Braidwood 1 – Quarterly Plant Inspection Findings

2Q/2017 – Plant Inspection Findings

On this page:

Initiating Events

Significance: G Dec 31, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
INADEQUATE CONTROL OF WELDING DURING FW SYSTEM PIPE REPLACEMENT
A finding of very low safety significance and an associated NCV of Title 10 of the Code of Federal Regulations (CFR), Part 50, Appendix B, Criterion IX, "Control of Special Processes," was identified by the inspectors for the licensee's failure to assure that thermocouple (TC) attachment welding was controlled and accomplished by qualified personnel using qualified procedures and to assure that the post-TC attachment weld removal non destructive examination (NDE) was incorporated into Work Order (WO) 01836557 that provided instructions to replace a pipe segment in the safety related portion of the feedwater (FW) system. The licensee corrective actions for this finding included documenting this issue as a potential violation of NRC requirements in Issue Report (IR) 02728742, removal of the unqualified welds, and issuing revisions to WO 01836557 that included licensee approved weld procedures and surface examinations of FW pipe affected by unqualified TC welds. This finding was determined to be of more than minor significance because it affected the Reactor Safety Initiating Events Cornerstone attribute of Equipment Performance and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In particular, if left uncorrected this issue would have the potential to lead to a more significant safety concern because it increased the likelihood of an operational challenge to the plant caused by a FW system line break induced by cracking initiated from unqualified welds. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," dated June 19, 2012, and Appendix A, "The Significance Determination Process for Findings At Power," Exhibit 1, "Initiating Events Screening Questions." Under Part B, "Transient Initiators," of the Exhibit 1 questions, the inspectors answered 'No' because the finding did not result in a reactor trip and/or loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. Therefore, this finding was screened as having very low safety significance (Green). This finding had a cross-cutting aspect of Field Presence in the cross-cutting area of Human

Performance since licensee managers failed to provide adequate oversight of site and vendor personnel to assure that the TC attachment welding was controlled and accomplished by qualified personnel using qualified procedures and to assure that the post-TC attachment weld removal NDE was incorporated into WO 01836557
Inspection Report# : 2016004 *(pdf)*

Mitigating Systems

Significance: G Sep 30, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
FAILURE TO ERECT SCAFFOLDING IN ACCORDANCE WITH STATION PROCEDURES
The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to follow Revision 7 of NES-MS-04.1, "Seismic Prequalified Scaffolds." Specifically, the licensee erected four scaffolds within
3 inches of safety-related equipment and failed to account for seismic movements of safety-related equipment in close proximity to scaffolds in accordance with NES-MS-04.1. As part of their corrective actions, the licensee performed walk downs of installed scaffolds to ensure that they were in compliance with NES-MS-04.1. Additionally, the licensee performed refresher training for all personnel involved in erecting and inspecting scaffolds. This issue was entered into the licensee's CAP as IRs 2703650, 2703895, 2703967, and 2705092. The inspectors determined that the performance deficiency was more than minor because it was associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors and adversely impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, scaffolds built in close proximity to or in contact with safety-related equipment could adversely affect the ability of those systems to perform their intended safety function during a seismic event. The inspectors determined that this finding was of very low safety significance because it did not result in the loss of operability or functionality of a mitigating system. Specifically, an engineering evaluation reasonably determined that the failure to build the scaffolds in accordance with NES-MS-04.1 did not result in a loss of operability to safety-related equipment. The inspectors determined that this finding had a cross cutting aspect in the Human Performance area of Teamwork. Specifically, there were multiple points in the scaffold erection process to engage other workgroups to ensure the seismic qualification of scaffolds, and in every example there was no coordination with other groups to ensure nuclear safety was maintained.

Inspection Report# : 2016003 *(pdf)*

Significance: G Sep 30, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
FAILURE TO FOLLOW INSERVICE TESTING REQUIREMENTS FOR THE 2A ESSENTIAL SERVICE WATER PUMP LEADS TO AN INVALID TEST
The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to follow Revision 9 of Procedure 2BwOSR 5.5.8.SX-6A, "Comprehensive Inservice Testing (IST) Requirements for 2A Essential Service Water Pump (2SX01PA)." Specifically, on September 7, 2016, the licensee failed to establish flow as close as possible to the reference point of 24,000 gallons per minute (gpm), as specified in Step 1.17 of the procedure, which ultimately led to an invalid test. The planned corrective actions included re performing the comprehensive test on September 26, 2017, and an action to revise affected procedures to specify that the flow should be established as close as possible to the reference value, and to not throttle flow to below the reference value to obtain acceptable testing results. This issue was entered into the licensee's CAP as IRs 2644532 and 2660824. The inspectors determined that the performance

deficiency was more than minor because it was associated with the Mitigating Systems cornerstone attribute of Equipment Performance and adversely impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the failure to follow the requirements established by the American Society of Mechanical Engineers (ASME) for comprehensive testing led to an invalid test of the pump on September 7, 2016. The inspectors determined that this finding was of very low safety significance because it did not result in the loss of operability or functionality of a mitigating system. Specifically, when the test was re performed on September 26, 2016, it was confirmed that the 2A essential service water pump was operable. The inspectors determined that this finding had a cross cutting aspect in the Human Performance area of Training. Specifically, licensee staff in Operations and Engineering were under the impression that they did not need to establish flow as close as possible to the reference value of 24,000 gpm. Instead, their belief was that the flow band in the surveillance procedure allowed them to set flow at any point in the band; therefore, when faced with results that fell within the Required Action Range, licensee staff believed that it was acceptable to lower flow to obtain more favorable results provided the system flow remained within the flow band.

Inspection Report# : 2016003 *(pdf)*

Significance: G Jul 29, 2016
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
OPERATION OF SX SYSTEM VALVES RESULTS IN CAVITATION DAMAGE AND PIPE LEAKAGE
A finding of very low safety significance and an associated NCV of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when the licensee failed to prescribe essential service water (SX) system operating and/or surveillance procedures appropriate to the circumstances. Specifically, the licensee failed to provide SX operating procedure guidance to limit the closure position of valves 1SX007, 2SX007 and 0SX007, such that cavitation-induced damage/failure of components did not occur or to establish a procedure to monitor and correct cavitation-induced damage prior to component failure associated with the operation of these valves. Consequently, a through-wall leak occurred downstream of valve 1SX007 that was caused by cavitation-induced wall loss at the neck of the pipe flange supporting this valve. The licensee replaced the damaged valve and piping and entered this issue into their CAP as Issue Report (IR) 2697962. The team determined that the performance deficiency was more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, continued operation of the SX007 valves without monitoring or correcting 3 cavitation-induced damage could result in a more significant failure resulting in the loss of an SX train and/or an internal flooding event. The team determined that this finding was of very low safety significance because although it was determined to be a deficiency affecting the design or qualification of a mitigating structure, system, and component (SSC), the operability or functionality of the component was not affected. The team did not identify a cross-cutting aspect for this finding because the finding did not reflect current licensee performance.
Inspection Report# : 2016007 *(pdf)*

Barrier Integrity
Emergency Preparedness
Occupational Radiation Safety
Public Radiation Safety
Security

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive

Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

Miscellaneous

Current data as of : August 03, 2017

Page Last Reviewed/Updated Wednesday, August 10, 2016