

# River Bend 1

## 1Q/2016 Plant Inspection Findings

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### Initiating Events

**Significance:**  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Ensure Work Hours are Within Work Hour Limits**

The inspectors identified a non-cited violation of 10 CFR Part 26, "Fitness for Duty Programs," for the licensee's failure to ensure that the calculated hours for individuals subject to work hour controls included all time performing duties for the licensee. Specifically, from November 1, 2015, to December 15, 2015, the licensee's failure to accurately calculate work hours resulted in an individual exceeding work hour limits. The licensee entered this condition into their corrective action program as Condition Report CR-RBS-2015-09152. The licensee restored compliance when the affected individual received an adequate break time. Corrective actions included training operators on required work hours tracking as required by procedure EN-OM-123, "Fatigue Management Program," Revision 12.

The performance deficiency was more than minor, and therefore a finding, because it was 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 failure to schedule and control work hours for individuals subject to work hour controls could reasonably result in human performance errors that could cause a plant event to occur or complicate the station's ability to respond appropriately to an event. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix G, Attachment 1, "Shutdown Operations Significance Determination Process Phase 1 Initial Screening and Characterization of Findings." The inspectors determined that the finding was of very low safety significance (Green) because the finding did not cause any known effects to plant safety caused by worker fatigue. The finding had a cross-cutting aspect in the area of human performance associated with procedure adherence because the licensee failed to follow fatigue management program procedure EN-OM-123, "Fatigue Management Program," Revision 12, which required the licensee to track all work hours subject to the work hour limits [H.8].

Inspection Report# : [2015004](#) (*pdf*)

**Significance:**  Dec 31, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

#### **Failure to Follow Procedure Results in Inadvertent Draindown of Reactor Pressure Vessel**

The inspectors reviewed a self-revealing, non-cited violation of Technical Specification 5.4, "Procedures," for the licensee's failure to correctly implement procedure STP-200-0605, "Remote Shutdown System Control Circuit Operability Test," Revision 307. The procedure was incorrectly performed leading to an unexpected configuration in which the reactor pressure vessel was aligned to the suppression pool, and approximately 360 gallons of reactor coolant were inadvertently transferred to the suppression pool. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2015-02354. The licensee restored compliance by restoring the system to a configuration that was consistent with plant operating procedures. Corrective actions included increased management oversight of remote shutdown system operation.

The performance deficiency was more than minor, and therefore a finding, because it was 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, a loss of reactor pressure vessel inventory occurred due to the establishment of an unintended system configuration caused by the inadvertent repositioning of the reactor pressure vessel suction valve. The inspectors initially screened the finding in accordance with NRC Inspection Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process." Using Exhibit 2 of NRC Inspection Manual Chapter 0609, Appendix G, Attachment 1, "Phase 1 Initial Screening and Characterization of Findings," the inspectors determined that the finding required a Phase 2 evaluation because the loss of inventory resulted in leakage to the suppression pool that if undetected or unmitigated in 24 hours or less would cause shutdown cooling to isolate. A Region IV senior reactor analyst performed a Phase 2 evaluation of this issue and determined the issue was of very low safety significance (Green) and represented a change to the core damage frequency of  $3.8E-8$ /year. The event sequence was an actual loss of inventory which occurred after core refueling in the shutdown. Risk was mitigated by prompt operator recovery action to stop the loss of inventory along with the operating plant configuration, which had two residual heat removal pumps aligned for automatic injection, one control rod drive pump in operation at the time of the event, and all manual injection paths fully available to mitigate the event. This finding has a cross-cutting aspect in the area of human performance associated with avoid complacency because the licensee failed to ensure that individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes [H.12].

Inspection Report# : [2015004](#) (pdf)

**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:**  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:**  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:**  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:**  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*)

## Mitigating Systems

**Significance:**  Jan 20, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Adequately Assess Risk During Chiller Unavailability**

NRC INSPECTION REPORT 05000458/2016008 - FINAL SIGNIFICANCE DETERMINATION OF GREEN FINDING

The preliminary significance was estimated to be White. After reviewing new information provided during the April 4, 2016, Regulatory Conference, the significance is now estimated to be Green.

After considering information presented at the Regulatory Conference conducted April 4, 2016, a Region IV senior reactor analyst performed a final detailed risk evaluation. See Attachment 3 of this report, “Final Detailed Risk Evaluation,” for further information. This evaluation yielded a maximum incremental core damage probability deficit of  $3.2E-7$ . The analyst applied this result to Flowchart 1, “Assessment of Risk Deficit,” of Appendix K, “Maintenance Risk Assessment and Risk Management Significance Determination Process,” of Manual Chapter 0609. In applying Flowchart 1, the analyst determined that because the maximum incremental core damage probability deficit was less than  $1.0E-6$ , the finding was of very low safety significance (Green).

The NRC identified an apparent violation of 10 CFR 50.65, “Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants,” paragraph (a)(4) with preliminary white significance.

Prior to March 30, 2015, before performing maintenance activities, the licensee failed to adequately assess the increase in risk that may result from proposed maintenance activities. Specifically, the risk assessment performed by the licensee for plant maintenance failed to account for certain safety significant structures, systems, and components that were concurrently out of service. On multiple occasions, the licensee failed to adequately assess the risk of operating the control building chilled water system (HVK) chillers in various single-failure vulnerable configurations. As a result of this deficiency, the station reduced the reliability and availability of systems contained in the main control room and failed to account for the significant, uncompensated impairment of the safety functions

of the associated systems. In response to the NRC's conclusions, the licensee initiated Condition Report CR-RBS-2016-00095. The licensee also completed engineering analyses to evaluate alternate cooling methods, including cross-connecting service water and the HVK chiller systems, in order to provide cooling to spaces housing electrical components.

This performance deficiency is more than minor, and therefore a finding, because it is associated with the configuration control attribute of the Mitigating Systems Cornerstone, and adversely affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to account for a loss of all HVK cooling scenario, either quantitatively or qualitatively, resulted in uncompensated impairment to all systems associated within the main control room. A loss of cooling to the control room could lead to multiple systems exceeding their equipment qualification temperatures and impact control room habitability. The finding was evaluated using Inspection Manual Chapter (IMC) 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process." Using Inspection Manual Chapter 0609, Appendix K, the finding was determined to require additional NRC management review using risk insights where possible because the quantitative probabilistic risk assessment (PRA) tools are not well suited to analyze failures from control room heat-up events. Thus, the analyst evaluated the safety significance posed by the heat-up of components cooled by the HVK chillers using Appendix K, Flowchart 1, "Assessment of Risk Deficit," to the extent practical, with additional risk insights by internal NRC management review in accordance with Inspection Manual Chapter 0612, "Power Reactor Inspection Reports." The significance of the finding was preliminarily determined to be White. The team determined the most significant contributing cause of the licensee failing to adequately assess the increase in risk from proposed maintenance activities was inadequate procedural guidance in Procedure ADM-0096, "Risk Management Program Implementation and On-line Maintenance Risk Assessment," Revision 316. This finding has a resources cross-cutting aspect within the human performance area because leaders failed to ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety [H.1].

Inspection Report# : [2015010](#) (*pdf*)

Inspection Report# : [2016008](#) (*pdf*)

**Significance:**  Jan 20, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

#### **Failure to Identify and Correct Circuit Breakers Failure Mechanism**

The team reviewed a self-revealing non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to promptly identify and correct a condition adverse to quality related to Masterpact circuit breakers. Specifically, the licensee did not promptly identify and correct a Masterpact breaker failure mechanism, even though related industry operating experience was available. The licensee determined the failure mechanism caused nine breaker failures since 2007, and may have contributed to an additional six failures where the cause was not conclusively determined. In response to the NRC's conclusions, the licensee initiated Condition Report CR-RBS-2015-03951. Further, the licensee modified all vulnerable Masterpact circuit breakers to remove this failure mechanism.

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, the licensee's untimely corrective action contributed to additional failures of Masterpact circuit breakers and decreased the reliability of Masterpact circuit breakers to respond during design basis events. The team performed an initial screening of the finding in accordance with NRC 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 finding was 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 operating experience cross-cutting aspect within the problem identification and resolution area because the licensee failed to systematically and effectively collect, evaluate, and implement relevant internal and external operating experience in a timely manner [P.5].

Inspection Report# : [2015010](#) (*pdf*)

**Significance:**  Jan 20, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Accomplish an Operability Determination In Accordance With Procedures**

The team identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to accomplish an operability determination in accordance with procedure EN-OP-104, "Operability Determination Process," Revision 8. Specifically, the licensee referenced non-conservative data, contrary to steps 5.5 and 5.11 of procedure EN-OP-104, when assessing the reduced reliability of Masterpact circuit breakers as a degraded or nonconforming condition. The licensee restored compliance by completing a design modification to eliminate the failure mode and initiated Condition Report CR-RBS-2015-03952.

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, the reliability of components powered by Masterpact circuit breakers was reduced and, by justifying operability using non-conservative data, the licensee did not recognize the actual unreliability. The team performed an initial screening of the finding in accordance with NRC 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 finding was 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 conservative bias cross-cutting aspect within the human performance area because the licensee failed to use decision-making practices that emphasize prudent choices over those that are simply allowable. Specifically, the licensee did not consider that the failure mechanism only occurs on a close command. Instead, the licensee included opening commands when summing the total demands and this resulted in a non-conservative failure rate [H.14].

Inspection Report# : [2015010](#) (*pdf*)

**Significance:**  Jan 20, 2016

Identified By: NRC

Item Type: FIN Finding

### **Failure to Identify and Correct an Adverse Condition in a Timely Manner**

The team identified a finding for the licensee's failure to identify and correct an adverse condition in a timely manner as required by plant procedures. Specifically, the licensee did not recognize degrading trends associated with incorrect racking of Magne Blast circuit breakers and failures of the Magne Blast circuit breaker for the Reactor Feed

Water Pump Motor 1B in a timely manner. For both cases, the licensee failed to initiate corrective action in a timely manner as required by procedure EN-LI-102, "Corrective Action Program." In response to the NRC's conclusions, the licensee updated circuit breaker procedures, replaced the Magne Blast circuit breaker for the Reactor Feed Water Pump Motor 1B, and initiated Condition Reports CR-RBS-2015-04259 and CR-RBS-2015-03437.

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, the licensee's untimely corrective action contributed to the unreliability of the Magne Blast circuit breaker for Reactor Feed Water Pump Motor 1B and increased the potential for spurious trips of other Magne Blast circuit breakers during design basis events due to improper racking. The team performed an initial screening of the finding in accordance with NRC 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 finding was 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 the adverse trends, did not plan for further degradation, and the latent conditions ultimately resulted in several Magne Blast circuit breaker failures in December 2014 before the trend was recognized [H.12].

Inspection Report# : [2015010](#) (*pdf*)

**Significance:**  Oct 08, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Establish Adequate Procedures for Severe Weather Operations**

The team identified a Green, non-cited violation of Technical Specification 5.4.1, which states in part, "procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, shall be established, implemented, and maintained for combating emergencies, including tornados." Specifically, prior to September 22, 2015, the licensee failed to establish adequate procedures to ensure loose debris (drift eliminators/grating that had come loose from the cooling towers) was secured. In response to this issue, the licensee inspected the area and prepared a work order to remove all loose drift eliminators. This finding was entered into the licensee's corrective action program as Condition Report CR-RBS-2015-06891.

The team determined that the failure to maintain adequate procedures to ensure compliance with technical specifications and Regulatory Guide 1.33 was a performance deficiency. This finding was more than minor because it was associated with the protection against external factors 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 (severe weather). Specifically, the licensee failed to establish adequate procedures to ensure protection of the switchyard against external factors such as the loose drift eliminators on the cooling tower as a potential missile hazard during high wind events. 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 team determined that the finding was determined to have very low safety significance (Green) since the systems, structures, and components maintained their operability and functionality. The finding was determined to have a cross-cutting aspect in the area of problem

identification and resolution, identification, because the licensee failed to implement a corrective action program with a low threshold for identifying issues. Individuals failed to identify issues completely, accurately, and in a timely manner in accordance with the program (P.1).

Inspection Report# : [2015007](#) (*pdf*)

**Significance:** G Oct 08, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Obtain Prior NRC Approval for a Change in Reactor Core Isolation Cooling Injection Point**

The team identified a Severity Level IV, Green, non-cited violation of 10 CFR 50.59, “Changes, Tests, and Experiments,” Section (c)(2) which states, in part, “A licensee shall obtain a license amendment pursuant to Section 50.90 prior to implementing a proposed change, test, or experiment if the change, test, or experiment would result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the final safety analysis report (as updated).” Specifically, prior to October 8, 2015, the licensee failed to correctly evaluate that a spurious reactor core isolation cooling actuation injecting into the feedwater line resulted in a more than minimal increase in the frequency of occurrence of the loss of feedwater heating accident previously evaluated in the updated final safety analysis report. In response to this issue, the licensee initiated a condition report to document completion of a new evaluation under current regulatory guidelines. This finding was entered into the licensee’s corrective action program as Condition Report CR-RBS-2015-7259.

The team determined that the failure to perform an adequate evaluation of a design change was a performance deficiency. This finding was also evaluated using traditional enforcement because it had the potential to impact the NRC’s ability to perform its regulatory function. This finding was more than minor because it was associated with the design control 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, and there was a reasonable likelihood that the change would have required NRC review and approval prior to implementation. Specifically, the licensee failed to correctly evaluate that a spurious reactor core isolation cooling actuation injecting into the feedwater line resulted in a more than minimal increase in the frequency of occurrence of the loss of feedwater heating accident previously evaluated in the updated final safety analysis report. 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 where the mitigating structure, system, or component maintained its operability or functionality. Since the violation is associated with a Green reactor oversight process violation, the traditional enforcement violation was determined to be a Severity Level IV violation, consistent with the example in paragraph 6.1.d(2) of the NRC Enforcement Policy. There is no cross-cutting aspect assigned to this performance deficiency because the performance deficiency is not indicative of current performance and also because cross-cutting aspects are not assigned to traditional enforcement violations.

Inspection Report# : [2015007](#) (*pdf*)

**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:**  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:**  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.

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:** **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.

The NRC performed a supplemental inspection in accordance with IP 95001 to assess the adequacy of the licensee’s corrective actions to address this performance issue. The results were documented in Inspection Report 05000458/2016010, dated May 25, 2016. The NRC determined that the licensee’s extent-of-condition evaluation was not adequate to meet the inspection objective. Therefore, the White finding will remain open pending re-inspection.

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

Inspection Report# : [2016010](#) (*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.13]. (Section 2.7.e)  
Inspection Report# : [2015009](#) (*pdf*)

## Barrier Integrity

**Significance:**  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Properly Implement Surveillance Testing of Penetration Valve Leakage Control System Leads to Inoperability in Excess of Technical Specification Allowed Outage Time**

The inspectors identified a non-cited violation of Technical Specification 3.6.1.9, “Main Steam-Positive Leakage Control System,” for the licensee’s failure to take required actions for an inoperable subsystem of the main steam positive leakage control system. Specifically, after rendering Division II of the main steam positive leakage control system inoperable for a period of time in excess of the 30-day allowed outage time, the licensee failed to place the unit in Mode 3 within 12 hours. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2015-03622. The licensee restored compliance by restoring Division II of main steam positive leakage control system to operable status. Corrective actions included modifying surveillance procedures for main steam positive leakage control system to ensure that they are carried out correctly.

The performance deficiency was more than minor, and therefore a finding, because it was associated with the barrier performance attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the plant was operated at power for an extended period of time with one subsystem of a system designed to prevent radioactive leakage across the main steam isolation valves inoperable. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix A, Exhibit 3, “Barrier

Integrity Screening Questions.” The inspectors determined that the finding was of very low safety significance (Green) because (1) the finding did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, etc.), containment isolation systems (logic and instrumentation), or heat removal components and (2) the finding did not involve an actual reduction in function of hydrogen igniters in the reactor containment. This finding had a cross-cutting aspect in the area of human performance associated with change management because leaders failed to use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority [H.3].

Inspection Report# : [2015004](#) (*pdf*)

**Significance:**  Dec 31, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

### **Failure to Restore Main Steam Positive Leakage Control System to Operable Prior to Changing Modes**

The inspectors reviewed a self-revealing, non-cited violation of Technical Specification 3.0.4, “Limiting Condition for Operation Applicability,” for the licensee’s failure to restore safety-related equipment to operable status prior to changing modes. Specifically, the licensee failed to restore Division II of the main steam positive leakage control system to operable status prior to entering a mode of applicability for Technical Specification 3.6.1.9. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2015-03581. The licensee restored compliance by restoring Division II of main steam positive leakage control system to an operable status by restoring service water to the Division II penetration valve leakage control system (LSV) compressor. Corrective actions included training for operations personnel on plant status control and implementation of a physical method of identifying equipment that has been administratively repositioned.

The performance deficiency was more than minor, and therefore a finding, because it was associated with the barrier performance attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the reactor was taken to Mode 2 with Division II of the main steam positive leakage control system inoperable. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix A, Exhibit 3, “Barrier Integrity Screening Questions.” The inspectors determined that the finding was of very low safety significance (Green) because (1) the finding did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, etc.), containment isolation systems (logic and instrumentation), or heat removal components and (2) the finding did not involve an actual reduction in function of hydrogen igniters in the reactor containment. This finding had a cross-cutting aspect in the area of human performance associated with procedure adherence because the licensee failed to ensure that individuals follow processes, procedures, and work instructions [H.8].

Inspection Report# : [2015004](#) (*pdf*)

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

**Significance:**  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 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*)

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## **Public Radiation Safety**

**Significance:**  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Conduct Operations and Control Work Practices to Minimize Residual Radioactivity into the Site, including the Subsurface**

The inspectors identified a non-cited violation of 10 CFR 20.1406(c) because the licensee failed to conduct operations to minimize the introduction of residual radioactivity into the site. Specifically, the licensee failed to implement procedural requirements to identify and evaluate the environmental risk and control work practices to prevent spills and leaks with a credible mechanism to reach groundwater between the annual periods of 2013 through 2015. This resulted in several spill/leak events which resulted in contaminated areas and radioactivity reaching the environment and groundwater. The licensee documented this finding in their corrective action program as CR-RBS-2015-08831.

The failure to conduct operations and control work practices to prevent spills and leaks with a credible mechanism to reach groundwater and minimize residual radioactivity into the site was a performance deficiency. The performance deficiency was more than minor, and thus a finding, because it is associated with the program and process attribute of the Public Radiation Safety Cornerstone, and adversely affected the cornerstone objective to ensure the licensee's ability to prevent inadvertent release and/or loss of control of licenses material to an unrestricted area. In accordance with Inspection Manual Chapter (IMC) 0609, Appendix D, "Public Radiation Safety Significance Determination Process," the finding was determined to be of very low safety significance (Green) because the issue involved radioactive material control, but did not involve: (1) transportation or (2) public exposure in excess of 0.005 rem. The finding had a Work Management cross-cutting aspect in the area of Human Performance because the licensee failed to implement a process of planning, controlling, and executing work activities such that nuclear or environmental safety was the overriding priority in which the work process includes the identification and management of risk commensurate to the work and the need for coordination with different groups or job activities [H.5].

Inspection Report# : [2015004](#) (*pdf*)

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## 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.

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## Miscellaneous

Last modified : July 11, 2016