

Kewaunee

2Q/2011 Plant Inspection Findings

Initiating Events

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Misapplication Of Code Acceptance Criteria For Weld Flaws

A finding of very low safety-significance and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion IX, "Control of Special Processes," was identified by the inspectors on March 3, 2011, for the licensee's failure to establish a procedure that incorporated the American Society of Mechanical Engineers Code acceptance criteria for evaluation of flaws detected during ultrasonic examinations. Consequently, the licensee applied incorrect acceptance criteria to the flaws identified during ultrasonic examination of a weld on the chemical and volume control system seal water injection filter 1A housing. Licensee corrective actions included: evaluation of weld flaws to ensure they met applicable Code criteria and revision of a site procedure to incorporate appropriate Code acceptance criteria.

The finding was determined to be more than minor because the finding, if left uncorrected, would become a more significant safety concern. Absent NRC identification, the failure to provide Code acceptance criteria could have allowed components with unacceptable cracks to be returned to service. Cracks in components returned to service would place safety related piping systems at increased risk for through wall leakage and/or failure. The licensee promptly corrected this issue before components with unacceptable flaws were returned to service. The inspectors answered "No" to the Significance Determination Process Phase I screening question, "Assuming worst case degradation, would the finding result in exceeding the Technical Specification (TS) limit for any reactor coolant system leakage or could the finding have likely affected other mitigation systems resulting in a total loss of their safety function assuming the worst case degradation?" Therefore, this finding screened as having very low safety-significance (Green). This finding has a cross-cutting aspect in the area of human performance, work practices, because the licensee did not effectively implement human error prevention techniques. Specifically, the lack of procedure acceptance criteria was caused by inadequate peer checking during the licensee's review and approval of the procedure for evaluation of non destructive examination data (H.4(a)).

Inspection Report# : [2011002](#) (*pdf*)

Significance:  Mar 31, 2011

Identified By: Self-Revealing

Item Type: FIN Finding

Partial Loss Of Offsite Power Caused By Less Than Adequate Interface And Oversight Of Switchyard Modification Work

A finding of very low safety-significance was self-revealed for the failure to adequately control relay testing for switchyard breaker installations under Design Change WO KW100691871. Specifically, on March 10, 2011, Dominion Electrical Transmission technicians deviated from standard work practices to test a relay via an internal corporate server, which caused a partial loss of offsite power to the plant through the loss of the main auxiliary transformer backfeed to safety-related bus 6. Licensee corrective actions included a human performance and safety stand down for substation personnel on the day of the event, the development of a mitigating strategy that outlined expectations and implemented increased direct supervision on critical tasks, and the development of a formal memo describing expectations related to the restricted use of the server for performing remote testing of control functions.

The finding was determined to be more than minor because, if left uncorrected, the finding had the potential to lead to a more significant safety concern. Specifically, had a different breaker been inappropriately tripped, the station could have experienced a total loss of offsite power. The inspectors concluded that the finding could be evaluated using Inspection Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria." Specifically, the inspectors qualitatively evaluated the finding by applying the spent fuel pool questions in the Fuel Barrier column of Table 4a, Attachment 4. The inspectors answered "No" to all three questions and determined that

the finding was of very low safety-significance (Green). The finding has a cross-cutting aspect in the areas of human performance, work practices, because supervisory and management oversight of work activities, including contractors, was not implemented for this evolution (H.4(c)).

Inspection Report# : [2011002](#) (pdf)

Significance:  Dec 31, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure To Follow Red Channel Instrument Test Procedure

A finding of very low safety significance and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when a nuclear control operator (NCO) failed to perform a procedure step, which resulted in the main feedwater regulating valve FW 7A partially closing while the reactor was at full power. Specifically, Step 6.11.2 of procedure SP-47-316A, "Channel 1 (Red) Instrument Channel Test Channel Operational Test," directed the NCO to place the main feedwater regulating valve FW 7A in manual to preclude valve movement during a simulated portion of the test; however, the NCO marked the step "not applicable" and subsequently did not perform it. The licensee initiated condition reports (CRs) CR396649 and CR405809, performed an apparent cause evaluation (ACE), and initiated corrective actions (CAs) to address the issues identified in the causal evaluation.

The finding was determined to be more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because it was associated with the Initiating Events Cornerstone attribute of human performance and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to follow the procedure initiated a secondary-side plant transient. The inspectors determined the finding could be evaluated using the Significance Determination Process (SDP) in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Tables 3b and 4a for the Initiating Events Cornerstone, dated January 10, 2008. The inspectors answered "no" to the Initiating Events Cornerstone Transient Initiator question and screened the finding as having very low significance (Green). The finding has a cross-cutting aspect in the area of human performance, Work Practices, because the personnel work practices did not support human performance. Specifically, licensee personnel failed to follow procedures (H.4(b)).

Inspection Report# : [2010005](#) (pdf)

Mitigating Systems

Significance:  Jun 30, 2011

Identified By: Self-Revealing

Item Type: FIN Finding

Technical Support Center Diesel Generator Output Breaker Fails To Close

A finding of very low safety significance was self revealed for the failure to perform adequate preventive maintenance on latching relay VR1/B46, a relay required for closure of the technical support center (TSC) diesel generator's (DG's) output breaker and automatic restoration of bus 1-46, which powers the TSC DG's cooling system. Specifically, on March 20, 2011, during a partial loss of offsite power event, the TSC DG started but failed to load onto bus 1-46. After approximately 43 minutes of operation, the DG automatically shut down from an over-temperature condition, as designed. The licensee initiated condition report 417289 and performed apparent cause evaluation 018573. The licensee's short-term corrective actions included troubleshooting the initial failure, repairing relay VR1/B46, and restoring the TSC DG to functional status. The licensee's long-term corrective actions were in-progress at the completion of this inspection period.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure of the output breaker to close and energize bus 1-46 caused the TSC DG to overheat and

automatically shut down during a partial loss of offsite power. The inspectors concluded the finding could be evaluated in accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Mitigating Systems Cornerstone. The inspectors answered "Yes" to questions 2 and 4 of the Mitigating Systems Cornerstone column and determined that the finding required a Phase 2 analysis. The Region III senior reactor analyst completed a Phase 2 analysis and determined the risk significance of the issue to be very low (Green). The finding has a cross-cutting aspect in the area of human performance, resources, because a licensee effort to review various plant components for possible inclusion in a preventive maintenance optimization project had assigned a low priority to this relay (H.2(a)).
Inspection Report# : [2011003](#) (*pdf*)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: FIN Finding

Inadequate Operability Determination Of A Heat Exchanger Leak On Emergency Diesel Generator A

A finding of very low safety significance was identified by the inspectors for the failure to adequately assess operability of the service water system in operability determination 413, "EDG A Jacket Water Expansion Tank Overflow," in accordance with site Procedure OP-AA-102-1001, "Development of Technical Basis to Support Operability Determinations." At the end of the inspection period, the licensee was completing an apparent cause evaluation to determine the cause and develop corrective actions.

The finding was determined to be more than minor because the finding, if left uncorrected, had the potential to become a more significant safety concern. Specifically, the failure to perform operability evaluations on degraded safety-related systems could lead to situations where systems needed to mitigate design basis accidents were not capable of performing their required safety functions. The inspectors determined the finding could be evaluated using Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1- Initial Screening and Characterization of Findings," Table 4a, for the Mitigating Systems Cornerstone. The inspectors answered "No" to the Mitigating Systems questions and screened the finding as having very low safety significance (Green). The finding has a cross-cutting aspect in the area of human performance, work practices, because the licensee failed to communicate decisions and the bases for decisions to personnel who had a need to know the information in order to perform work safely. Specifically, the licensee failed to effectively communicate the expectation to assess operability of the service water system in the pre-job brief and peer review (H.1(c)).

Inspection Report# : [2011003](#) (*pdf*)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: FIN Finding

Failure To Review And Update Severe Accident Management Guidelines In Accordance With An Established Program

A finding of very low safety significance was identified by the inspectors for the licensee's failure to perform reviews and update the Severe Accident Management Guidelines (SAMGs) in accordance with the licensee's nuclear administrative directives (NADs). Specifically, Procedure NAD 14.06 required that the engineering group review industry correspondence related to SAMGs and implement appropriate changes, and that the emergency preparedness group conduct biennial reviews of the SAMGs. The inspectors identified that neither group had performed the reviews. As a result, the SAMGs were not adequately updated. The licensee entered this issue into their corrective action program as condition reports 424681, 424855, 424865, 424866, 425092, 426999, and 427092, and was still evaluating the cause for this condition at the end of this inspection period. The licensee scheduled the revision of the SAMGs for completion by December 2011.

The finding was determined to be more than minor because, if left uncorrected, the finding had the potential to lead to a more significant safety concern. Specifically, the failure to review and update the SAMGs would have hampered the licensee's response in the unlikely event of a severe accident, because the SAMGs were not current. The inspectors, in consultation with the Region III senior reactor analyst, determined that the finding could be evaluated using the Significance Determination Process in accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Mitigating Systems Cornerstone. The inspectors answered "No" to the Mitigating Systems questions and screened the

finding as having very low safety significance (Green). The finding has a cross-cutting aspect in the area of problem identification and resolution, corrective action program, because the licensee failed to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee identified in an apparent cause evaluation initiated in April 2010 that the emergency preparedness organization had not performed the required reviews and updates of emergency preparedness procedures, and the SAMGs were identified in the licensee's extent of condition. However, the inspectors identified that the corrective actions issued for this extent of condition did not address the SAMGs and, therefore, no corrective actions were taken (P.1(d)).

Inspection Report# : [2011003](#) (pdf)

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Work Instructions Results In Potential Orange Path

A finding of very low safety-significance and associated non-cited violation (NCV) of Technical Specification 5.4.1, "Procedures," was identified by the inspectors for the failure to implement procedures for shutdown operations involving shutdown operations safety assessments. Specifically, OU KW 201, "Shutdown Safety Assessment Checklist," step 3.3.1, stated, in part, that a shutdown safety assessment was required to be completed in accordance with the procedure for core cooling; however, the inspectors noted that the February 28, 2011, 6:00 p.m. analysis credited the safety injection system feed and bleed as an available alternate decay heat removal system when the system was not available as described in Section 5.3.2, "Available/Availability," for work scheduled at that time on the emergency core cooling system (ECCS) sump. The licensee initiated condition report CR415539, and at the end of the inspection period, the licensee was performing a causal evaluation to determine the causes of the event and develop corrective actions. On February 28, as a remedial corrective action prior to the start of work, additional steps to the work instructions were added to ensure the equipment would meet the intended function, operators were designated to perform the local manual operations and a pre job brief was conducted that provided training for using the equipment in the given situation.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of human error (pre event) and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the availability of the ECCS sump was integral to ensuring that the plant was not in an orange risk path for the evolutions completed on February 28. The inspectors screened the finding as of very low safety-significance (Green) because the finding did not degrade the licensee's ability to establish an alternate core cooling path if decay heat removal could not be re established and, therefore, did not require a Significance Determination Process phase 2 or phase 3 analysis. The finding has a cross-cutting aspect in the areas of human performance, work control, because the licensee failed to plan the work activities by incorporating the need for planned contingencies and compensatory actions to ensure the ECCS sump was available to ensure an orange risk path for core cooling was not entered (H.3(a)).

Inspection Report# : [2011002](#) (pdf)

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Unintended Voiding Of The Reactor Vessel Closure Head

A finding of very low safety-significance and associated non-cited violation (NCV) of Technical Specification 5.4.1, "Procedures," was identified by the inspectors for the failure to establish, implement, and maintain procedures for shutdown operations involving the draining of reactor coolant system (RCS) inventory. Specifically, on March 21, 2011, during a pressurizer draindown evolution, licensed operators unknowingly created a gas void in the reactor vessel closure head (RVCH) that displaced water to a level near the RVCH flange. Subsequent evaluation determined that the procedure for draining the RCS did not contain adequate guidance to ensure that an unacceptable void in the RVCH was not present prior to or formed during operations draindown activities. The licensee subsequently entered the issue into its corrective action program as CR418537 and performed a remedial corrective action of removing the gas void that accumulated in the RVCH. At the end of the inspection period, the licensee was performing an apparent cause evaluation to determine the causes of the event and develop additional corrective actions.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of operating procedure quality and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the formation of the gas void in the RVCH displaced RCS inventory and could have challenged the ability to remove decay heat in the event of a loss of shutdown cooling. The Region III senior reactor analyst determined that this issue is best characterized as a finding of very low safety-significance (Green). The finding has a cross-cutting aspect in the areas of human performance, work practices, because operations personnel did not follow or implement the guidance contained in plant procedures. Specifically, procedure OP KW AOP RC 002 prescribed actions to take if a gas void formed in the RVCH that resulted in RVLIS level readings less than 88 percent, which had occurred several hours prior to the start of a pressurizer draining evolution (H.4(b)).
Inspection Report# : [2011002](#) (pdf)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Incorrect Containment Fan Coil Unit Acceptance Criteria

A finding of very low safety significance and associated non cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to correctly translate the applicable regulatory requirements and the design basis into procedures and instructions. Specifically, the licensee failed to adequately translate the containment fan coil unit (CFCU) service water flow acceptance criteria from the current design basis calculations into the CFCU performance monitoring procedures, which resulted in the incorrect acceptance criteria in plant test procedures. The licensee took immediate corrective actions to correct the acceptance criteria in the test procedures and to perform an operability determination on CFCU C, the only one of the four CFCUs that showed a recent decrease in flow. At the end of the inspection period, the licensee was completing an apparent cause evaluation and developing additional long term corrective actions.

The finding was determined to be more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because it was associated with the Mitigating Systems Cornerstone attribute of procedure quality and adversely affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to ensure that procedure PMP 18 13, "Containment Fan Coil Unit Performance Monitoring (AQ-1)," contained the correct acceptance criteria for testing the CFCUs. The inspectors determined the finding could be evaluated using the Significance Determination Process (SDP) in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Tables 3b and 4a for the Mitigating Systems Cornerstone, dated January 10, 2008. The inspectors answered "no" to the Mitigating Systems questions and screened the finding as having very low significance (Green). This finding has a cross cutting aspect in the area of human performance, Resources, because the licensee did not maintain complete, accurate, and up to date procedures. Specifically, the correct acceptance criteria for testing the CFCUs from the design basis calculations were not specified in the CFCU testing procedure (H.2(c)).
Inspection Report# : [2010005](#) (pdf)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Unacceptable Preconditioning of Safety-Related Pressure Switches

A finding of very low significance and associated non cited violation (NCV) of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings", was identified by the inspectors for the failure to develop and implement an adequate surveillance test procedure to accurately assess the as found trip setpoint for the pressure switches associated with the turbine building service water isolation function and various other safety related functions. The licensee initiated condition report CR401813, performed an apparent cause evaluation, and initiated corrective actions to address the issues identified in the casual evaluation.

The finding was determined to be more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because it was

associated with the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences and affected the cornerstone attribute of Equipment Performance. The inspectors determined the finding could be evaluated using the Significance Determination Process (SDP) in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Tables 3b and 4a for the Mitigating Systems Cornerstone, dated January 10, 2008. The inspectors answered "no" to the Mitigating Systems questions and screened the finding as having very low significance (Green). This finding has a cross cutting aspect in the area of problem identification and resolution, Operating Experience, because the licensee did not evaluate and communicate external operating experience to internal stakeholders in a timely manner (P.2(a)).

Inspection Report# : [2010005](#) (pdf)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Inappropriate Isolation of the Safety Injection Pump Minimum Flow Recirculation Lines

A finding of very low safety significance and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for multiple inadequate procedures, which directed closing the common train safety injection minimum flow recirculation line valves, an activity affecting quality. Specifically, station procedures directed operators to close the safety injection pump minimum flow recirculation valves in order to complete valve timing tests, and to engage an interlock that allowed closure of the containment sump recirculation valves. However, the procedures and licensed operators failed to recognize that closure of either minimum flow recirculation valve affected the operability and availability of both safety injection pumps for certain design basis accidents because the minimum flow recirculation path was isolated. The licensee subsequently entered the issue into its corrective action program as CR393930. The licensee corrected the procedure inadequacies and completed a root cause evaluation that recommended several corrective actions to prevent recurrence.

The finding was determined to be more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because it was associated with the Mitigating System Cornerstone attribute of procedure quality, and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to ensure that procedures implemented during power operations ensured the operability of both trains of safety injection. The inspectors determined the finding could be evaluated using the Significance Determination Process (SDP) in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Tables 3b and 4a for the Mitigating Systems Cornerstone, dated January 10, 2008. The inspectors answered "yes" to the Mitigating Systems question that confirmed the finding represented a loss of system safety function. The Region III Senior Reactor Analyst (SRA) performed an SDP Phase 2 analysis and a Phase 3 analysis. The Phase 3 analysis determined that the resultant delta core damage frequency (CDF) was less than $1E-6$ and delta large early release frequency (LERF) was less than $1E-7$, which represented a Green finding. The dominant scenario involved a small break loss of coolant accident with operator failure to perform a rapid cool down. The finding has a cross cutting aspect in the area of human performance, Decision Making, because although the licensee procedures cautioned that starting a safety injection pump following the closure of a minimum flow recirculation valve would result in damage to the pump, the licensee staff failed to use conservative decision making to question the adequacy of the prescribed procedure actions (H.1(b)).

Inspection Report# : [2010005](#) (pdf)

Significance:  Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Emergency Operating Procedure

A finding of very low safety significance and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the licensee's failure to have an adequate emergency operating procedure for an activity affecting quality. Specifically, emergency operating

procedure E 2, "Faulted Steam Generator Isolation," did not prescribe actions to manually close the steam supplies to the turbine-driven auxiliary feedwater pump in the event the control room switches failed to operate. The licensee initiated condition report (CR) CR391458 and took immediate corrective actions to correct the deficient procedure and informed the licensed operators.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of procedure quality and adversely affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to ensure that Emergency Operating Procedure E 2 contained all the required actions to ensure successful isolation of a faulted steam generator. The inspectors determined the finding could be evaluated using the significance determination process (SDP) in accordance with Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Tables 3b and 4a, for the Mitigating Systems Cornerstone. The inspectors answered "no" to the Mitigating Systems questions and screened the finding as having very low significance (Green). The inspectors determined that this finding did not reflect present performance since the procedure error was introduced greater than three years ago; therefore, there was no cross cutting aspect associated with this finding.

Inspection Report# : [2010004](#) (pdf)

Significance: G Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Barrier Control Procedures Result In Exposed Service Water Pumps

A finding of very low safety significance and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure to have adequate procedures to address the removal of the screenhouse traveling water screen covers, an activity affecting quality. Consequently, the covers were removed and safety related equipment was exposed to the environment without adequate planning of mitigation actions in the event of inclement weather. The licensee initiated condition reports (CR) CR394670, CR395541, and CR395717 to document the issue. At the end of the inspection period, the licensee was performing a causal evaluation and developing corrective actions to address the issue.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of protection against external factors and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The inspectors determined the finding could be evaluated using the significance determination process (SDP) in accordance with Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Tables 3b, 4a, and 4b for the Mitigating Systems Cornerstone. The inspectors determined that the screenhouse covers were designed to prevent tornado missiles from damaging the safety related equipment housed inside the screenhouse and that two trains of the service water system would be degraded; therefore, the inspectors answered "yes" to the Table 4b seismic, flooding, and severe weather screening criteria questions 1 and 2. The inspectors contacted the RIII senior reactor analyst who determined, using NUREG/CR 4461, "Tornado Climatology of the Contiguous United States," and the number of days the covers were removed that the performance deficiency risk was of very low safety significance (Green). The finding has a cross cutting aspect in the area of human performance, Decision Making, because the licensee failed to make safety significant or risk significant decisions using a systematic process to ensure safety is maintained. Specifically, the licensee applied an incorrect evaluation to a situation that resulted in the multiple trains of service water pumps being unprotected from tornado missiles (H.1(a)).

Inspection Report# : [2010004](#) (pdf)

Significance: SL-IV Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Replacement of Automatic Action With An Operator Manual Action Without Prior NRC Approval

A Severity Level IV non-cited violation (NCV) of 10 CFR 50.59(d)(1), "Changes, Tests, and Experiments," was identified by the inspectors for the failure to document an evaluation that provided a basis for the determination that the changes implemented in DCR 3163 and Emergency Operating Procedure ES 1.3, "Transfer to Sump Recirculation," in 2001 did not require a license amendment. Specifically, the licensee failed to provide an evaluation

that adequately documented why replacing the automatic opening of the service water (SW) valves SW 1300A and SW 1300B upon a safety injection signal (to support the service water safety function of loss of coolant accident (LOCA) recirculation operation) with a manual action to open the valves in Emergency Operating Procedure ES 1.3, did not present more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety previously evaluated in the updated safety analysis report. The licensee initiated CR389330 and, at the end of the inspection period, planned to submit a license amendment request to the NRC for this design change.

The violation was determined to be more than minor because the inspectors could not reasonably determine that the changes would not have ultimately required prior NRC approval. Violations of 10 CFR 50.59 are dispositioned using the traditional enforcement process instead of the significance determination process (SDP) because they are considered to be violations that potentially impede or impact the regulatory process. However, if possible, the underlying technical issue is evaluated under the SDP to determine the severity of the violation. In this case, the inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Tables 3b and 4a, for the Mitigating Systems Cornerstone. The inspectors answered "yes" to question 1 of the Mitigating Systems Cornerstone column of the Phase 1 worksheet because the inspectors concluded that this was a design basis deficiency confirmed not to result in the loss of operability. Based upon this Phase 1 screening, the inspectors concluded that the issue was of very low safety significance (Green). In accordance with Section 6.1.d.2 of the NRC Enforcement Policy this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very low safety significance. The inspectors determined that this finding did not reflect present performance since the error was introduced in a design change that was greater than three years old; therefore, there was no cross cutting aspect associated with this finding.

See related performance deficiency item 2010-004-04.

Inspection Report# : [2010004](#) (pdf)

Significance:  Sep 30, 2010

Identified By: NRC

Item Type: FIN Finding

Performance Deficiency Associated With SLIV NCV - Replace of Automatic Actions With an Operator Manual Action Without Prior NRC Approval

A Severity Level IV NCV of 10 CFR 50.59(d)(1), "Changes, Tests, and Experiments," was identified by the inspectors for the failure to document an evaluation that provided a basis for the determination that the changes implemented in DCR 3163 and Emergency Operating Procedure ES 1.3, "Transfer to Sump Recirculation," in 2001 did not require a license amendment. Specifically, the licensee failed to provide an evaluation that adequately documented why replacing the automatic opening of the service water (SW) valves SW 1300A and SW 1300B upon a safety injection signal (to support the service water safety function of loss of coolant accident (LOCA) recirculation operation) with a manual action to open the valves in Emergency Operating Procedure ES 1.3, did not present more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety previously evaluated in the updated safety analysis report. The licensee initiated CR389330 and, at the end of the inspection period, planned to submit a license amendment request to the NRC for this design change.

The violation was determined to be more than minor because the inspectors could not reasonably determine that the changes would not have ultimately required prior NRC approval. Violations of 10 CFR 50.59 are dispositioned using the traditional enforcement process instead of the SDP because they are considered to be violations that potentially impede or impact the regulatory process. However, if possible, the underlying technical issue is evaluated under the SDP to determine the severity of the violation. In this case, the inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Tables 3b and 4a, for the Mitigating Systems Cornerstone. The inspectors answered "yes" to question 1 of the Mitigating Systems Cornerstone column of the Phase 1 worksheet because the inspectors concluded that this was a design basis deficiency confirmed not to result in the loss of operability. Based upon this Phase 1 screening, the inspectors concluded that the issue was of very low safety significance (Green). In accordance with Section 6.1.d.2 of the NRC Enforcement Policy this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very low safety significance. The inspectors determined that this finding did not reflect present performance since the error was introduced in a

design change that was greater than three years old; therefore, there was no cross cutting aspect associated with this finding.

See related SL IV NCV item 2010-004-03.

Inspection Report# : [2010004](#) (*pdf*)

Barrier Integrity

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failed Standoffs Result In An Inoperable Train of Shield Building Ventilation

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by inspectors for the failure to have and follow adequate procedures for evaluation and installation of components in shield building ventilation (SBV) train A. Specifically, the licensee failed to have adequate procedures to direct the completion of a subcomponent classification evaluation (SCE) and prevent non safety-related parts from being installed in safety-related applications; have torque specifications for the standoffs (spacers for circuit cards) in the work instructions; and properly accomplish the SCE procedure when evaluating the standoffs. The licensee's initial short-term corrective actions removed the installed standoffs from both trains. The licensee also performed an extent of condition looking at previously completed item equivalency evaluations to determine if an SCE was needed or missing for newly installed components.

The finding was determined to be more than minor because the finding was associated with the Barrier Integrity Cornerstone attribute of procedure quality, and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the licensee failed to have and follow adequate procedures which led to the failure of SBV train A. The inspectors determined that this was a type B containment finding since it was related to a degraded condition that had potential important implications for the integrity of the containment, without affecting the likelihood of core damage. The inspector evaluated the finding using the significance determination process (SDP) in accordance with Inspection Manual Chapter 0609, Appendix H, "Containment Integrity SDP," Table 4.1, and determined that the finding did not relate to a containment structure, system, and component, nor containment status that had an impact on large early release frequency. Because of this, the issue screened as Green, using the flowchart in Figure 4.1. The finding has a cross-cutting aspect in the area of problem identification and resolution, corrective action program, because the licensee failed to thoroughly evaluate problems such that the resolutions address causes and extent of conditions, as necessary. This includes properly classifying, prioritizing, and evaluating for operability and reportability conditions adverse to quality. This also includes, for significant problems, conducting effectiveness reviews of corrective actions to ensure that the problems are resolved. Specifically, the licensee failed to properly evaluate and identify the cause of the SBV train A failure and produce a resolution that addressed the cause (P.1(c)).

Inspection Report# : [2011003](#) (*pdf*)

Significance:  Sep 03, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Correct the Classification of a Containment Isolation Valve

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified by the inspectors for the failure to correct a condition adverse to quality. Specifically, the licensee failed to provide their licensed operators with correct procedures and instructions for determining which valves were containment isolation valves. The condition was previously identified on August 12, 2009, when the inspectors found MS 100A, the steam supply to the turbine driven auxiliary feedwater pump, open without the capability to be remotely closed from the control room and without a technical specification entry for the containment isolation function. The licensee entered the issue, during the current inspection, into their corrective action program and took short-term corrective actions of placing a standing order in the control room directing operators to enter the appropriate containment isolation technical specifications for the valves in question.

The finding was determined to be more than minor, because, if left uncorrected, has the potential to lead to a more significant safety concern. The inspectors concluded this finding was associated with the Barrier Integrity Cornerstone. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Barrier Integrity Cornerstone. The inspectors answered "no" to the Barrier Integrity Cornerstone questions and screened the finding as having very low safety significance (Green). This finding has a cross-cutting aspect in the area of human performance within the resources component because the licensee did not maintain complete, accurate and up-to-date design documentation (H.2(c)).

Inspection Report# : [2010006](#) (pdf)

Significance: SL-IV Sep 03, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Update the Updated Safety Analysis Report to Include Containment Penetration Leakage Testing Information

The inspectors identified a Severity Level IV, non-cited violation of 10 CFR 50.71(e), "Maintenance of Records, Making of Reports," having very low safety significance. The inspectors found that the licensee failed to update the Updated Safety Analysis Report (USAR) to describe for each containment penetration, the penetration category, the type of leakage test required, and the applicable leakage test method. The licensee entered this into their corrective action program. The inspectors found the violation to be more than minor in accordance with the NRC Enforcement Policy, Section 6.1.d, Example 3, in that the failure to update the Final Safety Analysis Report (FSAR) would not have a material impact on safety or licensed activities. This issue was determined to be a Severity Level IV violation since it was similar to a Severity Level IV violation example in the NRC Enforcement Policy. Additionally, in accordance with the Enforcement Policy, this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very low safety significance (Green).

Violations of 10 CFR 50.71 are dispositioned using the traditional enforcement process instead of the significance determination process (SDP) because they are considered to be violations that potentially impede or impact the regulatory process. The underlying finding is evaluated under the SDP to determine the significance of the violation. In this case, the finding was determined to be more than minor because, if left uncorrected, it had the potential to lead to a more significant safety concern.

The SDP portion of this issue is tracked as item 2010-006-03.

Inspection Report# : [2010006](#) (pdf)

Significance:  Sep 03, 2010

Identified By: NRC

Item Type: FIN Finding

Failure to Update the Updated Safety Analysis Report to Include Containment Penetration Leakage Testing Information

The inspectors identified a finding associated with a traditional enforcement Severity Level IV, non-cited violation of 10 CFR 50.71(e), "Maintenance of Records, Making of Reports," having very low safety significance. The resulting changes were evaluated by the SDP as having very low safety significance (Green).

The underlying finding was evaluated under the SDP to determine the significance of the violation. In this case, the finding was determined to be more than minor because, if left uncorrected, it had the potential to lead to a more significant safety concern. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Barrier Integrity Cornerstone. The inspectors answered "no" to the Barrier Integrity Cornerstone questions and screened the finding as having very low safety significance (Green). The inspectors did not identify a cross-cutting aspect associated with the finding because the finding was not representative of current performance.

The Traditional Enforcement portion of this issue is tracked as item 2010-006-02.

Inspection Report# : [2010006](#) (pdf)

Emergency Preparedness

Significance: SL-IV Sep 07, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Changes to Emergency Action Level (EAL) Technical Bases Document Decreases the Effectiveness of the Plan Without Prior NRC Approval

The inspector identified a Severity Level IV NCV of 10 CFR 50.54(q) associated with 10 CFR 50.47(b)(4) because the licensee failed to obtain prior NRC approval for a change made to its emergency plan that decreased the effectiveness of the plan. Specifically, the licensee changed wording in their EAL technical basis document for EAL SU5 and CU1, RCS Leakage. The new wording eliminates leakage from the charging and letdown systems from consideration as RCS Leakage and therefore, leakage from these systems that meet the EAL thresholds would not constitute an Unusual Event declaration, using the licensee's revised wording. This change was made without prior NRC approval.

The Green finding associated with this Item 05000305/2010502-02.

Inspection Report# : [2010502](#) (pdf)

Significance:  Sep 07, 2010

Identified By: NRC

Item Type: FIN Finding

Changes Made to Emergency Action Level (EAL) Technical Bases that Decreased the Effectiveness

The inspector identified a Green finding associated with 10 CFR 50.47(b)(2) because the licensee failed to obtain prior NRC approval for a change made to its emergency plan that decreased the effectiveness of the plan. Specifically, the licensee changed wording in their EAL technical basis document for EAL SU5 and CU1, RCS Leakage. The new wording eliminates leakage from the charging and letdown systems from consideration as RCS Leakage and therefore, leakage from these systems that meet the EAL thresholds would not constitute an Unusual Event declaration, using the licensee's revised wording. This change was made without prior NRC approval.

The performance deficiency was more than minor and of very low safety-significance using MC 0612 and MC 0609, Appendix B, because it is associated with the emergency preparedness cornerstone attribute of procedure quality for EAL and emergency plan changes, and it adversely affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Therefore, the performance deficiency was a finding. Using MC 0609, Appendix B, the inspectors determined that the finding had a very low safety significance. The inspectors also determined that the finding had a cross-cutting aspect in the area of Human Performance, decision making because the licensee did not recognize that the change that was made to the EAL Technical Basis document decreased the effectiveness of the emergency plan. (H.1.(b)) (Section 1EP4)

The associated SLIV is Item 05000305/2010502-01.

Inspection Report# : [2010502](#) (pdf)

Occupational Radiation Safety

Significance:  Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Unauthorized Entry into a High Radiation Area (HRA)

A finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification 6.13 was identified by the inspectors after a worker entered a high radiation area on October 15, 2009. Radiation protection did not authorize the worker to enter the area nor was the worker made knowledgeable of the dose rate level in the area. The work was temporarily assigned from the turbine building to the containment building to assist with the cleaning of containment in preparation for containment close out. The worker received a briefing from radiation protection regarding the radiological condition of containment, but was instructed not to enter any high radiation areas. The worker entered the radiological controlled area on radiation work permit 09-0202-1, which allowed access to containment but did not allow access to high radiation areas and the electronic dosimeter worn by the worker was set to alarm at 50 mrem/hour. During the course of the work activity, the worker was instructed to retrieve a piece of equipment from the basement elevation of containment. An unknown individual held the swing gate open, which also blocked the HRA posting, and the worker entered the basement elevation of containment. The worker, alerted to the higher dose rate conditions through an electronic dosimeter alarm, then exited the work area. The worker immediately reported the event to the radiation protection staff who confirmed the basement elevation of containment was a posted HRA and the dose rates were greater than 100 mrem/hour. The maximum dose rate measured by the ED was 106 mrem/hour. The corrective actions taken by the licensee included temporarily restricting the individual's further access to the radiologically controlled area and counseling of the individual by the licensee's Radiation Protection Manager.

The inspectors identified Example 6(h) of inspection manual chapter (IMC) 0612, Appendix E, as similar to the performance issue, in that, the worker was neither authorized by radiation protection to work in specific locations within containment, nor was the worker made knowledgeable of the dose rate level in the area. Therefore, in accordance with IMC 0612 and Example 6(h) of Appendix E, the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, unauthorized entry into areas without knowledge of the radiological conditions placed the worker at increased risk for unnecessary radiation exposure. The finding was assessed using the Occupational Radiation Safety significance determination process (SDP) and was determined to be of very low safety significance because the problem was not as low as is reasonably achievable planning issue, there were no overexposures nor substantial potential for overexposures given the worker's reaction to the electronic dosimeter alarm and the dose rate ranges, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of this incident involved a cross cutting component in the human performance area for inadequate work control. Specifically, the licensee did not appropriately coordinate work activities by incorporating necessary to assure human performance (H.3(b)).
Inspection Report# : [2010004](#) (*pdf*)

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 Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Submit LER Per 10 CFR 50.73

A Severity Level IV non-cited violation of 10 CFR Part 50.73(a)(2)(i)(B) and 50.73(a)(2)(v)(C) was identified by the

inspectors for the failure of the licensee to report an event or condition that was prohibited by Technical Specifications, and an event or condition that could have prevented the fulfillment of a safety function, that is relied upon to control the release of radioactive material. Specifically, the licensee failed to report the inoperability of shield building ventilation train A from December 3, 2010, through January 26, 2011, a condition prohibited by Technical Specification 3.6.c.1, which allowed a single train outage time of seven days. Additionally, shield building ventilation train B was inoperable on multiple occasions during the same time period, requiring the licensee to also report an event or condition that could have prevented the fulfillment of a safety function, which is relied upon to control the release of radioactive material. At the end of the inspection period, the licensee was completing an apparent cause evaluation to determine the cause and develop corrective actions.

Because violations of 10 CFR 50.73 are considered to be violations that potentially impact the regulatory process, they are dispositioned using the traditional enforcement process instead of the Reactor Oversight Process Significance Determination Process. A cross-cutting aspect was not assigned to this violation. Per the NRC Enforcement Policy, Section 6.0, "Violation Examples," a failure to submit a required licensee event report is categorized as a Severity Level IV violation.

Inspection Report# : [2011003](#) (*pdf*)

Last modified : October 14, 2011