Arkansas Nuclear 2
4Q/2013 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Dec 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Operability Evaluation Due to Failure to Characterize Weld Flaw
Inspectors identified a non-cited violation of 10 CFR 50.55a(b)(5), "In-Service Inspection Code Cases," for the licensee's failure to implement ASME Code Case N-513-2, "Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping, Section XI, Division 1." Specifically, when a service water weld developed a leak, the licensee failed to characterize the flaw using a volumetric inspection method. The licensee corrected the condition by performing volumetric inspections of the flawed weld and then repaired the weld. The licensee entered this issue into their corrective action program as Condition Report CR-ANO-2-2013-01961.

Inspectors concluded that the licensee's failure to characterize a service water weld flaw was a performance deficiency. The performance deficiency was more than minor because it was associated with the human 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, and is therefore a finding. Specifically, the licensee failed to ensure the reliability of the service water system wasn't adversely affected by a significant weld flaw. Using Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, the inspectors determined this finding was of very low safety significance (Green) because the degraded condition was not a design deficiency that affected system operability; did not represent an actual loss of function or a system; did not represent an actual loss of function of a single train or two separate trains for greater than its technical specification allowed outage time; did not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety significant; and did not involve the loss or degradation of equipment or function specifically designed to mitigate a seismic event.

The finding was determined to have a cross-cutting aspect in the area of human performance, associated with resources, for the licensee's failure to ensure adequate training of personnel. Specifically, personnel performing the flaw inspection were not adequately trained in the non-destructive testing requirements of the code case.
Inspection Report# : 2013005 *(pdf)*

Significance: G Nov 19, 2013
Identified By: NRC
Item Type: FIN Finding
Emergency Lights Satisfied their Maintenance Rule Performance Criteria
The team identified a finding for the failure to provide an adequate testing scheme to demonstrate that the Appendix R emergency lights satisfied their maintenance rule performance criteria. The team determined that operators were

provided flashlights when they obtained the equipment bags required to perform an alternative shutdown. The licensee entered the issue into the corrective action program.
The failure to provide an adequate testing scheme to demonstrate that the Appendix R emergency lights satisfied their maintenance rule performance criteria was a performance deficiency. The performance deficiency was more than minor because if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern.
e team assigned the finding a low degradation rating since the ability to reach and maintain safe shutdown conditions in the event of a control room fire would be minimally impacted by the potential failure of the emergency lights to function for 8-hours. Specifically, the team determined that the results of the previous annual 8-hour discharge tests provided reasonable assurance that the lights would function for 8 hours since the licensee had maintained the same battery replacement frequency. Because this finding had a low degradation rating, it screened as having very low safety significance. This finding had a cross-cutting aspect in the decision making component of the human performance area because the licensee's decisions failed to demonstrate that nuclear safety is an overriding priority. Specifically, the licensee failed to use conservative assumptions in decision making when changing the testing scheme for the Appendix R emergency lights. The team determined that the licensee failed to use conservative assumptions in decision making because the licensee failed to consider how the revised testing scheme would impact the maintenance rule program or demonstrate compliance with 10 CFR Part 50, Appendix R, Section III.J
Inspection Report# : 2013009 *(pdf)*

Significance: G Sep 30, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Perform Preventive Maintenance on Plant Protection System Test Switch
The inspectors documented a self-revealing non-cited violation of Technical Specification 6.4.1.a for the licensee's failure to implement procedures specified by Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Specifically, the licensee failed to implement a preventive maintenance task to periodically replace matrix test switches after the switches were installed. A new test switch was installed and replacement of similar switches was scheduled for the next refueling outage. The licensee entered this issue into their corrective action program as Condition Report CR-ANO-2-2013-0005.

The inspectors determined that the failure to implement preventive maintenance to replace the matrix test switches was a performance deficiency. 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 to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and was therefore a finding. Specifically, the degraded switch caused a safety system actuation, which resulted in the high pressure safety injection and the low pressure safety injection pumps to be placed in pull-to-lock, adversely affecting the availability of this equipment. Using Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process (SDP) for Findings at Power," the inspectors determined that the finding required a detailed risk evaluation because it represented a loss of function. A Region IV senior reactor analyst performed the detailed risk evaluation. The exposure period was 48 minutes. The change to the core damage frequency was of 2.3 E-7 (Green). The dominant core damage sequences included inadvertent safety valve openings and small break loss of coolant accidents without injection available. The inspectors determined that there was no cross-cutting aspect associated with this finding because the cause of the performance deficiency occurred more than three years ago, and was not representative of current licensee performance.
Inspection Report# : 2013004 *(pdf)*

Significance: G Jun 30, 2013
Identified By: Self-Revealing

Item Type: NCV NonCited Violation
Failure to Correctly Install Control Room Emergency Chiller Supply Breaker
Inspectors documented a Green self-revealing non-cited violation of Technical Specification 6.4.1.a for the licensee's failure to implement procedures recommended by Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Specifically, the licensee failed to follow procedures for the replacement of the supply breaker for control room emergency chiller 2VE-1A. As a result, the breaker was installed incorrectly and the chiller was inoperable for over two months. Immediate corrective actions included proper installation of the breaker and procedural requirements for visual verification of breaker configuration. The licensee documented the issue in their corrective action program as CR-ANO-2-2013-00233.

Inspectors concluded that the failure to follow Procedure 1403.179 for replacement of the train A control room emergency chiller breaker is a performance deficiency. The performance deficiency is more than minor because it was associated with the human 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, and is therefore a finding. Specifically, the loose breaker connection adversely affected the availability and reliability of the control room emergency chiller A. Using Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process (SDP) for Findings at Power," the inspectors determined that the finding required a detailed risk evaluation because it represented an actual loss of function of a single train for longer than its technical specification allowed outage time. The senior reactor analyst performed a detailed risk evaluation using the Arkansas Nuclear One Standardized Plant Analysis Risk models. The dominant risk sequences include a seismically-induced loss of offsite power with the failure of control room emergency chiller A. The analyst assumed that the operators and control room instrumentation could survive a peak control room temperature of 120° F, and that chiller A was susceptible to failure during a seismic event for the 83 days. None of the core damage sequences affected by this performance deficiency were important to the large, early release frequency. Therefore, based on the combined internal and seismic ICCDP of 2.9 x 10-7, this finding was of very low safety significance (Green). The finding was determined to have a cross-cutting aspect in the area of human performance, associated with work practices, in that the licensee failed to use work practices that support human performance. Specifically, licensee personnel were aware of the possibility of misaligning the wire grip style lug, but failed to use adequate self and peer checking to ensure the lug was correctly installed

Inspection Report# : 2013003 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Evaluate and Correct Excessive Containment Isolation Valve Leakage
The inspectors identified a non-cited violation of Unit 2 Technical Specification 6.5.16, "Containment Leakage Rate Testing Program," for the failure to evaluate and take appropriate corrective actions to achieve acceptable performance for containment isolation valves that exceed the local leak rate administrative limit. The licensee entered this issue into the corrective action program as Condition Report CR-ANO-2-2013-01370.

The failure to perform a cause determination and take appropriate corrective actions for containment isolation valves that exceed the local leak rate administrative limit was a performance deficiency. The performance deficiency was more than minor because it was associated with the procedure quality 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, and is therefore a finding. Specifically, the failure to perform a cause determination and take appropriate corrective actions adversely affected the licensee's ability to ensure containment isolation valves function properly. Using Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process (SDP) for Findings at Power," the finding is determined to have very low safety significance because it did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation system, or heat removal components, and the finding did not involve an actual reduction in function of hydrogen igniters in the reactor containment. Since the cause of the performance deficiency occurred more than three years ago, the inspectors concluded that the finding was not representative of current licensee performance and no cross-cutting aspect was assigned
Inspection Report# : 2013003 *(pdf)*

Emergency Preparedness

Significance: N/A Feb 21, 2013
Identified By: NRC
Item Type: VIO Violation
EP Planner falsified documents for PASS and environmental monitoring drills
NRC identified a Severity Level III violation of 10 CFR 50.9(a) for falsifying documents of EP drills and surveillances. On January 12, 2012, the EP Manager notified NRC that a senior emergency planner had apparently falsified documents related to emergency preparedness drills conducted in December 2011. Specifically, the senior emergency planner falsely submitted documents that showed a post accident sampling drill and an environmental monitoring drill were conducted in 2011. Further investigation identified other surveillances were also falsified in December 2010. Entergy conducted and documented make-up drills, and conducted extent of conditions reviews for other falsified documents. NRC investigation report 4-2012-024 substantiated the above falsification.

The failure to provide complete and accurate information is a violation of 10 CFR 50.9(a). This Information is material to the NRC because it provides assurance that the licensee has performed periodic drills to develop and maintain key skills and provides assurance that adequate emergency facilities and equipment to support emergency preparedness are maintained. This violation is categorized in accordance with NRC Enforcement Policy as a SL III violation. Credit was given for identification and corrective actions, therefore a civil penalty was not proposed. Because ANO provided information regarding (1) the reason for the violation, (2) corrective actions taken and planned, (3) actions to prevent recurrence, and (4) date when full compliance was achieved, in Entergy letter dated April 10, 2013, no response was required.

Inspection Report# : 2013503 *(pdf)*
Inspection Report# : 2013504 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Security

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

Miscellaneous

Significance: N/A May 03, 2013
Identified By: NRC
Item Type: FIN Finding
Arkansas Nuclear One 2013 Biennial Problem Identification and Resolution Inspection Summary
The team reviewed approximately 150 condition reports, work orders, engineering evaluations, root and apparent cause evaluations, and other supporting documentation to determine if problems were being properly identified, characterized, and entered into the corrective action program for evaluation and resolution. The team reviewed a sample of system health reports, self-assessments, trending reports and metrics, and various other documents related to the corrective action program. The team found that licensee was generally effective at identifying problems and putting them into the corrective action program; however, there were a few instances identified during the assessment period where the licensee had missed identification of problems. The licensee was also generally effective in prioritizing the extent to which individual problems would be evaluated and in establishing schedules for implementing corrective actions. The licensee's corrective action process was generally found to be effective in documenting and tracking problems to resolution. Corrective actions were generally implemented in a timely manner.

The team determined that the licensee was adequately evaluating industry operating experience. Licensee audits and internal self-assessments were found to be generally effective and highlighted areas of ineffective corrective actions similar to weaknesses identified by the team. The team found that on the basis of focus group interviews and an independent safety culture survey, workers at the site felt free to raise safety concerns using the corrective action program, their management and chain of command, and to the NRC without fear of retaliation.
Inspection Report# : 2013010 *(pdf)*

Last modified : February 24, 2014