

Kewaunee

4Q/2011 Plant Inspection Findings

Initiating Events

Significance:  Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Procedures For Reduced Inventory Operations Were Not Appropriate To Preclude Air Entrainment

The inspectors identified 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," for the failure to establish procedures for reduced inventory operations that were appropriate to manage gas accumulation. Specifically, the procedures did not preclude air entrainment into the residual heat removal (RHR) and reactor coolant systems (RCSs). This finding was entered into the licensee's corrective action program. The licensee's immediate corrective actions included calculating the instrument inaccuracies for RHR flow and refueling level instrument loops, referencing the level inaccuracies based on inactive flow in RCS loops in the associated procedures., evaluating levels, and updating the procedures with a new graph.

The performance deficiency was determined to be more than minor because it was associated with the Initiating Event Cornerstone attribute of procedure quality, and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, the failure to establish procedures for reduced inventory operations that were appropriate to preclude air entrainment did not limit the likelihood of events that result from adverse air entrainment into the RHR and RCSs. The finding screened as having very low safety significance (Green) because the Region III Senior Reactor Analysts determined that it reasonably met the safety functions of core heat removal, RCS inventory control, power availability, containment control, and reactivity control; and there had been no actual air entrainment problems that had occurred using the procedures. The finding has a cross-cutting aspect in the area of Problem Identification and Resolution because the licensee did not thoroughly evaluate relevant operating experience. Specifically, the licensee's evaluation of gas related issues in response to NRC Generic Letter (GL) 2008 01 was deficient in that it did not consider vortexing during reduced inventory operations. (P.2(a))

Inspection Report# : [2011005](#) (*pdf*)

Significance:  Oct 07, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Flammable Gas Bottles Installed and/or Stored in the Auxiliary Building

The inspectors identified a finding of very low safety significance and associated NCV of Title 10, Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control," for the failure to check the adequacy of design for flammable gas bottles installed and/or stored in fire areas and fire zones located within the auxiliary building and their impact on safe shutdown cables, safety-related cables and safety-related equipment. Specifically, the licensee failed to evaluate how a failure of the flammable gas bottles and a resulting fire or explosion at the installed and/or stored locations could impact nearby safety-related structures, systems, or components. The licensee entered this issue into their corrective action program to review the placement of the flammable gas bottles.

The inspectors determined that the finding was more than minor because the finding was associated with the Initiating Events cornerstone attribute of Protection against External Factors (Fire) and affected the cornerstone's objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was of very low safety significance due to the low fire initiating frequency and the availability of remaining mitigating systems. This finding did not have a cross-cutting aspect because the finding was not representative of current performance.

Inspection Report# : [2011008](#) (*pdf*)

Significance: G Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Repetitive Molded Case Circuit Breaker Failures

A finding of very low significance and associated non-cited violation of Title 10 of the Code of Federal Regulations (CFR) 50.65(a)(3) was identified by the inspectors for the failure to incorporate industry operating experience into preventive maintenance activities when practical to do so. Specifically, the failure to incorporate the industry operating experience resulted in multiple molded case circuit breaker (MCCB) failures that could have been prevented by implementing an MCCB cycling program. The need to cycle MCCBs was identified in industry operating experience as well as the vendor's instructions for the breakers. The licensee was performing an apparent cause evaluation which was still in progress at the conclusion of the inspection period. Initial corrective actions included scheduling the MCCBs for the breaker cycling maintenance activity.

This finding was determined to be of greater than minor significance because it was associated with the Protection Against External Factors attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events, such as fire, that challenge critical safety functions during shutdown as well as power operations. Specifically, the lack of a cycling program for safety related MCCBs resulted in breakers remaining in the "on" position after an overcurrent condition. The inspectors determined the finding had very low safety significance (Green) because the breakers and associated cabling did not significantly affect safe shutdown defense in depth strategies and the finding did not involve a design or qualification deficiency, did not represent a loss of system safety function, did not represent a loss of Technical Specification equipment for greater than its allowed outage time, and did not affect risk significant equipment per 10 CFR 50.65. This finding has a cross-cutting aspect in the area of human performance, work control, because the licensee did not emphasize the need for work groups to communicate, coordinate, and cooperate with each other during activities in which interdepartmental coordination is necessary to assure plant and human performance.

Inspection Report# : [2011004](#) (pdf)

Significance: G 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*)

Mitigating Systems

Significance:  Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Unanalyzed Flood Source From Technical Support Center Building

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to identify and analyze a potential flooding source that was within the Kewaunee licensing basis. Specifically, during the internal flood basis reconstitution in 2005, the licensee failed to realize and assess the potential for fire main piping in the technical support center (TSC) building to be ruptured during a tornado or seismic event. Water from a ruptured fire main had the potential to accumulate in the basement of the TSC building, flow into the attached auxiliary building, and potentially affect safety related (SR) equipment. The licensee initiated a condition report (CR) and completed calculations and analyses to demonstrate the existing barriers, although not credited at the time, were adequate to support this internal flood scenario. In addition, the licensee performed an extent of condition analysis to determine if any additional internal flood scenarios were missed.

The inspectors determined that the finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because it was associated with the Mitigating Systems (MS) Cornerstone attribute of Equipment Performance, and 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 analyze all potentially credible internal flood sources could affect the availability of SR systems. The inspectors determined that the finding could be evaluated using the significance determination process in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 4a, for the MS Cornerstone, dated January 10, 2008. The inspectors answered "No" to the MS questions and screened the finding as having very low safety significance (Green). The inspectors did not identify a cross-cutting aspect associated with this finding because the internal flood design basis reconstitution occurred in 2005 and the inspectors determined that there was not an

opportunity to identify this deficiency in the past three years.

Inspection Report# : [2011005](#) (pdf)

Significance:  Dec 31, 2011

Identified By: Self-Revealing

Item Type: FIN Finding

Two Of Six Operating Crew Failures On The Simulator Operational Evaluation Portion Of The 2011 Annual Requalification Operating Test

A self-revealed finding associated with operating crew performance on the simulator during a licensee-administered requalification examination was identified. Two of the six crews evaluated during the annual operating tests failed to pass their simulator examinations. As immediate corrective action, the failed operating crews were remediated (i.e., the operating crews were re-trained and successfully re-tested) prior to returning to shift. The licensee entered this issue into the CAP as CR456328.

The inspectors determined that the crew failures constituted a performance deficiency based on the fact that licensed operators are expected to operate the plant with acceptable standards of knowledge and abilities demonstrated through periodic testing as required by 10 CFR 55.59(a)(2). Two out of six crews of licensed operators failed to demonstrate a satisfactory understanding of the required actions and mitigating strategies required to safely operate the facility under normal, abnormal, and emergency conditions. The finding was more than minor because the performance deficiency potentially affects the Human Performance attribute of the MS Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Specifically, the finding reflected the potential inability of the crews to take appropriate SR action in response to actual abnormal and emergency conditions. The perceived risk associated with the number of crews failing the annual operating test is provided in the Simulator Operational Evaluation matrix of IMC 0609, Appendix I, "Licensed Operator Requalification SDP." The finding was of very low safety significance (Green) because only two of six of the operating crews failed; the failed operating crews were remediated (i.e., the operating crews were re-trained and successfully re-tested) prior to returning to shift; and because there was not a finding associated with operating crew failures during calendar year 2010. The cause of this finding was directly related to the cross-cutting aspect of personnel training and qualifications in the area of Human Performance – Resources, in that the licensee failed to ensure the adequacy of the training provided to operators to assure nuclear safety. (H.2(b))

Inspection Report# : [2011005](#) (pdf)

Significance:  Dec 31, 2011

Identified By: NRC

Item Type: FIN Finding

Inadequate Operability Determination Of Control Room Air Conditioning System Components

A finding of very low safety significance was identified by the inspectors for the failure to adequately assess operability of the Control Room Air Conditioning Component (ACC) dampers, ACC-15 and ACC-16, in Operability Determination (OD) 456, Revision 0, "ACC-15 and ACC-16 QA Classification," in accordance with site Procedure OP AA 102 1001, "Development of Technical Basis to Support Operability Determinations," Revision 4. The licensee entered the issue into their CAP and was completing an apparent cause evaluation at the conclusion of the inspection period.

The finding was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because the finding, if left uncorrected, had the potential to become a more significant safety concern. Specifically, the failure to give the operators written instructions to manually reposition the SR dampers could have lead to situations where the operators would not have been able to rapidly and correctly manually reposition the SR dampers to perform their required safety functions necessary to mitigate design basis accidents. The inspectors determined the finding could be evaluated using IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 4a, for the MS Cornerstone, dated January 10, 2008. The inspectors answered "No" to the MS questions and screened the finding as having very low significance (Green). The finding has a cross-cutting aspect in the area of Human Performance - Decision Making, 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, in a timely manner. Specifically, the licensee failed to communicate in a timely manner to the reactor operators the written

instructions in the standing order necessary to manually reposition the dampers to their SR positions after a design basis accident. (H.1(c))

Inspection Report# : [2011005](#) (pdf)

Significance:  Dec 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Unanticipated Closure Of Emergency Diesel Generator B Output Breaker

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 self-revealed for the failure to implement a procedure for an activity affecting quality. Procedure OP-KW-OSP-DGE-003B, "Diesel Generator B Semi-Annual," required electrical maintenance personnel to check only the voltage of the emergency diesel generator (EDG) B output breaker Relay 52C/1-603; however, the electricians checked voltage and then attempted to check resistance of the relay. Specifically, after successfully testing for voltage, an electrician then selected a resistance setting for the volt-ohm meter (VOM) in an attempt to perform a continuity check of the relay, which was not prescribed by the procedure. The electrician's actions resulted in the closure of the EDG output Breaker 1 603, and EDG B was paralleled to the grid out-of-phase. The licensee initiated a condition report and took remedial corrective actions that included additional testing and inspections of EDG B to ensure that no damage occurred to the equipment as a result of the system transient, followed by the successful completion of post maintenance testing. At the end of the inspection period, the licensee was performing a root cause evaluation to determine the cause of the event and to develop additional corrective actions related to the organizational performance issues.

The inspectors determined that the finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because the finding was associated with the MS Cornerstone attribute of Equipment Performance, and adversely impacted the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the attribute of equipment performance impacted the availability and reliability of EDG B and could have resulted in the catastrophic failure of the generator. The inspectors determined that 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 MS Cornerstone, dated January 10, 2008. The inspectors answered "No" to the MS questions and screened the finding as having very low safety significance (Green). The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance - Work Practices, because the maintenance personnel and supervision failed to communicate and ensure human error prevention techniques were used, such as holding formal pre job briefings, and self and peer checking. The licensee also failed to ensure that these techniques were used commensurate with the potential risk of the assigned task, such that work activities were performed safely. Finally, during these maintenance activities, the inspectors concluded that licensee personnel proceeded in the face of uncertainty. (H.4(a))

Inspection Report# : [2011005](#) (pdf)

Significance:  Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Maintain Fire Barrier And Automatic Fire Suppression

A finding of very low safety significance and associated non-cited violation of license condition 2.C(3) of the Kewaunee Power Station Renewed Operating License was identified by inspectors for the failure to have a self-closing fire door that closed and latched each time it was open. License condition 2.C(3) requires, in part, that the licensee implement and maintain, in effect, all provisions of the approved fire protection program as described in the licensee's fire plan. Appendix B of the Kewaunee Power Station Fire Protection Program Plan lists the 1975 edition of NFPA 80 [National Fire Protection Association], "Fire Doors and Windows," as an applicable NFPA code. NFPA 80 states, in part, that a self closing door shall be equipped with a closing device to cause the door to close and latch each time it is opened. The licensee entered the issue into its corrective action program and adjusted the door closing device to ensure the door properly closed when the train A screenhouse ventilation fan was operating.

The inspectors determined that the failure of the door to close and latch was contrary to the requirements of NFPA 80 and was a performance deficiency. The finding was determined to be more than minor because it was associated with

the Mitigating Systems Cornerstone attribute of protection against external factors (Fire) and adversely affected 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). The inspectors 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 did not thoroughly evaluate problems such that the resolutions address causes and extent of conditions. This includes properly classifying, prioritizing, and evaluating for operability and reportability conditions adverse to quality.

Inspection Report# : [2011004](#) (pdf)

Significance:  Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Misapplication Of Technical Specification 3.1.6 Applicability Note

A finding of very low safety significance and associated non-cited violation of Technical Specification (TS) 3.1.6, "Control Bank Insertion Limits," was identified by the inspectors for the failure to comply with TS action condition 3.1.6.A due to incorrect use of the applicability note. Specifically, on August 30, 2011, during the performance of SP-49-075, "Control Rod Exercise," operators received a rod control urgent failure while inserting control bank A group 1 control rods. The test was suspended for troubleshooting for approximately 20 hours with control bank A group 2 control rods, inserted one step below the control rod insertion limit in violation of TS 3.1.6.A action condition. The inspectors concluded that, once the test was suspended for troubleshooting activities, use of the applicability note was not appropriate; therefore, the operators should have complied with the TS 3.1.6.A action condition for control bank A group 2 control rods at that time. On August 31, operators withdrew control bank A group 2 rods one step, which restored the rods to within the limit specified in the core operating limits report. At the end of this inspection period, the licensee was still performing an apparent cause evaluation to determine the causes of the event and to develop corrective actions.

The finding was determined to be more than minor because the finding adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent desirable consequences. Specifically, the human performance attributes of the licensee's failure to recognize the misapplication of the applicability note of the TS affected the capability of systems that respond to initiating events. The inspectors screened the finding as having very low safety significance (Green) because an actual loss of safety function did not occur. The finding has a cross-cutting aspect in the area of human performance, decision making, because the licensee failed to use conservative assumptions and adopt a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action.

Inspection Report# : [2011004](#) (pdf)

Significance:  Sep 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Incorrect Transformer Load Tap Changer Setting Causes Inoperable Offsite Power

A finding of very low safety significance and associated non-cited violation of Technical Specification 3.8.1 was self revealed for the failure to maintain a switchyard transformer load tap changer (LTC) at the appropriate setting for the predicted post trip voltage of offsite power. The incorrect setting resulted in the inoperability of the Reserve Auxiliary Transformer (RAT) offsite power source. The licensee's corrective actions included restoring the RAT supply transformer (RST) LTC to an appropriate setting, creating a short term standing order to prevent operation of the RST LTC outside settings that were supported by the existing interface agreement with the transmission system operator. The licensee performed an apparent cause evaluation, a root cause analysis and also, as a long-term corrective action, modified procedure OP-KW-NOP SUB 003 to prevent operation of the RST LTC outside settings that were supported by the existing interface agreement with the transmission system operator.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of configuration control and adversely affected 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). The inspectors screened the finding as having very low safety 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 for the use of the RST LTC following its installation during the spring 2011 outage.

Inspection Report# : [2011004](#) (pdf)

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: G 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)

Barrier Integrity

Significance: G 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*)

Emergency Preparedness

Significance:  Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Incorrect Assumptions Used In The Development Of Emergency Action Level Thresholds

A finding of very low safety significance and associated non-cited violation of 10 CFR 50.54(q) was identified by the NRC for failing to maintain emergency plans that meet the requirements of emergency planning standard 10 CFR 50.47(b)(4). The inspectors determined that a performance deficiency existed in that incorrect assumptions were used in the development of Emergency Action Level (EAL) thresholds associated with containment gas (R12) and containment ventilation (R21) radiation monitors. The licensee entered this issue into its CAP as CR356229 and corrected the errant EAL thresholds in its emergency classification and action level scheme.

This finding was determined to be more than minor because the deficiency, if left uncorrected, could have the potential to lead to a more significant safety concern. Specifically, in the event of a radiological emergency, the deficiency has the potential to increase the risk to the public through a premature and/or unnecessary general emergency declaration and subsequent protective action recommendation of evacuation. This finding was evaluated using IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Sheet 1, "Failure To Comply." This finding is associated with a failure to meet or implement a regulatory requirement. The deficiency is not greater than Green because it did not result in the Risk-Significant Planning Standard Function being lost or degraded. No cross-cutting aspect is assigned to this finding because it is not indicative of current plant performance.

Inspection Report# : [2011005](#) (*pdf*)

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 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 : March 02, 2012