Summer
2Q/2011 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Assess and Manage Risk of Switchyard Maintenance Activities During Lowered RCS Inventory Conditions (Section 1R13)
The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50.65(a)(4), “Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants,” for the failure to perform an adequate risk assessment and implement approved high risk management contingency plans for work in the station’s electrical switchyard. Specifically, on April 21, 2011, operations work control personnel failed to adequately assess the impact of work activities in the switchyard involving the use of vehicles, resulting in outage high risk management actions that prohibited the movement of vehicles during lowered reactor coolant system (RCS) inventory conditions from being implemented. Following the inspectors’ identification of this issue, the licensee adequately assessed and managed the increase in risk for the activities. The issue was entered into the licensee’s corrective action program as condition report CR-11-01908.

The failure to perform an adequate risk assessment and implement high risk evolution contingency plans for work in the station’s switchyard was a performance deficiency within the licensee’s ability to foresee and correct. This finding was associated with the Initiating Events Cornerstone and affected the cornerstone objective for limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown, such as, loss of offsite power (LOOP) due to trucks damaging critical electrical components in the switchyard. The inspectors determined that the finding is more than minor because it was similar to both the more than minor examples 7.e and 7.g in NRC Inspection Manual Chapter (IMC) 0612, Appendix E, “Examples of Minor Issues,” because the risk assessment for the switchyard work activity failed to consider the impact of vehicle movements resulting in outage high risk management actions that prohibited the movement of vehicles during lowered RCS inventory conditions from being implemented. A
Significance Determination Process (SDP), Phase 1 screening determined that the performance deficiency represented an increase in the likelihood of a LOOP during shutdown and therefore the risk was estimated using NRC IMC 0609, Appendix G, “Shutdown Operations Significance Determination Process.” A Phase 2 SDP risk evaluation was done by a regional senior risk analyst using IMC 0609, Appendix G, Attachment 2. The major assumptions of the analysis were that the plant was in plant operating state (POS-2) in Mode 6, with the RCS vented and the residual heat removal (RHR) system in service for decay heat removal. Time to boil was estimated at 35 minutes with an estimated time to core damage of 8.8 hours. The exposure period was approximately 2.5 hours. The LOOP initiating event likelihood was increased by one order of magnitude due to the impact of the performance deficiency. Multiple (i.e., three) qualified sources of offsite power and both onsite emergency diesel generators were available when the vehicles were moved into the switchyard. Recovery credit for restoration of offsite power was included. The dominant sequence was a LOOP with failure of emergency power sources causing a loss of RHR and failure to recover offsite power or emergency power prior to core damage ensuing. The risk was mitigated by the short exposure period and the availability of mitigating system equipment. The result of the analysis was a core damage frequency risk increase of <1E-6/year, a finding of very low safety significance (Green). The inspectors determined that this finding had a cross-cutting aspect in the area of Human Performance, because personnel did not appropriately plan and coordinate switchyard work activities consistent with nuclear safety by incorporating appropriate outage risk insights and risk management contingency plans [H.3(a)]. (Section 1R13)

Inspection Report# : 2011003 *(pdf)*

Mitigating Systems

Significance: TBD Jun 30, 2011
Identified By: NRC
Item Type: AV Apparent Violation
Failure to Conduct Adequate Testing of Appendix R Fire Switches
The NRC identified an apparent violation (AV) of the Virgil C. Summer Nuclear Station Operating License Condition 2.C.(18), “Fire Protection System,” related to the licensee's failure to implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report (FSAR). Specifically, the licensee failed to adequately test the isolation function of all 10 CFR 50 Appendix R isolation local control transfer switches (“fire switches”), including the ‘B’ EDG fire switch, designed to assure isolation of safe shutdown equipment from the control room in the event of a control room evacuation due to a fire. This resulted in the licensee not identifying a wiring discrepancy that had existed in the ‘B’ EDG fire switch circuitry since original plant startup until its discovery on April 29, 2010, that would have defeated the Appendix R isolation function during a design basis fire event requiring evacuation from the Control Room. The issue was entered into the licensee’s corrective action program as condition report CR-10-01814.

The failure to demonstrate proper Appendix R isolation capability of safe shutdown equipment controlled from remote shutdown locations during surveillance testing of Appendix R fire switches is a performance deficiency that was within the licensee’s ability to foresee and correct. The inspectors determined that the finding is more than minor because it was associated with both the procedure quality and protection against external events (i.e., fire) attributes of the Mitigating Systems cornerstone and it 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 failure to adequately test Appendix R isolation contacts associated with fire switches contributed to not identifying a wiring discrepancy in the ‘B’ EDG fire switch circuitry that defeated its Appendix R isolation function. This condition could have led to the improper operation of the switch or prevented the ‘B’ EDG output breaker from automatically closing during certain fire scenarios due to fire damage of the electrical circuitry. In accordance with NRC IMC 0609, “Significance Determination Process,” the inspectors performed a Phase 1 screening analysis and determined that since the finding affected the fire protection defense-in-depth strategies involving post fire safe shutdown systems, the finding required a significance evaluation under IMC 0609, Appendix F, “Fire Protection Significance Determination Process.” Using Appendix F, Attachment 1, “Fire Protection SDP Phase 1 Worksheet,” the inspectors determined that the category of post fire safe shutdown was affected and the finding required a Phase 2 analysis by a senior reactor analyst. The significance of this finding is to be determined pending completion of the Phase 2 analysis. A cross-cutting aspect was not identified because the finding does not represent current licensee performance. (Section 4OA2.3)

Inspection Report# : 2011003 *(pdf)*

Significance: G Apr 15, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Develop Procedures to Provide Starting Air to EDGs During a SBO Event
The team identified a non-cited violation (NCV) of 10 CFR 50.63, “Loss of all Alternating Current Power,” for failure to ensure Regulatory Guide 1.155, “Station Blackout,” (SBO) requirements were implemented. Specifically, the licensee failed to develop procedures to provide starting air to the emergency diesel generators (EDG) to restore emergency AC power during the recovery from a SBO. The licensee entered this issue into their corrective action program as CR-11-00746 and CR-11-00738, and initiated compensatory measures which included the development of procedure EMP-100.011, “Restoring Power to Emergency Diesel Generator Air Start Compressor,” Rev. 0.

The licensee’s failure to establish procedures to provide starting air to the EDGs to restore emergency ac power in the event of a SBO was a performance deficiency. The finding was more than minor because it was associated with the Design Control attribute of the Mitigating System Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to develop procedures to provide starting air to the EDGs resulted in a lack of reasonable assurance that the licensee could provide adequate starting air to restore emergency ac power in the event

of a SBO. The conditions necessary for the condition would be a loss of offsite power (LOOP), two failed start attempts of both EDGs, and failure to recover an EDG or offsite power within the four hour SBO coping period. Using Manual Chapter Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the inspectors determined the finding would represent a loss of the core heat removal safety function within the mitigating systems cornerstone conditional upon establishing these SBO circumstances. The pre-solved significance determination process (SDP) Phase 2 worksheet for VC Summer did not have an appropriate surrogate to evaluate these specific conditions, therefore an SDP phase 3 risk evaluation was performed by a regional SRA. The SDP phase 3 risk evaluation was performed using failure data from the NRC VC Summer SPAR model using a one year exposure period. The risk was mitigated by the number and likelihood of the conditions required to establish the circumstances necessary for the performance deficiency. The result of the SDP phase 3 risk analysis was a risk increase in core damage frequency of < 1E-6/year. The performance deficiency is characterized as GREEN, a finding of very low safety significance. A cross-cutting aspect was not identified because the finding does not represent current performance

Inspection Report# : 2011006 *(pdf)*

Significance: G Apr 15, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Correctly Translate the Design Basis into Procedures for Low EDG Air Pressure and Low Thermal Barrier Heat Exchanger Flow
The team identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, “Design Control” involving two examples. In one example, the licensee did not properly translate the instrument uncertainties associated with the EDG low pressure alarm and pressure indicator into operating procedures (OP) and alarm response procedures (ARP). In the second example, the licensee failed to translate the minimum thermal barrier flow requirements into applicable abnormal operating procedures (AOP) and ARPs. The licensee entered these issues into their corrective action program as CR 11-00744 and CR-11-00955.

The licensee’s failure to correctly translate the applicable design bases information for the EDG air start system and the thermal barrier heat exchangers setpoints into procedures was a performance deficiency. The finding was determined to be more than minor because it was associated with the Procedure Quality attribute of the Mitigating System Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to translate the appropriate values into the procedures described above adversely affected the quality of procedures for abnormal and alarm conditions that are required by Regulatory Guide 1.33, Quality Assurance Program Requirements. The inadequate procedures adversely affected operator action to assess operability and to combat deficiencies associated with risk significant equipment. The team assessed the finding using the SDP and determined that the finding was of very low safety significance (Green) because it was a design deficiency confirmed not to result in the loss of operability or functionality, did not represent the loss of a system safety function and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. A cross-cutting aspect was not identified because the finding does not represent current performance. [Sections 1R21.2.2]

Inspection Report# : 2011006 *(pdf)*

Significance: G Apr 15, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Calculate Motor Actuator Output Torque and Control Circuit Voltages for MOVs
The team identified a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to use conservative motor control center (MCC) voltage inputs or methodologies when calculating motor actuator output torque and control circuit voltages for safety-related motor operated valves (MOV) that are be required to operate during design bases events. The licensee entered these issues into their corrective action program as CR-11-00782, CR-11-00956, and CR-11-00631 and performed an evaluation to confirm the operability of affected valves.

The team determined that that the licensee's use of non-conservative MCC voltage/current inputs in safety-related calculations was a performance deficiency. The performance deficiency was more than minor because it adversely affected the mitigating systems cornerstone attribute of design control and adversely affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with NRC IMC 0609.04,"Initial Screening and Characterization of Findings", the inspectors conducted a Phase 1 SDP screening and determined the finding to be of very low safety significance (Green) because it was a design deficiency confirmed not to result in the loss of operability or functionality, did not represent the loss of a system safety function and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. A cross-cutting aspect was not identified because the finding does not represent current performance

Inspection Report# : 2011006 *(pdf)*

Significance: G Apr 15, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Verify Adequacy of the Suction Lift for the Fuel Oil Transfer Pumps
The team identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to establish design control measures to verify or check the adequacy of design inputs used to determine the required suction lift of the EDGs fuel oil transfer pumps. Specifically, the licensee used non-conservative pressure drops and atmospheric pressure values to determine the available suction lift required at the pump's suction in order to transfer the fuel oil from the bottom of the underground fuel storage tanks to the day tanks. The licensee entered these issues into their corrective action program as CR-11-00565 and performed an evaluation to confirm the ability of the pumps to transfer the required volume of fuel.

The licensee's failure to adequately account for pressure losses, flow rates and atmospheric conditions in a safety-related calculation was a performance deficiency. The performance deficiency was more than minor because it adversely affected the mitigating systems cornerstone attribute of design control and adversely affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the deficiencies in Calculation DC06630-004 resulted in a reasonable doubt that the fuel oil transfer pump could deliver the TS required volume of 48,500 gallons; because, if the maximum allowed differential pressure of 2.5 psig had been realized, and combined with the uncertainties associated with the measuring equipment, the pump would have been unable to transfer the required volume of fuel. In accordance with NRC IMC 0609.04, "Initial Screening and Characterization of Findings", the inspectors conducted a Phase 1 SDP screening and determined the finding to be of very low safety significance (Green) because it was a design deficiency confirmed not to result in the loss of operability or functionality. A cross-cutting aspect was not identified because the finding does not represent current performance.
Inspection Report# : 2011006 *(pdf)*

Significance: G Apr 15, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Develop a Procedure to Ensure an Emergency Diesel Generator Alarm Device was Calibrated or Tested
The team identified a NCV of Technical Specification 6.8, "Procedures and Programs", for the licensee's failure to develop a procedure to ensure an EDG alarm device was properly calibrated or tested. Specifically, the component validating the "full" status of the EDG fuel header lines had never been calibrated, nor tested. The licensee entered these issues into their corrective action program as CR-11-00984

The team determined that the licensee's failure to develop and implement a procedure that ensured the EDG ultrasonic alarm device was properly calibrated or tested was a performance deficiency. This performance deficiency is more than minor because it affected the mitigating systems cornerstone attribute of ensuring the availability, reliability, and capability of safety systems that respond to initiating events. Specifically, the lack of calibration and testing of a non safety-related device could adversely affect the capability of the EDG to start and load within 10 seconds as required by TS. In accordance with NRC IMC 0609.04, "Initial Screening and Characterization of Findings", the inspectors

conducted a Phase 1 SDP screening and determined the finding to be of very low safety significance (Green) because it was not a design issue resulting in loss of function, it did not represent an actual loss of a system safety function, it did not result in exceeding a TS allowed outage time, and it did not affect external event mitigation. A review of the most recent EDG tests demonstrated that the EDGs started within the required 10 seconds thereby indicating that the fuel line header was not empty at the time of the test. A cross-cutting aspect was not identified because the finding does not represent current performance.
Inspection Report# : 2011006 *(pdf)*

Significance: G Apr 15, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Properly Test Emergency Feedwater Pump Discharge Check Valves
The team identified a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XI, “Test Control” for the licensee’s failure to establish a test program that demonstrated the operability of EFW pump discharge check valves. The test procedure was inadequate to provide reasonable assurance that the check valves would (1) not allow reverse flow sufficient to rotate its pump backwards, (2) not allow reverse flow that would overpressurize its pump’s suction piping and, (3) not allow reverse flow that would lower the forward flow to a value below the required flow to the steam generators. This issue was entered into the licensee’s corrective action program as CR-11-00556.

The team determined that the licensee’s development of an inadequate procedure to test safety-related check valves was a performance deficiency. This performance deficiency is more than minor because it affected the mitigating systems cornerstone attribute of ensuring the availability, reliability, and capability of safety systems that respond to initiating events. Specifically, the licensee failed to develop a test procedure that would reliably ascertain that the steam generators were not deprived of design bases flow via a leaking check valve. In accordance with NRC IMC 0609.04, “Initial Screening and Characterization of Findings”, the inspectors conducted a Phase 1 SDP screening and determined the finding to be of very low safety significance (Green) because it was not a design issue resulting in loss of function, it did not represent an actual loss of a system safety function, it did not result in exceeding a Technical Specification allowed outage time, and it did not affect external event mitigation. A cross-cutting aspect was not identified because the finding does not represent current performance.
Inspection Report# : 2011006 *(pdf)*

Significance: G Apr 15, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Use the Most Limiting Design Inputs in an Electrical Calculation
The team identified a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control" for the licensee’s failure to use the most limiting design inputs in an electrical calculation associated with determining settings for the degraded voltage relays to ensure that adequate voltages would be available to safety-related emergency core cooling system equipment during a design basis loss of coolant accident with offsite power available. Specifically, the team identified nine deficiencies in Calculation DC08200-001, “ESF Undervoltage Logic and Settings.” The licensee entered this issue into the corrective action program as condition report CR-11-01045.

The team determined that the use of non-conservative inputs and methodologies in electrical calculation DC08200-001 was a performance deficiency. Specifically, the nine examples of deficiencies in the calculation resulted in a reasonable doubt that a spurious separation from offsite power would occur and that adequate voltages would be available to safety-related emergency core cooling system equipment during a design basis loss of coolant accident with offsite power available. This finding was more than minor 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 affected the availability of the offsite power feed from Transformer XTF-4 and/or XTF-5, and with XTF-6 voltage regulator not in service under specific minimum grid voltage conditions. These transformers are the normal offsite power supply to Safety Bus 1DA and the alternate supply to Safety Bus 1DB. Using Manual Chapter Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the inspectors determined that the finding represented a potential loss of core decay heat removal safety function under the mitigating systems cornerstone conditional upon specific offsite power grid system voltage circumstances. The VC Summer SDP phase 2 pre-solved

Worksheet did not have a suitable surrogate for this finding therefore a phase 3 SDP analysis was performed by a regional SRA. The phase 3 SDP analysis utilized the latest VC Summer NRC SPAR risk model and an exposure period of 3 hours per year. The dominant sequence was a loss of DC Bus B with a failure of emergency feedwater and a failure to implement feed and bleed leading to core damage. The risk was mitigated by equipment available from Safety Bus 1DB and the short exposure period. The SDP phase 3 risk analysis result was an increase in core damage frequency of <1E-6 per year. The finding was characterized as GREEN, a finding of very low safety significance. A cross-cutting aspect was not identified because the finding does not represent current performance.

Inspection Report# : 2011006 *(pdf)*

Significance: G Apr 15, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Account for the In-rush Current of the 7.2 kV Breaker Spring Charging Motors in a Safety-related Battery Voltage Drop Calculation
The team identified a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, “Design Control” for the licensee’s failure to adequately account for the in-rush current of the 7.2 kV breaker spring charging motors in a safety-related calculation. Specifically, the licensee used the steady-state current instead of the more limiting in-rush current in battery voltage drop calculation. The licensee entered the issue into their corrective action program as CR 11-00989 and performed testing to confirm the ability of the breaker to close with reduced voltage.

The failure of the licensee to use the more limiting in-rush current in the safety-related calculation is a performance deficiency. The performance deficiency was more than minor because it adversely affected the mitigating systems cornerstone attribute of design control and adversely affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the deficiencies in Calculation DC08320-010 resulted in a reasonable doubt that the B service water pump breaker would not have reliably closed during a design bases event. The performance deficiency resulted in the breakers not being tested with the lower voltage (71.04vdc) that would be available during an event. In accordance with NRC IMC 0609.04,“Initial Screening and Characterization of Findings”, the inspectors conducted a Phase 1 Significance Determination Process (SDP) screening and determined the finding to be of very low safety significance (Green) because it was a design deficiency confirmed not to result in the loss of operability or functionality, did not represent the loss of a system safety function and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. A cross-cutting aspect was not identified because the finding does not represent current performance
Inspection Report# : 2011006 *(pdf)*

Significance: G Dec 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to correct condition adverse to quality involving inadequate EDG engine driven pump preventive maintenance
•Green. The inspectors identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” for the licensee’s failure to identify and correct a condition adverse to quality following the February 10, 2010, failure of the ‘A’ Emergency Diesel Generator (EDG) jacket water pump mechanical seal. Specifically, the licensee failed to identify and correct inadequacies in their EDG preventive maintenance program for monitoring engine driven pump seal leakage in accordance with vendor recommendations, leading to subsequent ‘A’ EDG jacket water seal leakage going unidentified from approximately June 1, 2010, until October 20, 2010. The licensee initiated condition report (CR)-10-03861 and implemented requirements and operator training to conduct proper seal leakage monitoring during subsequent EDG operations.

The inspectors determined that the licensee’s failure to take adequate corrective actions to identify and correct inadequacies in the EDG PM program for monitoring EDG engine driven pump seal leakage in accordance with vendor recommendations was a performance deficiency that was within the licensee’s ability to foresee and correct. This finding is more than minor because if left uncorrected, the issue would become a more significant safety concern, in that, the potential exists for unidentified engine driven pump seal leakage that could lead to EDG failure. This issue

is associated with the equipment performance attribute of the Mitigating System cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the failure to take adequate corrective actions to identify inadequacies in the EDG preventive maintenance program for monitoring EDG engine driven pump seal leakage in accordance with vendor recommendations could adversely affect the reliability of the EDGs. This finding was evaluated using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet for mitigating systems. The finding was determined to be of very low safety significance (Green) because it did not actually result in the loss of the EDG system safety function or the loss of function of a single EDG. The cause of this finding was directly related to the problem evaluation cross-cutting aspect in the corrective action program component of the Problem Identification and Resolution area because the licensee did not thoroughly evaluate the February 10, 2010, jacket water pump mechanical seal failure event and identify nonconformance with the vendor recommended visual inspections of engine driven pump seals during EDG operations (P.1(c)). (Section 4OA2.3.1)

Inspection Report# : 2010005 *(pdf)*

Significance: G Oct 22, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to maintain safety related cables in a nonsubmerged environment
The inspectors identified a NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to identify and correct a condition adverse to quality. The licensee failed to recognize that low voltage safety related cables leading to the service water pump house (SWPH) from electrical manhole #2 (EMH-2) had been subject to submergence, a condition for which they were not designed. The license initiated CR-10-03994 to address this issue.

The failure to recognize that safety related cables were being subjected to an environment for which they were not designed was a performance deficiency. The performance deficiency was more than minor in accordance with IMC 0612, Appendix B (Block 9, Figure 2), "Issue Screening," because if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, subjecting the low voltage electrical cables leading from EMH-2 to SWPH to continuous submersion had the potential to, over time, degrade the cable insulation and result in failure. In accordance with IMC 0609, Attachment 4,
Table 4a, "Phase 1 – Initial Screening and Characterization of Findings", the finding was determined to be of very low safety significance (Green) because the submerged cable condition was a design or qualification deficiency confirmed not to have resulted in a loss of operability or functionality.

The cause of the finding was directly related to the problem evaluation cross-cutting aspect in the corrective action program component of the Problem Identification and Resolution area because the licensee did not thoroughly evaluate previous related conditions (CR-06-03220, CR-08-04927) and information contained in GL 2007-001 and, as a result, did not consider the potential for and the degrading effects of continuously submerged low voltage cables. (P.1(c)).
Inspection Report# : 2010006 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform ISI General Visual Examinations of Containment Moisture Barrier Associated with Containment Liner Leak Chase Test Connection Threaded Pipe Plugs
The inspectors identified a Green NCV of 10 CFR Part 50.55a, "Codes and Standards," involving the licensee's failure to properly apply Subsection IWE of ASME Section XI for conducting general visual examinations of the metal-to-metal pipe plugs installed in the containment liner channel weld leak chase test connections that provide a moisture barrier to the containment liner seam welds. Following the inspectors' identification of this issue, the

licensee conducted the visual examinations and found missing pipe plugs and water in four of the leak chase test connection zones. The licensee adequately assessed and corrected the deficiencies prior to entering Mode 4 (Hot Shutdown) to ensure the integrity of containment was maintained. The issue was entered into the licensee's corrective action program as condition report CR-11-02834.

The failure to conduct a general visual examination of 100 percent of the moisture barriers intended to prevent intrusion of moisture against inaccessible areas of the containment liner at metal-to-metal interfaces which are not seal welded, was a performance deficiency that was within the licensee's ability to foresee and correct. This finding was of more than minor significance because the failure to conduct required visual examinations and identify the degraded moisture barriers which allowed the intrusion of water into the four liner leak chase channels, if left uncorrected, could have resulted in more significant corrosion degradation of the containment liner or associated liner welds. The finding was associated with the design control attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, visual examinations of the containment metal liner provide assurance that the liner remains capable of performing its intended safety function. The inspectors used IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding was of low safety significance (Green) because it did not represent an actual open pathway in the physical integrity of the reactor containment. A cross-cutting aspect was not identified because the finding does not represent current licensee performance. (Section 1R20)

Inspection Report# : 2011003 *(pdf)*

Significance: G Apr 15, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Timely Corrective Actions to Address Design Bases Requirements for SGTR Event
The team identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action", for the licensee's failure to implement prompt corrective actions to ensure that SG primary to secondary break flow could be terminated within the accident analysis assumptions used for a design basis SGTR event. The licensee entered this concern into the corrective action program as CR-11-01031.

The licensee's failure to implement prompt and effective corrective actions to ensure that primary to secondary steam generator tube rupture (SGTR) break flow could be terminated within the timeframes established by the FSAR accident analysis of record was a performance deficiency. The performance deficiency was greater than minor because it adversely affected the SSC/barrier performance, procedure quality, and human performance attributes 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, the failure to complete timely corrective actions to ensure the adequacy of system design, emergency operating procedures, and/or licensing basis SGTR accident analyses challenged the assurance that those attributes would demonstrate sufficient protection for the consequences associated with a design basis SGTR event. The significance of the finding was screened using the barrier integrity column of IMC 0609, "Significance Determination Process", Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and determined to be of very low safety significance (Green) because the finding did not represent (1) the degradation of only the radiological barrier function provided for the control room/auxiliary building/spent fuel pool, (2) the degradation of the barrier function of the control room against toxic atmosphere or smoke, (3) an actual open pathway in the integrity of reactor containment or heat removal components, or (4) an actual reduction in function of hydrogen igniters in the reactor containment. The finding directly involved a cross-cutting aspect in the resources component of the human performance area [H.2(a)].

Inspection Report# : 2011006 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: SL-IV Sep 30, 2010
Identified By: NRC
Item Type: VIO Violation
Failure to Notify the Commission of a Change in Medical Status
The inspectors identified a cited violation of 10 CFR Part 55.25, “Incapacitation because of disability or illness,” for the failure of the facility licensee to notify the Commission of a change in the medical status of one licensed operator within 30 days of learning of the change as required. This issue was entered into the licensee’s corrective action program as Condition Report CR-10-03348.

The failure of the facility licensee to notify the Commission within 30 days of learning of a permanent change in the medical status of a licensed operator as required by 10 CFR 55.25 was a performance deficiency. This performance deficiency was evaluated in accordance with the Enforcement Policy and determined to be a
Severity Level IV violation in accordance with Supplement I. This violation is being cited in accordance with the Enforcement Policy Section 2.3.2.a.3 because it was a repetitive violation resulting from inadequate corrective action and was NRC identified. Because this Notice of Violation was evaluated in accordance with Traditional Enforcement, there was no cross-cutting aspect assigned.
Inspection Report# : 2010004 *(pdf)*

Last modified : October 14, 2011