

River Bend 1 2Q/2015 Plant Inspection Findings

Initiating Events

Significance: G Jun 29, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Establish Adequate Procedures to Perform Maintenance on Equipment that can Affect Safety-Related Equipment

The team reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1.a for the licensee's failure to establish adequate procedures to properly preplan and perform maintenance that affected the performance of the B reactor protection system motor generator set. Specifically, due to inadequate procedures for troubleshooting on the B reactor protection system motor generator set, the licensee failed to identify a degraded capacitor that caused the B reactor protection system motor generator set output breaker to trip, which resulted in a reactor scram. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2014-06605 and replaced the degraded field flash card capacitor.

This performance deficiency is more than minor, and therefore a finding, because it is associated with the procedure quality attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 1, "Initiating Event Screening Questions," this finding is determined to have a very low safety significance (Green) because the transient initiator did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not have been available. This finding has an evaluation cross-cutting aspect within the problem identification and resolution area because the licensee failed to thoroughly evaluate this issue to ensure that the resolution addressed the cause commensurate with its safety significance. Specifically, the licensee failed to thoroughly evaluate the condition of the field flash card to ensure that the cause of the trip had been correctly identified and corrected prior to returning the B reactor protection system motor generator set to service [P.2]. (Section 2.7.a)

Inspection Report# : [2015009](#) (*pdf*)

Significance: G Mar 31, 2015

Identified By: Self-Revealing

Item Type: FIN Finding

Inadequate Engineering Change and Work Instruction Review Results in Reactor Recirculation Pump Trip

The inspectors reviewed a self-revealing finding for the licensee's failure to properly implement Procedure EN-DC-115, "Engineering Change Process," when developing engineering change notice ECN 39186, to ensure that no adverse impacts on the plant were would be encountered. Specifically, when installing new Emergency Response and Information System equipment in the main control room, using ECN 39186, the reactor recirculation pump A

unexpectedly tripped, resulting in a reduction in power from 85 percent to 67 percent power. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2014-06685.

The failure to follow Procedure EN-DC-115, to ensure that no adverse impacts were encountered during the implementation of ECN 39186, is a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it is associated with the Initiating Events Cornerstone attribute of design control, and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, implementation of a plant modification resulted in an unexpected trip of the running recirculation pump which led to an unplanned downpower from 85 percent to 67 percent power. The inspectors initially screened the finding in accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Using Inspection Manual Chapter 0609, Appendix A, Exhibit 1, "Initiating Events Screening Questions," the inspectors determined this finding is of very low safety significance (Green) because the finding did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown. This finding has a cross-cutting aspect in the area of human performance associated with Teamwork: Individuals and work groups communicate and coordinate their activities within and across organizational boundaries to ensure nuclear safety is maintained. Specifically, individuals and work groups did not communicate and coordinate their activities within and across organizational boundaries to ensure nuclear safety was maintained [H.4].

Inspection Report# : [2015001](#) (*pdf*)

Significance: G Mar 31, 2015

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Operate Condensate Demineralizer System Following Reactor Scram Results in Loss of All Feedwater

The inspectors reviewed a self-revealing finding for the licensee's failure to follow Procedure SOP-0093, "Condensate Demineralizer System," Revision 033, following a reactor scram on October 17, 2014. Specifically, station operators inappropriately removed all 10 condensate demineralizers from service. This resulted in a trip of feedwater pump 1C and a loss of feedwater to the reactor, complicating the scram. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2014-05209.

On October 17, 2014, the failure of licensee personnel to operate the condensate demineralizer system in accordance with SOP-0093, following a reactor scram, is a performance deficiency. This performance deficiency is more than minor because it affected the configuration control attribute of the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations, in that this finding resulted in complications to the scram recovery. This finding is of very low safety significance (Green) because it did not cause both a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. This finding has a cross-cutting aspect in the area of human performance associated with Teamwork: Individuals and work groups communicate and coordinate their activities within and across organizational boundaries to ensure nuclear safety is maintained. Specifically, operations department did not clearly communicate performance standards and expectations regarding equipment operator actions during abnormal and emergency situations within their own organization, such that nuclear safety was maintained [H.4].

Inspection Report# : [2015001](#) (*pdf*)

Mitigating Systems

Significance:  Jun 29, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Provide Adequate Procedures for Post-scrum Recovery

The team reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1.a for the licensee's failure to establish, implement and maintain a procedure required by Regulatory Guide 1.33, Revision 2, Appendix A, February 1978.

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Specifically, Procedure OSP-0053, "Emergency and Transient Response Support Procedure," Revision 22, which is required by Regulatory Guide 1.33, inappropriately directed operations personnel to establish feedwater flow to the reactor pressure vessel using the startup feedwater regulating valve as part of the post-scrum actions. The startup feedwater regulating valve operator characteristics are non-linear and not designed to operate in the dynamic conditions immediately following a reactor scram. To correct the inadequate procedure, the licensee implemented a change to direct operations personnel to utilize one of the main feedwater regulating valves until the plant is stabilized. This issue was entered in the licensee's corrective action program as Condition Report CR-RBS-2015-00657.

This performance deficiency is more than minor, and therefore a finding, because it is associated with the procedure quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the procedure directed operations personnel to isolate the main feedwater regulating valves and control reactor pressure vessel level using the startup feedwater regulating valve, whose operator was not designed to function in the dynamic conditions associated with a post-scrum event from high power, and this challenged the capability of the system. The team performed an initial screening of the finding in accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Using Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the team determined that the finding is of very low safety significance (Green) because it: (1) was not a deficiency affecting the design or qualification of a mitigating structure, system, or component, and did not result in a loss of operability or functionality; (2) did not represent a loss of system and/or function; (3) did not represent an actual loss of function of at least a single train for longer than its technical specification allowed outage time, or two separate safety systems out-of-service for longer than their technical specification allowed outage time; and (4) did not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program. This finding has an evaluation cross-cutting aspect within the problem identification and resolution area because the licensee failed to thoroughly evaluate this issue to ensure that the resolution addressed the cause commensurate with its safety significance. Specifically, the licensee failed to properly evaluate the design characteristics of the startup feedwater regulating valve operator before implementing the procedure to use the valve for post-scrum recovery actions [P.2]. (Section 2.7.b)

Inspection Report# : [2015009](#) (*pdf*)

Significance:  Jun 29, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Identify High Reactor Water Level as a Condition Adverse to Quality

The team identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to assure a condition adverse to quality was promptly identified. Specifically, the licensee failed to identify, that reaching the reactor pressure vessel water Level 8 (high) setpoint, on December 25, 2014, was an adverse condition, and as a result, failed to enter it into the corrective action program. To restore compliance, the licensee entered this issue into their corrective action program as Condition Report CR-RBS-2015-00620 and commenced a causal analysis for Level 8 (high) trips.

This performance deficiency is more than minor, and therefore a finding, because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, failure to identify Level 8 (high) conditions and unplanned automatic actuations as conditions adverse to quality, would continue to result in the undesired isolation of mitigating equipment including reactor feedwater pumps, the high pressure core spray pump, and the reactor core isolation cooling pump. The team performed an initial screening of the finding in accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Using Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the team determined that the finding is of very low safety significance (Green) because it: (1) was not a deficiency affecting the design or qualification of a mitigating structure, system, or component, and did not result in a loss of operability or functionality; (2) did not represent a loss of system and/or function; (3) did not represent an actual loss of function of at least a single train for longer than its technical specification allowed outage time, or two separate safety systems out-of-service for longer than their technical specification allowed outage time; and (4) did not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program. This finding has an avoid complacency cross-cutting aspect within the human performance area because the licensee failed to recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Specifically, the licensee tolerated leakage past the feedwater regulating valves, did not plan for further degradation, and the condition ultimately resulted in the Level 8 (high) trip of the running reactor feedwater pump on December 25, 2014 [H.12]. (Section 2.7.c)

Inspection Report# : [2015009](#) (*pdf*)

Significance: TBD Jun 29, 2015

Identified By: NRC

Item Type: AV Apparent Violation

Failure of the Plant-Referenced Simulator to Demonstrate Expected Plant Response

The team identified an apparent violation of 10 CFR 55.46(c)(1), "Plant-Referenced Simulators," for the licensee's failure to maintain the simulator so it would demonstrate expected plant response to operator input and to normal, transient, and accident conditions to which the simulator has been designed to respond. As of January 30, 2015, the licensee failed to maintain the simulator consistent with actual plant response for normal and transient conditions related to feedwater flows, alarm response, and behavior of the startup feedwater regulating valve controller. Specifically, the River Bend Station simulator failed to correctly model feedwater flows and resulting reactor vessel level response following a scram, failed to provide the correct alarm response for a loss of a reactor protection system

motor generator set, and failed to correctly model the behavior of the startup feedwater regulating valve controller. As a result, operations personnel were challenged in their control of the plant during a reactor scram that occurred on December 25, 2014. This issue has been entered into the corrective action program as Condition Report RBS-CR-2015-01261, which includes actions to initiate simulator discrepancy reports, investigate and resolve the potential fidelity issues, and provide training to operations personnel on simulator differences.

This performance deficiency is more than minor, and therefore a finding, because it is associated with the human performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring availability, reliability, and capability

of systems needed to respond to initiating events to prevent undesired consequences. Specifically, the incorrect simulator response adversely affected the operations personnel's ability to assess plant conditions and take actions in accordance with approved procedures during the December 25, 2014, scram. The team performed an initial screening of the finding in accordance with inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Attachment 4, "Initial Characterization of Findings." Using Inspection Manual Chapter 0609, Attachment 4, Table 3, "SDP Appendix Router," the team answered 'yes' to the following question: "Does the finding involve the operator licensing requalification program or simulator fidelity?" As a result, the team used Inspection Manual Chapter 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process (SDP)," and preliminarily determined the finding was of low to moderate safety significance (White) because the deficient simulator performance negatively impacted operations personnel performance in the actual plant during a reportable event (reactor scram). This finding has an evaluation cross-cutting aspect within the problem identification and resolution cross-cutting area because the licensee failed to thoroughly evaluate this issue to ensure that the resolution addressed the extent of condition commensurate with its safety significance. Specifically, the licensee's evaluation of the fidelity issue identified by the NRC in March 2014, focused on other training areas that used simulation, rather than evaluating the simulator modelling for additional fidelity discrepancies [P.2]. (Section 2.7.d)

Inspection Report# : [2015009](#) (pdf)

Significance:  Jun 29, 2015

Identified By: NRC

Item Type: FIN Finding

Failure to Identify and Classify Operator Workarounds That Impacted Scram Recovery Actions

The team identified a finding for the licensee's failure to follow written procedures for classifying deficient plant conditions as operator workarounds and providing compensatory measures or training in accordance with fleet Procedure EN-OP-117, "Operations Assessment Resources," Revision 8. A misclassification of these conditions resulted in the failure of the operations department to fully assess the impact these conditions had during a plant transient. The failure to identify operator workarounds contributed to complications experienced during reactor scram recovery on December 25, 2014. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2015-00795. This performance deficiency is more than minor, and therefore a finding, because it had the potential to lead to a more significant safety concern if left uncorrected. Specifically, the performance deficiency contributed to complications experienced by the station when attempting to restore feedwater following a scram on December 25, 2014. The team performed an initial screening of the finding in accordance with Inspection Manual

Chapter 0609, Appendix A, “The Significance Determination Process (SDP) for Findings At-Power.” Using Inspection Manual Chapter 0609, Appendix A, Exhibit 2, “Mitigating Systems Screening Questions,” the team determined this finding is of very low safety significance (Green) because it: (1) was not a deficiency affecting the design or qualification of a mitigating structure, system, or component, and did not result in a loss of operability or functionality; (2) did not represent a loss of system and/or function; (3) did not represent an actual loss of function of at least a single train for longer than its technical specification allowed outage time, or two separate safety systems out-of-service for longer than their technical specification allowed outage time; and (4) did not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant in accordance with the licensee’s maintenance rule program. This finding has a consistent process cross-cutting aspect in the area of human performance

because the licensee failed to use a consistent, systematic approach to making decisions and failed to incorporate risk insights as appropriate. Specifically, no systematic approach was enacted in order to properly classify deficient conditions [H.8]. (Section 2.7.e)

Inspection Report# : [2015009](#) (*pdf*)

Significance:  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Perform Adequate Operability Evaluations on Degraded High Pressure Core Spray System

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the licensee’s failure to perform an adequate operability evaluation in accordance with Entergy Procedure EN-OP-104, “Operability Determination and Functionality Assessment.” Specifically, operations staff failed to properly evaluate leakage from the suppression pool through the high pressure core spray system. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2014-04004.

The failure to perform an adequate operability determination for leakage from the safety-related suppression pool was a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it adversely affected the configuration control attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, a subsequent operability determination classified the suppression pool as inoperable. The inspectors used NRC Inspection Manual Chapter 0609, Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” dated June 19, 2012, to evaluate the issue. The finding required a detailed risk evaluation because it involved the potential loss of system and/or function. A Region IV senior reactor analyst performed a detailed risk evaluation for the issue. In the detailed risk evaluation, the senior reactor analyst concluded that the finding was determined to have very low safety significance (Green) because the high pressure core spray system would have remained functional for 21 days which is in excess of the probabilistic risk assessment mission time of 24 hours. The finding also did not screen as risk significant for large early release frequency. The finding has a cross-cutting aspect in the area of human performance associated with Challenge the Unknown: Individuals stop when faced with uncertain conditions. Risks are evaluated and managed before proceeding. Specifically, station operators, and the condition review group, failed to evaluate the condition of the suppression pool when the source of the leakage was uncertain [H.11].

Inspection Report# : [2015001](#) (*pdf*)

Significance:  Jan 08, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate System Operating Procedures with Two Examples

Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part, "Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished." Contrary to this,

- System Operating Procedure SOP-0049, "125 VDC SYSTEM (SYS # 305)," Revision 29, did not have the necessary qualitative acceptance criteria (procedure steps) to accomplish the required activity of transferring the 125 VDC standby switchgear ENB-SWG01A to the backup charger using Section 5.7 of this procedure. During in-plant job performance measure validation for the initial exam, licensed operators were unable to simulate the transfer using System Operating Procedure SOP-0049. This procedure directed the operators to use an operator aid that, according to the procedure, was located inside panel BY5-TRS4. The operator aid was not inside the panel and was never found. Because of this, the job performance measure had to be rejected and another developed. To correct this issue, the licensee added the appropriate steps to System Operating Procedure SOP-0049 that were originally located in the missing operator aid and released it for use as Revision 30 on December 11, 2014. This procedure deficiency was entered into the licensee's corrective action program as Condition Report CR-RBS-2014-05684.
- System Operating Procedure SOP-0071, "ROD CONTROL AND INFORMATION SYSTEM (SYS # 500)," Revision 29, did not have the necessary qualitative acceptance criteria (procedure steps) to accomplish the required activity of clearing a rod-block after pulling a control rod to raise reactor power during a start-up. During exam administration, an applicant for a senior reactor license could not get the rod block and associated alarm reset during a scenario using "Method 1" as described in System Operating Procedure SOP-0071. This procedure had incorrect guidance in Section 5.13 using "Method 1" in that the "ROD SELECT CLEAR" push button must be pressed several times to clear the rod block and this method only directed a single push of this button to reset the rod block and its associated alarm. Because of this, the applicant struggled to get through the reactivity change for the reactor during the scenario. To correct this issue, the licensee is working through the procedure change process for this procedure and has informed the licensed operator crews of the issue with "Method 1" until the appropriate steps are corrected within the procedure and it is released as Revision 30. This procedure deficiency was entered into the licensee's corrective action program as Condition Report CR-RBS-2014-06331.

The failure of these two procedures to have the appropriate qualitative criteria to complete these two activities was a performance deficiency. The finding was more than minor because it is associated with the procedure quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring availability, reliability, and capability of systems needed to respond to initiating events to prevent undesired consequences. Specifically, inadequate procedures could adversely affect the operating crew's ability to take appropriate actions to ensure reactor safety is being maintained. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, the team determined that the finding was of very low safety significance (Green) because the finding: (1) was not a deficiency affecting the design and qualification of a mitigating structure, system, or component, and did not result in a loss of operability or functionality; (2) did not represent a loss of system and/or function; (3) did not represent an actual loss of function of at least a single train for longer than its technical specification allowed outage time, or two separate safety systems out-of-service for longer than their technical specification allowed outage time; and (4) did not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significance in accordance with the licensee's maintenance rule program for greater than 24 hours. The finding has a cross-cutting aspect in the area of human performance associated with documentation because the organization did not ensure that the procedures were accurate and up to date for these activities [H.7].

Inspection Report# : [2014302](#) (*pdf*)

Significance:  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Retain Scenario-Based Testing Documentation

The inspectors identified a non-cited violation of 10 CFR 55.46, "Simulation Facilities," for the failure of the licensee to retain the results of required performance tests for four years after completion, or until superseded by updated test results. The licensee could not locate scenario-based testing documentation conducted for the March 2014 initial license exam. The licensee asserted in writing that the testing was performed, but that the electronic test packages had been lost. This issue was entered into the licensee's corrective action program as CR-RBS-2014-04595.

The failure of the licensee's training staff to retain the results of scenario-based testing for four years or until superseded was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it meets the more-than-minor example of Inspection Manual Chapter 0612, Appendix E, Example 1.b, which states that a record keeping issue is "Not minor if: Required records were irretrievably lost." This is associated with the human performance attribute of the mitigating systems cornerstone and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, because of the lack of documentation the licensee was unable to demonstrate that its scenario-based testing would ensure the simulator is capable of producing the expected reference unit response without significant performance discrepancies, or deviation from an approved scenario sequence, for scenarios used to evaluate licensed operators and applicants. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process" (block 14), the finding was determined to have very low safety significance (Green) because it is a "Simulator Testing, Maintenance, or Modification Deficiency." This finding has a cross-cutting aspect in the procedure adherence component of the human performance cross-cutting area because the licensee failed to ensure that individuals follow processes, procedures, and work instructions [H.8].

Inspection Report# : [2014005](#) (*pdf*)

Significance:  Dec 31, 2014

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Lubricate Residual Heat Exchanger Bypass Valves

The inspectors reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1.a, "Procedures," for the failure to develop lubrication schedules to ensure the reliability of safety-related motor operated valves (MOV). Specifically, the station failed to properly lubricate the residual heat removal B heat exchanger bypass valve E12-MOV-48B which resulted in the failure of the valve to open when demanded during a system restoration alignment. The station repaired the valve, lubricated the torque arm bearing and all potentially affected torque arm bearings on similar motor operated valves, and updated the preventive maintenance procedure to include lubrication of torque arm bearings. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2014-04327.

The inspectors determined that the failure of the licensee to promptly implement preventive maintenance to lubricate Velan-style MOV torque arm bearings was a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it is associated with the Mitigating Systems Cornerstone attribute of equipment performance, 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, E12-MOV-48B could not have performed its safety function to open upon a low pressure core injection initiation signal, due to the lack of lubrication on the valve's torque arm bearing. The senior resident inspector performed the initial significance determination for the inoperable Division II residual heat removal heat exchanger bypass valve. The inspector used the NRC Inspection Manual 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012, to evaluate this issue. The finding required a detailed risk evaluation because it involved the potential loss of a single train of safety equipment for longer than the technical specification allowed outage time. The exposure period was 8 days. A Region IV senior reactor analyst performed a detailed risk evaluation for this issue and determined that the change to the core damage frequency was much less than 1E-6, and therefore the finding was determined to be of very low safety significance (Green). The diverse coolant injection pathways helped to minimize the risk. This performance deficiency occurred in 2000 and, is not reflective of current licensee performance.

Inspection Report# : [2014005](#) (*pdf*)

Significance:  Aug 22, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Improper Sequencing of Maintenance of 4160 Vac Circuit Breakers Prior to As-Found Tests

The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," which states, in part, "A test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents." Specifically, the licensee's preventive maintenance Procedure T429, "ABB 5HK Clean/Inspection," failed to incorporate completion of contact resistance testing prior to maintenance into the preventative maintenance procedures for 4160 Vac circuit breakers as specified by Entergy, the manufacturer, and industry guidance. This condition does not represent an immediate safety concern. This finding has been entered into licensee's corrective action program as Condition Report CR-RBS- 2014-4104.

This performance deficiency was more than minor, and therefore a finding, because, if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, the failure to perform contact resistance tests prior to maintenance was a significant programmatic deficiency which would have the potential to cause unacceptable or degraded conditions to go undetected. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect associated with identification in the area of problem identification and resolution because the licensee failed to identify issues completely, accurately, and in a timely manner in accordance with the corrective action program [P.1].

Inspection Report# : [2014007](#) (*pdf*)

Significance:  Aug 22, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Complete and Justify Extension of Preventative Maintenance on Division III 4160 Vac Safety

Related Breakers

The inspectors identified a Green, non-cited violation of Technical Specification 5.4.1, "Procedures," which states, in part, "Written procedures shall be established, implemented, and maintained, covering the following activities: The applicable procedures recommended in Regulatory Guide 1.33, Appendix A, February 1978." Regulatory Guide 1.33, Appendix A, Section 9, "Procedures for Performing Maintenance," paragraph b., requires that preventive maintenance schedules should be developed to specify lubrication schedules, inspections of equipment, and inspection or replacement of parts that have a specific lifetime. Specifically, the licensee failed to implement the six-year cleaning and inspection preventive maintenance for Division III 4160 Vac safety-related circuit breakers, E22-S004-ACB1, E22-S004-ACB2, and E22-S004-ACB4. These conditions do not represent an immediate safety concern. These conditions have been entered into the licensees corrective action program as Condition Reports CR-RBS-2014-4106 and CR-RBS-2014-4108.

This performance deficiency was more than minor, and therefore a finding, because it was associated with the equipment performance attribute of the mitigating systems cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to events to prevent undesirable consequences. Specifically, the licensee's failure to complete preventive maintenance reduces the reliability and capability of the safety-related circuit breakers. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect associated with design margin in the area of human performance because the licensee did not operate or maintain equipment within design margin and failed to make changes to the margin through a systematic and rigorous process [H.6].

Inspection Report# : [2014007](#) (*pdf*)

Significance:  Aug 22, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Perform an Adequate Operability Determination for Missed Preventive Maintenance on Safety-Related Circuit Breakers

The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," which states, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Specifically, River Bend Station failed to accomplish operability determination activities in accordance with Procedure EN-OP-104, "Operability Determination Process," after the licensee identified that safety-related Division III 4160 Vac circuit breakers exceeded their replacement and refurbishment schedule. As an immediate corrective action, the licensee completed a new operability determination, which determined the condition as operable, but degraded/nonconforming, established an interim inspection schedule and established a plan to refurbish the breakers prior to the next refueling outage. This condition has been entered into the licensees corrective action program as Condition Report CR-RBS-2014-3872.

The performance deficiency was more than minor, and therefore a finding, because it was associated with the equipment performance attribute of the mitigating system cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the operability determination performed did not consider the degraded condition of the circuit breaker so that effective interim or compensatory measures would be developed to ensure the reliability of the safety-related Division III 4160 Vac circuit breakers. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2,

“Mitigating Systems Screening Questions,” the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect associated with conservative bias in the area of human performance because licensee personnel failed to use conservative assumptions and did not verify the validity of the underlying assumptions used in making safety-significant decisions [H.14].

Inspection Report# : [2014007](#) (*pdf*)

Significance:  Aug 22, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Correct Identified Negative Safety Margin in Design Documents for Reactor Core Isolation Cooling Valves under Postulated High Energy Line Break Conditions

The inspectors identified a Green, non-cited violation of 10 CFR 50, Appendix B, Criteria XVI, “Corrective Action,” which states in part, “Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.” Specifically, the licensee failed to correct an identified deficiency in calculations for reactor core isolation cooling steam isolation valves with the design function of closing under High Energy Line Break concurrent with degraded voltage through either a calculation revision or engineering change against the calculation. The licensee’s corrective actions included completing an operability determination with test data to demonstrate operability. This finding was entered into the licensee corrective action program as Condition Report CR-RBS-2014-3977.

The performance deficiency was more than minor, and therefore a finding, because it was associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of assuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee programmatically failed to update design basis documents to reflect plant modifications. The inspectors identified multiple opportunities for the licensee to correct this condition. In accordance with Inspection Manual Chapter 0609, Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” dated June 19, 2012, Exhibit 2, “Mitigating Systems Screening Questions,” the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. The inspectors determined that this finding had a cross-cutting aspect associated with resolution in the area of problem identification and resolution because the licensee failed to take effective corrective actions to address issues in a timely manner commensurate with their safety significance [P.3].

Inspection Report# : [2014007](#) (*pdf*)

Significance:  Jul 08, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Promptly Correct Adverse Conditions associated with Non-cited Violation 05000458/2011008-06

The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, which states, “Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.” Specifically, the licensee failed to promptly correct a condition adverse quality by implementing compensatory measures to restore compliance with the standby service water system 30-day mission

requirements pending NRC approval of a license amendment. On July 8, 2014, the licensee implemented compensatory measures to restore compliance to ensure a 30-day inventory in the standby service water system. This issue was entered into the corrective action program as Condition Report CR 2014 3212.

This performance deficiency was more than minor, and therefore a finding, because, if left uncorrected, it would lead to a more significant safety concern. Specifically, the licensee failed to implement compensatory measures to ensure the standby service water system would meet its 30-day mission requirement. In accordance with NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Screening and Characterization of Findings," the finding represented a loss of system safety function in that the ultimate heat sink could not meet its 30-day mission time to provide decay heat removal. Therefore, a detailed risk evaluation was necessary. An assessment was performed in accordance with Inspection Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria." The finding was determined to be of very low safety significance (Green) because the frequency of events that would require long term use of the ultimate heat sink is very low and the difference in the failure probability to replenish the ultimate heat sink in 10 days versus 30 days is very small. This was because an early depletion of the inventory would be easily detected and would become a priority. At the time that replenishment would be needed, plant conditions should be stable and local transportation arteries should be restored. This finding has a cross-cutting aspect associated with evaluation in the area of problem identification and resolution because the licensee failed to thoroughly evaluate problems to ensure that resolutions address cause and extent of condition commensurate with their safety significance [P.2].

Inspection Report# : [2014007](#) (pdf)

Significance:  Dec 30, 2013

Identified By: NRC

Item Type: VIO Violation

Failure to Resolve Noncompliances Associated with Multiple Spurious Operations in a Timely Manner

The team identified a Green violation of License Condition 2.C.(10) for the failure to implement and maintain in effect all provisions of the approved fire protection program associated with multiple spurious operations concerns. Specifically, the licensee failed to implement all of the required corrective actions for multiple spurious operations concerns prior to November 2, 2012, which marked the expiration of enforcement discretion for multiple spurious operations contained in Enforcement Guidance Memorandum 09-002. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2013-03465.

The failure to implement all of the required corrective actions for multiple spurious operations concerns in a timely manner was a performance deficiency. The performance deficiency was more than minor because it was associated with the protection against external events (fire) attribute of the Mitigating Systems Cornerstone and it adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The team evaluated this finding using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," dated September 20, 2013, because it affected the ability to reach and maintain safe-shutdown conditions in case of a fire. A senior reactor analyst performed a Phase 3 evaluation to determine the risk significance of this finding since it involved multiple fire areas. The senior reactor analyst determined this finding was of very low safety significance (Green).

The finding had a cross-cutting aspect in the Work Practices component of the Human Performance area because the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported [H.4(c)].

Inspection Report# : [2013007](#) (pdf)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance:  Sep 30, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Provide Positive Exposure Control Within a Locked High Radiation Area

The inspectors identified a non-cited violation of Technical Specification 5.7.2 because a radiation protection technician did not provide positive exposure control to workers entering an area with dose rates greater than 1,000 millirem/hour. Radiation protection representatives removed the workers' radiological controlled area access privileges, counseled the workers, conducted a stand-down meeting, and performed an apparent cause evaluation.

The failure to provide positive control to workers entering an area with dose rates greater than 1,000 millirem/hour is a performance deficiency. The significance of the performance deficiency was more than minor because it was associated with an Occupational Radiation Safety cornerstone attribute (exposure control) and adversely affected the associated cornerstone objective because it allowed workers to be exposed to higher-than-planned radiation dose rates. The violation had very low safety significance because: (1) it was not an as low as is reasonably achievable finding because a collective dose threshold was not challenged, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. This violation has a cross-cutting aspect in the human performance area, associated with avoiding complacency, because the radiation protection technician did not recognize and plan for the possibility of mistakes by the operators in identifying the correct valve to tag, and the inherent risk of the operators entering an unsurveyed area [H.12].

Inspection Report# : [2014004](#) (*pdf*)

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : August 07, 2015