency. Specifically, Dominion's corrective actions to ensure personnel maintained their SERO qualifications current were ineffective and did not prevent recurrence. This finding is not suitable for SDP evaluation, but has been reviewed by NRC management and is determined to be a finding of very low safety significance.
Inspection Report# : 2005005*(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: N/A Mar 03, 2006
Identified By: NRC
Item Type: FIN Finding
PROBLEM IDENTIFICATION AND RESOLUTION TEAM INSPECTION RESULTS
The inspectors identified that the licensee was effective at identifying problems and entering them into the corrective action program (CAP). The licensee's effectiveness at problem identification was evidenced by the relatively few deficiencies were identified by external organizations (including the NRC) that had not been previously identified by the licensee, during the review period. The licensee effectively used risk in prioritizing the extent to which individual problems would be evaluated and in establishing schedules for implementing corrective actions. Corrective actions, when specified, were generally implemented in a timely manner. Licensee audits and self-assessments were found to be generally effective. On the basis of interviews conducted during this inspection, workers at the site felt free to input safety concerns and issues into the CAP program. However, the inspectors did identify some missed opportunities to identify issues and enter them into their corrective action program. In addition, there were some instances where issue evaluations and corrective actions were not effective in resolving problems.
Inspection Report# : 2006006*(pdf)*

Last modified : May 25, 2006