Arkansas Nuclear 1
1Q/2014 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Mar 31, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Filling and Venting of High Pressure Injection Pump
Inspectors identified a non-cited violation of Unit 1 Technical Specification 5.4, "Procedures," for the licensee's failure to establish adequate instructions for filling and venting the emergency core cooling system. Specifically, an inadequate fill and vent could have allowed gas voids to enter the suction of an operable high pressure injection pump. The licensee documented the issue in Condition Report CR-ANO-1-2014-00295 and corrected the procedure.

Inspectors concluded that the failure to establish adequate filling and venting instructions for a high pressure injection pump was a performance deficiency. The performance deficiency was more than minor because it was 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, and is therefore a finding. Specifically, the inadequate fill and vent instructions could have allowed a gas void to enter the suction of the operable high pressure injection pump. Using Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," June 19, 2012, and Appendix A, "The Significance Determination Process (SDP) for Findings at Power," June 19, 2012, Exhibit 2, "Mitigating System Screening Questions," the inspectors determined this finding was of very low safety significance (Green) because the degraded condition was not a design or qualification deficiency; 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 screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.

The finding was determined to have a cross-cutting aspect in the area of problem identification and resolution for the licensee's failure to effectively evaluate and implement external operating experience. Specifically, the licensee failed to effectively evaluate and implement gas voiding operating experience when establishing a fill and vent procedure [P.5].

Inspection Report# : 2014002 *(pdf)*

Significance: G Mar 31, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Alternate ac Diesel Generator Governor
The inspectors documented a self-revealing non-cited violation of 10 CFR 50.63, "Loss of all alternating current

power," for the licensee's failure to maintain the alternate ac diesel generator so that a power source would be available to withstand and recover from a station blackout. Specifically, the licensee failed to perform adequate preventive maintenance on the governor of the diesel in accordance with the recommended vendor maintenance, which resulted in an overspeed trip of the engine during testing. The licensee repaired the governor and documented the issue in Condition Report CR-ANO-C-2013-00331.

The inspectors determined that the failure to perform adequate preventive maintenance on the governor of the alternate ac diesel generator in accordance with the recommended vendor maintenance was a performance deficiency. This 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 reliability of the alternate ac diesel generator was adversely affected by the lack of governor maintenance so that the diesel was unavailable to respond to a postulated station blackout. Using Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," June 19, 2012, and Appendix A, "The Significance Determination Process (SDP) for Findings at Power," June 19, 2012, Exhibit 2, "Mitigating System Screening Questions," the inspectors determined that the finding required a detailed risk evaluation because it was an actual loss of function of a non-technical specification train of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours. The Region IV senior reactor analyst performed a detailed risk evaluation in accordance with Appendix A, Section 6.0, "Detailed Risk Evaluation." The risk was dominated by internal loss of offsite power initiators and fire-induced loss of offsite power scenarios. The calculated change in core damage frequency was 8.9 x 10-7 for Unit 1 and 5.6 x 10-7 for Unit 2. The analyst also determined that the finding would not involve a significant increase in the risk of a large, early release of radiation. This finding has been determined to be of very low safety significance (Green).

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 present licensee performance).

Inspection Report# : 2014002 *(pdf)*

Significance: G Dec 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Fluorescent Light Fixture Above Emergency Feedwater Pump in Seismically Qualified Configuration
Inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to hang the fluorescent light fixture above the Unit 1 motor driven emergency feedwater pump in a seismically qualified design configuration. This was not an immediate safety concern because operability was adequately demonstrated when the misconfiguration was identified and because the licensee restored the light fixture to its seismically qualified configuration on November 12, 2013. The licensee entered this issue into their corrective action program as Condition Report CR-ANO-1-2013-02830.

Inspectors concluded that the licensee's failure to hang the fluorescent light fixture above the Unit 1 motor driven emergency feedwater pump in accordance with Drawing E-2060 was a performance deficiency. The performance deficiency was more than minor because it was associated with the design control attribute of the mitigating system 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, and is therefore a finding. Specifically, the licensee failed to ensure that, during a design basis seismic event, the light would not fall and adversely impact the safety-related pump below. 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 that this finding was of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of mitigating equipment, in which the equipment maintained its operability; 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 that sufficient personnel were available for light inspections. Specifically, during the safety-related room inspections that were completed on August 27, 2013, the licensee failed to identify that the light above the motor driven emergency feedwater pump was inappropriately hung, due to the hurried nature of the inspections.
Inspection Report# : 2013005 *(pdf)*

Significance: G Nov 19, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Untimely Corrective Action For a Condition Adverse to Fire Protection
The team identified a non-cited violation of Unit 1 License Conditions 2.C.(8), "Fire Protection," for the failure to implement and maintain in effect all provisions of the approved fire protection program. Specifically, the team identified that the licensee failed to implement timely corrective actions for a condition adverse to fire protection related to a condition that could disable the automatic starting of both fire pumps as a result of fire damage. The licensee confirmed that the diesel fire pump could be started locally at its control panel in the Unit 1 Intake Structure as a compensatory measure and entered the issue into the corrective action program.

The failure to take timely corrective action for a condition adverse to fire protection was a performance deficiency. This finding is more than minor because it is associated with the Mitigating Systems cornerstone attribute of Protection Against External Events (fire) and affected the associated cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

The inspector performed walkdowns of the fire zones of concern. Using NRC Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," the finding was assigned a low degradation rating and screened to Green in Attachment 1, Task 1.3.1, "Qualitative Screening for All Finding Categories." This finding had a cross-cutting aspect in the area of human performance associated with resources because the licensee failed to maintain long-term plant safety by minimizing long-standing equipment issues. Specifically, the licensee did not implement a modification to correct a condition adverse to fire protection in a timely manner [H.2(a)].

Inspection Report# : 2013009 *(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: NRC
Item Type: FIN Finding
Inadequate Design Change for Main Feedwater Flow Control Valves
The inspectors documented a self-revealing finding for the licensee's failure to adequately implement a design change to the main feedwater startup and low load feedwater control valves. As a result, the valves were inoperable for longer than their technical specification allowed outage time for their main feedwater isolation safety function. The licensee entered this issue into their corrective action program as Condition Report CR-ANO-1-2012-00267.

The inspectors determined that the failure to adequately implement a design change to the main feedwater control valve circuitry was a performance deficiency. 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 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 latent design error adversely affected the ability of the main feedwater valves to close on a main steam line isolation signal. Using Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, the inspectors determined this finding to be of very low safety significance (Green) because the degraded condition was a design deficiency that affected system operability; did not represent an actual loss of function of 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 screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. 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)*

Barrier Integrity

Emergency Preparedness

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)*

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