River Bend 1
3Q/2015 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2015
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Operate the Unit 1 Feedwater System in Accordance With Procedures
The inspectors reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1.a for the licensee's failure to implement a procedure required by Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Specifically, System Operating Procedure SOP-0009, "Reactor Feedwater System," Revision 63, which is required by Regulatory Guide 1.33, requires the licensee to limit the position of the feedwater regulating valves to less than or equal to 92 percent open to allow for adequate margin to respond to an increase in steam flow while maintaining reactor vessel water level. Contrary to this, on December 12, 2014 while raising reactor power, the licensee failed to maintain the feedwater regulating valves less than or equal to 92 percent open resulting in a steam flow and feedwater flow mismatch and lowering reactor vessel water level, which caused a recirculation flow control valve runback. The crew responded to the runback using approved procedures and restored reactor vessel water level to the correct operating band. This issue was entered in the licensee's corrective action program as Condition Report CR-RBS-2014-6357.

This performance deficiency is more than minor, and therefore a finding, because it is associated with the human performance 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. Specifically, the licensee failed to maintain feedwater regulating valves less than or equal to 92 percent open while raising reactor power, which resulted in an unplanned transient when plant systems automatically initiated a recirculation flow control valve runback in response to low reactor vessel water level. Using NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," and Inspection Manual Chapter 0609, Appendix A, Exhibit 1, "Initiating Events Screening Questions," the inspectors determined that the finding is of very low safety significance (Green) because it 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 condition, high energy line-breaks, internal flooding, or fire. This finding has an avoid complacency cross-cutting aspect within the human performance area because the licensee failed to perform a thorough review of the activity every time the work was performed rather than relying on past successes and assumed conditions. Specifically, the control room operators relied on past experiences rather than following a written procedure [H.12].
Inspection Report# : 2015003 *(pdf)*

Significance: G Jul 02, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Preclude Repetition of Consequential Gaps in Operator Performance
The team identified a Green non-cited violation of 10 CFR Part 50 Appendix B Criterion XVI, "Corrective Action," for the licensee's failure to preclude repetition of consequential gaps in operator performance. In August 2013, the licensee identified that gaps in operator fundamentals, a significant condition adverse to quality, had caused or contributed to plant transients earlier that year. The licensee's corrective actions were inadequate to prevent gaps in

operator fundamentals from again causing or contributing to plant transients in late 2014.

The failure to correct and preclude repetition of consequential gaps in operator fundamentals, a significant condition adverse to quality, as required by 10 CFR Part 50 Appendix B Criterion XVI, was a performance deficiency. This performance deficiency was more than minor because it affected the human performance attribute of the initiating events cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety function. Using Inspection Manual Chapter 0609 Appendix A, the team determined that this finding was of very low safety significance (Green) because it did not involve the loss of mitigation equipment or a support system. This finding has a field presence cross-cutting aspect in the human performance cross-cutting area (H.2) because leaders failed to provide oversight of work activities and to promptly correct deviations from standards and expectations.
Inspection Report# : 2015008 *(pdf)*

Significance: G Jul 02, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Identify an Adverse Trend in the Performance of Post Maintenance Testing on High Critical Components
The team identified a Green non-cited violation of 10 CFR Part 50 Appendix B Criterion XVI, "Corrective Action," for the failure to identify and correct a condition adverse to quality. Specifically, the licensee failed to identify an adverse trend in the performance of post maintenance testing on high critical components. The licensee did not identify a trend or evaluate whether multiple equipment or component failures that in some instances complicated and challenged operators response to a scram was related to maintenance work performed, and if there was an opportunity to identify the issues through post maintenance testing prior to returning equipment to service.

The licensee's failure to promptly identify and correct a condition adverse to quality, as required by 10 CFR Part 50 Appendix B Criterion XVI, was a performance deficiency. The licensee failed to identify an adverse trend in the performance of post-maintenance testing on high-critical components. The performance deficiency was more than minor, and therefore a finding, because it was associated with the equipment performance attribute of the initiating event 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. Specifically, the failure to identify a programmatic trend that reduced the reliability of multiple high-critical components whose failure could result in a significant impact to safe and reliable plant operation. Using Inspection Manual Chapter 0609, Appendix A, the team determined that this finding was of very low safety significance (Green) because it did not involve the loss of mitigation equipment or a support system. The finding has a human performance cross-cutting aspect associated with resources, in that the licensee leaders failed to ensure that personnel, equipment, procedures, and resources are available and adequate to support nuclear safety (H.1). Specifically, the licensee failed to evaluate a trend in degraded critical component conditions or malfunctions for multiple high critical components.
Inspection Report# : 2015008 *(pdf)*

Significance: G Jun 30, 2015
Identified By: Self-Revealing
Item Type: FIN Finding
Inadequate Operating Margin for Reactor Protection System A Motor Generator Set for Overvoltage Protection Results in Loss of Shutdown Cooling
The inspectors reviewed a finding for the licensee's failure to raise the overvoltage setpoint on the reactor protection system A motor generator set when the output of the generator was raised. This resulted in a reduction of the operating margin between the overvoltage trip setpoint and normal operating voltage. As a result, a spike in the output of the A motor generator on February 24, 2015, exceeded the overvoltage trip setpoint and caused the reactor protection system motor generator set output breaker to open which resulted in a loss of shutdown cooling while the

reactor was shut down for refueling operations. With spent fuel in the reactor vessel, reactor coolant temperature increased 6.4 degrees until reactor protection system A was re-energized and shutdown cooling was restored. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2015-01216.

The performance deficiency is more than minor, and therefore a finding, because it is associated with the Initiating Events Cornerstone attribute of configuration 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, the tripping of the reactor protection system A motor generator set output breaker, resulted in a loss of power to the reactor protection system. This subsequently caused a loss of shutdown cooling and decay heat removal while the plant was shut down for a refueling outage. The inspectors initially screened the finding in accordance with Inspection Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process." The inspectors used NRC Inspection Manual 0609, Appendix G, "Shutdown Operations Significance Determination Process," dated May 5, 2014, to evaluate the significance of the finding. The finding did not require a quantitative assessment because adequate mitigating equipment remained available and the finding did not constitute a loss of control, as defined in Appendix G. Therefore, the finding screened as Green. A cross-cutting aspect to this finding is not being assigned as this performance deficiency occurred in 1988 and therefore is not indicative of current licensee performance.
Inspection Report# : 2015002 *(pdf)*

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: G Jul 02, 2015
Identified By: NRC
Item Type: FIN Finding
Failure to Promptly Document Adverse Conditions in the Corrective Action Program
The team identified a Green finding for multiple examples of failures to timely document adverse conditions, as defined by corrective action program procedures, in condition reports. The team determined that these multiple failures, which were spread across multiple departments and programs, represented a programmatic deficiency in training of personnel and communication of expectations for compliance with corrective action program requirements.

The licensee's failure to promptly document multiple adverse conditions in condition reports as required by Procedure EN-LI-102 was a performance deficiency. This performance deficiency was more than minor because if left uncorrected in could lead to a more significant safety or security concern. Specifically, it could result in the licensee failing to promptly correct an adverse condition, which could lead to more significant consequences. This finding was associated with multiple cornerstones; the team determined that the mitigating systems cornerstone was the most appropriate for screening. Using Inspection Manual Chapter 0609 Appendix A, the team determined that this finding was of very low safety significance (Green) because it did not cause the loss of operability or function of any system or train and did not affect external event mitigation. This finding has a training crosscutting aspect in the human performance cross-cutting area (H.9) because the licensee failed to ensure that individuals were adequately trained to ensure an understanding of standards.
Inspection Report# : 2015008 *(pdf)*

Significance: G Jun 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Maintain Design Control for 18 Upgraded Hydraulic Control Unit Accumulators
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to verify the adequacy of the design of replacement accumulators, 18 of which were installed in the control rod drive system at the River Bend Station. The accumulators were reverse-engineered, purchased from a commercial supplier (Tobul Accumulator), and dedicated for use as a basic component; however, the licensee's technical justification for the acceptability of the reverse-engineered component, contained in Equivalency Evaluation 98-0632-000 was inadequate. The equivalency evaluation failed to verify the adequacy of critical design parameters related to the performance of the accumulators, such as flow rates, leakage rates, pressure ranges of operation, stroke times, temperature ranges of operation, and seismic qualification. This finding was entered into the licensee's corrective action program as Condition Report CR-RBS-2014-03118.

The 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, at the time of installation, the licensee had not taken sufficient actions to ensure that the

accumulators could reliably provide the motive force to insert control rods upon a scram initiation signal under all design basis conditions. The inspectors determined the finding to be of very low safety significance (Green) in accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process for Findings At-Power," dated June 19, 2012. Using Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined that the finding screened as Green because it did not affect other diverse methods of reactor shutdown; it did not involve manipulations that added positive reactivity to the reactor core; it did not affect control rod scram time testing data; and it did not result in the mismanagement of reactivity by the operators. A cross-cutting aspect to this finding is not being assigned as this performance deficiency occurred in 1998 and therefore is not indicative of current licensee performance.
Inspection Report# : 2015002 *(pdf)*

Significance: G Jun 29, 2015
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Provide Adequate Procedures for Post-scram 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.
-3-
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-scram 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-scram 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-scram recovery actions [P.2]. (Section 2.7.b)
Inspection Report# : 2015009 *(pdf)*

Significance: G 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: W Jun 29, 2015

Identified By: NRC
Item Type: VIO 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)

Final significance determined to be White. Final significance determination and NOV issued September 10, 2015 (ADAMS ML15253A352):
This letter provides you the final significance determination of the preliminary White finding discussed in our letter dated July 7, 2015, which included the subject inspection report (Nuclear Regulatory Commission's (NRC) Agency wide Documents Access and Management System [ADAMS] Accession ML15188A532). The finding involved the failure to maintain the simulator so it would accurately reproduce the operating characteristics of the facility.

Specifically, the River Bend Station's simulator failed to accurately model feedwater flow and reactor vessel level response following a scram, failed to provide the correct alarm response for loss of a reactor protection system motor generator set, and failed to correctly model the operation of the startup feedwater regulating valve.
In a letter dated July 30, 2015 (ML15216A612), you provided a response to the NRC staff's preliminary determination regarding this finding. Your response indicated that you agreed with the performance deficiency and the violation. After considering the information developed during the inspection and the additional information you provided in your letter, the NRC has concluded that the finding is appropriately characterized as White, a finding of low-to-moderate safety significance.
Inspection Report# : 2015009 *(pdf)*

Significance: G 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: G 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: G 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 BYS-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: G 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: G 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: G Jul 02, 2015
Identified By: NRC
Item Type: FIN Finding
Failure to Recognize Violations of Contamination Control Requirements as Adverse Conditions
The team identified a Green finding for a failure to document adverse conditions associated with radiological housekeeping or contamination controls in the corrective action program as required by procedure. The licensee's procedures did not adequately provide examples of deficient radiological practices as adverse conditions.

The licensee's failure to document adverse conditions in the corrective actions program as required by procedure was a performance deficiency. This constituted a programmatic weakness in the licensee's corrective action program to document adverse conditions associated with inadequate radiological practices. This performance deficiency is more than minor because it is associated with the program and process attribute (contamination control) of the Occupational

Radiation Safety cornerstone and adversely affected the cornerstone objective to ensure adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Using IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008, the inspectors determined the finding to be of very low safety significance because it was not an as low as reasonably achievable (ALARA) issue, there was no overexposure or substantial potential for overexposure, and the licensee's ability to assess dose was not compromised. This finding has a cross-cutting aspect in resources component of the human performance area because the licensee's corrective action procedures were not adequate to include deficient radiological practices as an adverse condition (H.1).
Inspection Report# : 2015008 *(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 : December 15, 2015