

## Summer 3Q/2014 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:** G Aug 22, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Degraded Emergency Feedwater System Piping Supports**

An NRC-identified non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, for the licensee's failure to identify and correct conditions adverse to quality. Specifically, inspectors determined the licensee failed to identify three degraded emergency feedwater (EF) system piping supports during the May 27, 2014, water hammer post transient event walkdown. These included one upstream of the turbine driven EF pump discharge check valve XVC01016-EF (EFH-4018), one downstream of the turbine driven EF pump discharge valve, XVG01036-EF (EFH-0050), and one downstream of the 'C' SG turbine driven EF pump supply stop check valve, XVK0120C-EF (EFH-5048) during a routine plant walkdown.

Failure to identify three damaged pipe supports as conditions adverse quality during a previous licensee evaluation for the water hammer event was a performance deficiency. This finding was more than minor because it adversely impacted the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to external events (such as seismic) to prevent undesirable consequences. Specifically, these damaged piping supports resulted in a condition where there was a reasonable doubt on the operability of the EF system. Subsequently, the licensee performed pipe stress calculations and concluded that the EF system was degraded, but operable. In accordance with Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," a significance determination screening was performed and determined this finding was of very low safety significance (Green) because it was not a design or qualification deficiency, and did not represent an actual loss of system safety function. This finding had a cross-cutting aspect in the area of human performance resource because the licensee did not have an approved plant procedure to support the piping walk-downs post water hammer event. H.1 of IMC 0310.

Inspection Report# : [2014008](#) (*pdf*)

**Significance:** G Jun 30, 2014

Identified By: NRC

Item Type: FIN Finding

#### **Failure to Develop Adequate Post Modification Testing for the Alternate Seal Injection System**

An NRC-identified FIN was identified for the failure of the licensee to accomplish station procedures for development, review, and performance of adequate post modification testing of the alternate seal injection (ASI) system. The problem is in the licensee's CAP as CR 13-00642.

The inspectors determined that the failure to accomplish station procedures to develop, review and implement adequate post modification testing in accordance with station procedures was a PD, and was within the licensee's

ability to foresee and correct based on their existing knowledge of ASI designs at other plants. The inspectors reviewed IMC 0612 and determined the PD is more than minor and therefore a finding because if left uncorrected it would have the potential to result in a more significant safety event. Specifically, loss of the ASI system would lead to a reactor coolant pump seal loss of coolant accident during those events involving a loss of normal seal cooling such as a station blackout or fire. The inspectors reviewed IMC 0609, Attachment 4 and Appendix A, for the significance determination and determined the finding was of very low safety significance, or Green, because it did not involve a design deficiency and was not an actual loss of function. The inspectors reviewed IMC 0310 for cross-cutting aspects and determined the cause of the finding involved the area of human resources and the aspect of H.11, challenge the unknown, because the licensee did not identify the appropriate post modification testing when using a, first-for-the-station, ASI design. (Section 40A5.1)

Inspection Report# : [2014003](#) (*pdf*)

**Significance:**  Mar 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Declare the ‘A’ Safety Injection Pump Inoperable and Enter TS 3.5.2 Action a (Section 1R12)**

The NRC identified a NCV of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the licensee’s failure to enter TS 3.5.2, Action a, due to inoperability of the ‘A’ charging/safety injection (SI) pump during periods when its room cooler was out of service, as required by SAP-209, “Operability Determination Process,” Revision 1. The issue was entered into the licensee’s CAP as condition report CR-14-00778

The inspectors determined that the failure to declare the ‘A’ SI pump inoperable and enter the respective TS 3.5.2, Action a, when the necessary support room cooler was incapable of performing its function, as required by SAP-209 is a performance deficiency (PD). The inspectors reviewed Inspector Manual Chapter (IMC) 0612 and determined the PD is more than minor because, if left uncorrected, it would have had the potential to lead to a more significant safety concern in that the failure to identify and monitor an applicable technical specification action statement could lead to plant operations outside of TS analyzed conditions. The inspectors reviewed IMC 0609, Attachment 4, Initial Characterization of Findings, dated June 19, 2012, and Appendix A – Exhibit 2, The Significance Determination Process (SDP) for Findings At-Power, dated June 19, 2012, and determined the finding was of very low safety significance or Green because the system was not inoperable in excess of the TS allowed outage time. Since the original TS interpretation allowing removal of the SI pump room cooler from service was from 1997, this issue is not indicative of current performance and therefore no cross-cutting aspect is assigned.

Inspection Report# : [2014002](#) (*pdf*)

**Significance:**  Mar 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Promptly Identify and Correct a Condition Adverse to Quality for an Inboard Bearing Oil Leak on the ‘A’ CCW Pump**

The NRC identified a NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee’s failure to promptly identify and correct a condition adverse to quality (CAQ) involving an inboard bearing oil leak on the ‘A’ component cooling water (CCW) pump. The issue was entered into the licensee’s corrective action program (CAP) as Condition Report CR-13-03733.

The inspectors determined that the failure to promptly identify and correct the CAQ for the ‘A’ CCW pump’s inboard bearing oil leak was a performance deficiency (PD). The inspectors reviewed Inspector Manual Chapter (IMC) 0612, Appendix B, “Issue Screening”, dated September 7, 2012, and determined the PD was more than minor and therefore a finding, because it affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences and the respective attribute of equipment performance. Specifically, an in-service train of CCW was declared inoperable due to a large oil leak

that could have depleted all available oil for inboard bearing lubrication within a short time period. The inspectors reviewed IMC 0609, Attachment 4, Initial Characterization of Findings, dated June 19, 2012, and Appendix A – Exhibit 2, “The Significance Determination Process (SDP) for Findings At-Power”, dated June 19, 2012, and determined the finding was of very low safety significance or Green because the finding was not a design deficiency or loss of function. The cause of the finding involved the cross-cutting area of problem identification and resolution and the aspect of resolution, P.3, because the licensee failed to take effective corrective actions commensurate with an issue’s safety significance in that they failed to promptly identify and correct an ‘A’ CCW pump inboard bearing oil leak that was a CAQ.

Inspection Report# : [2014002](#) (*pdf*)

**Significance:**  Nov 22, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Design the Safety-related Chiller Modification to Appropriate Quality Standards**

Green: The team identified a non-cited violation of 10 CFR 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to review the application of design processes prescribed for the heating, ventilation, and air conditioning (HVAC) system chillers for suitability, to assure that appropriate quality standards were specified and included in design documents, and to ensure that deviations from such standards were controlled. This was a performance deficiency. The licensee entered this issue into their corrective action program as condition reports 13-04803, 13-04804, and 13-04665. The licensee performed an operability evaluation and determined the ‘A’ chiller was inoperable with the two remaining operable chillers providing compliance with technical specifications.

The performance deficiency was more than minor because it was associated with the Design Control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to establish adequate design control measures that required the review of applicable design processes for suitability resulted in a failure to meet specified quality objectives, which decreased the availability and reliability of the ‘A’ chiller. The team determined the finding to be of very low safety significance (Green) because although the finding was a deficiency affecting the design of a mitigating system, structure, or component which failed to maintain its operability, it did not represent a loss of the system function or a single train for greater than its technical specification allowed outage time. The HVAC system remains operable with the two remaining chillers, ‘B’ and ‘C’, in operation. The team determined the finding involved the cross-cutting aspect of supervisory and management oversight, within the Work Practices component of Human Performance area which states that, “the licensee ensures supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported.” Specifically, V. C. Summer management did not ensure management oversight of work activities that provided for the administration of quality assurance necessary to support nuclear safety. [H.4(c)] (Section 1R17.b.i)

Inspection Report# : [2013008](#) (*pdf*)

**Significance:**  Nov 22, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Prevent a Water Hammer Event in the RBCU SW Discharge Piping**

Green: The team 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 design to prevent water hammer on the reactor building cooling unit (RBCU) service water (SW) return lines following a potential design basis accident and a delayed closure of SW valves 3107A/B. This was a performance deficiency. The licensee entered this issue into their corrective action program as condition reports 13-04877 and 13-05139. The licensee restricted the alignment of SW to the RBCUs

during normal plant operation until changes to procedures or additional control circuit interlocks between 3107A/B and the service water booster pump (SWBP) could be implemented to mitigate the consequences of a delayed closure of the valves.

The performance deficiency was more than minor because it was associated with the Structures, Systems and Components and Barrier Performance attribute of the Barrier Integrity cornerstone and affected the cornerstone objective to provide reasonable assurance that physical design barriers (i.e. containment) protect the public from radionuclide releases caused by accident or events. Specifically, startup of the SWBP following a delayed closure of 3107A/B would cause a water hammer event on the RBCU SW return lines inside containment. The water hammer loads would challenge SW piping and/or valve integrity and could compromise containment isolation. The team determined the finding to be of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation system, or heat removal components, and it did not involve a reduction in function of hydrogen igniters in the reactor containment. No cross-cutting aspect was assigned to this finding because the team determined that the cause of the finding was not indicative of current licensee performance. (Section 1R17.b.ii)

Inspection Report# : [2013008](#) (*pdf*)

**Significance:**  Nov 01, 2013

Identified By: NRC

Item Type: FIN Finding

**Failure to Meet Training Program Standards on Job Performance Measures for the Annual Licensed Operator Requalification Operating Examination (Section 1R11.1)**

Inspection Report# : [2013010](#) (*pdf*)

**Significance:**  Nov 01, 2013

Identified By: NRC

Item Type: FIN Finding

**Failure to Meet Training Program Standards for the Biennial Licensed Operator Requalification Written Examination (Section 1R11.2)**

Inspection Report# : [2013010](#) (*pdf*)

**Significance:**  Nov 01, 2013

Identified By: NRC

Item Type: FIN Finding

**Failure to Meet Training Program Standards for Administration of the Annual Licensed Operator Requalification Operating Examination (Section 1R11.3)**

Inspection Report# : [2013010](#) (*pdf*)

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## Barrier Integrity

**Significance:**  Jun 30, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Accomplish Procedure to Determine Cause and Correct Failures of Reactor Building Spray System Relief Valve**

An NRC-identified NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the licensee's failure to accomplish a general test procedure, GTP-302, requirement to determine the cause and correct the conditions leading to two failures of reactor building spray system relief valve, XVR03026-SP. The licensee entered the problem into their corrective action program (CAP) as condition report (CR) 14-03079.

The licensee's failure to accomplish GTP-302 to determine and correct the cause of failures occurring in 2006 and 2012 was a performance deficiency (PD) which was within their ability to foresee and correct based on the available vendor documentation. The inspectors reviewed IMC 0612, "Power Reactor Inspection Reports," Appendix B, and determined the PD was more than minor and therefore a finding, because it affected the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers such as containment protect the public from radionuclide releases caused by accidents or events and the respective attribute of human performance because the availability and reliability of XVR03026-SP was not ensured by a failure to accomplish procedure requirements to determine the cause of two previous failures and correct. The inspectors evaluated the finding in accordance with NRC IMC 0609, "Significant Determination Process," attachment 4 and appendix A, and determined that the finding was of very low safety significance, Green, because it did not represent an actual physical open pathway in containment. The inspectors reviewed IMC0310, "Aspects Within the Cross-cutting Areas," and determined the cause of the finding involved the cross-cutting area of problem identification and resolution and the respective aspect of complete and thorough evaluation, P.2, because the licensee failed to determine the cause of the relief valve failures for adequate corrective actions. (Section 40A2.4)

Inspection Report# : [2014003](#) (*pdf*)

**Significance:**  Dec 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate Procedure for Control of containment Penetrations**

An NRC-identified Green non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the licensee's failure to prescribe an adequate procedure for control of temporary containment penetration devices. The violation is in the licensee's corrective action program as condition report 13-00739.

The inspectors determined that the failure to have an adequate procedure for control of temporary containment penetration devices was a performance deficiency (PD). The PD is more than minor and therefore a finding because it impacted the barrier integrity cornerstone objective to provide reasonable assurance that physical design barriers such as the containment, protect the public from radionuclide releases caused by accidents or events and the attribute of procedure quality because the affected procedure allowed the use of silicone foam in configurations which did not provide adequate pressure retention capabilities. The inspectors evaluated the finding in accordance with NRC Inspection Manual Chapter 0609, "Significant Determination Process," attachment 4, appendix G, and appendix H and determined that an analysis was required by a senior reactor analyst. A regional SRA performed an SDP assessment of this finding. The licensee containment penetration testing and results were reviewed as well as the licensee's risk evaluation. The conclusion was that the finding represented a condition B finding which would only impact large early release fraction (LERF) and not core damage frequency. The test results showed that the finding would not meet the leakage criteria necessary for the finding to be >GREEN per NRC IMC 0609 Appendix H. The conditions necessary to achieve the leakage criteria were determined to be <1E-7 for LERF which represented a GREEN finding of very low safety significance. There are no cross-cutting aspects because the finding was not

representative of current licensee performance. (Section 40A5.2)  
Inspection Report# : [2013005](#) (*pdf*)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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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 : November 26, 2014