Quad Cities 1
2Q/2015 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Mar 31, 2015
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
FAILURE TO ESTABLISH AND MAINTAIN SERVICE LIFE FOR SAFETY-RELATED RELAY RESULTS IN FAILURE AND INOPERABILITY
A finding of very low safety significance (Green) and associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was self-revealed on January 6, 2015, when an electrical maintenance worker found a tripped breaker in motor control center (MCC) 28–1, for the Unit 2 power feed to the common unit (Unit 0) fuel oil transfer pump (FOTP). The licensee determined that an HGA relay in the FOTP power transfer circuit had failed due to aging and not having any associated preventive maintenance task. The inspectors determined the licensee failed to establish and maintain the service life for the FOTP
HGA relay, which was a performance deficiency. This also resulted in the inoperability
of the Unit 0 emergency diesel generator (EDG) for longer than its technical
specification allowed outage time, which was a violation of Technical Specification 3.8.1, "AC Sources–Operating." The immediate corrective actions included replacing the failed relay and declaring the EDG operable following post-maintenance testing. The licensee captured the issue in their corrective action program (CAP) as Issue Report (IR) 2433389.
The performance deficiency was determined to be more than minor and a finding 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, the performance deficiency caused an unplanned inoperable condition for the Unit 0 EDG. The inspectors evaluated the finding using IMC 0609, Appendix A, "The SDP for Findings At-Power," issued June 19, 2012. The issue resulted in the EDG being inoperable for longer than the Technical Specification (TS) allowed outage time. A detailed risk analysis was performed and determined the finding was of very low safety significance. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Evaluation, because the licensee did not thoroughly evaluate issues to ensure that the resolution addressed causes and extent of conditions commensurate with their safety significance. Specifically, the licensee identified other EDG electrical component failures that occurred at the station where the causes were identified as failure to have associated preventive maintenance for the affected components and equipment. The extent of condition evaluations for those events failed to identify additional safety related components that did not have any associated preventive maintenance tasks or documented service life, including replacement schedules [P.2].

Inspection Report# : 2015001 *(pdf)*

Significance: G Mar 31, 2015
Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation
FAILURE TO ENSURE STANDBY LINEUP RESULTS IN STEAM RELEASE IN THE HPCI ROOM
A finding and non-cited violation of very low safety significance (Green) was
self-revealed for the licensee's failure to ensure the Unit 1 high pressure coolant injection (HPCI) system was in a standby lineup configuration in accordance with station procedures. This represented a violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." The performance deficiency resulted in a steam release into the Unit 1 HPCI room. The licensee took immediate actions to terminate the steam release by closing the HPCI steam isolation valves. The licensee captured the issue in their corrective action program as IR 2450896.

The performance deficiency was determined to be more than minor and a finding because it was associated with the configuration 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. The inspectors evaluated the finding using IMC 0609, Appendix A, "The SDP for Findings At-Power," and answered "No" to all of the screening questions in Exhibit 2 "Mitigating Systems," and concluded the finding was of very low safety significance (Green). This finding had a cross-cutting aspect in the area of Human Performance, Work Management, because the organization failed to implement a process of planning, controlling, and executing work activities such that nuclear safety was the overriding priority; and the work process did not include the identification and management of risk commensurate to the work, and the need for coordination with different job activities. Specifically, the licensee failed to coordinate the simultaneous performance of two tests and ensure the HPCI system was in the proper lineup and configuration prior to test execution [H.5].

Inspection Report# : 2015001 *(pdf)*

Significance: G Dec 31, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
HPCI FLOOD BARRIER DEGRADED
A finding of very low safety significance (Green) and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings,"
was identified by the inspectors for the licensee's failure to meet the requirements of
QCTP 0130-11, "Internal Flood Protection Program," and QCTS 0810-10,"Reactor Building Internal Flood Barrier Surveillance," which require, in part, that internal flood protection requirements for emergency core cooling systems rooms are met. Specifically, the licensee failed to identify that a flood barrier for a fire protection pipe penetration into the Unit 2 high pressure coolant injection room was in a degraded condition. The licensee entered the condition into their CAP as Issue Report 2406984, "IEMA U2 HPCI Flood Penetration Concern," and was able to immediately correct the degraded condition of the link-seal type barrier by tightening the bolts around the seal.
The finding was determined to be more than minor because failing to identify degraded flood barriers could lead to safety-related equipment becoming susceptible to a flooding event. The finding was associated with the Mitigating Systems Cornerstone attribute of protection against external factors (flood hazard) and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined the finding could be evaluated using the Significance Determination Process (SDP) in accordance with Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," issued June 19, 2012. The inspectors answered, "No," to all of the Exhibit 2, "Mitigating Systems Screening Questions," in section B for external events and determined the finding was of very low safety significance (Green). This finding had a cross-cutting aspect in the area of Human Performance, Consistent Process aspect because the licensee did not use a consistent and systematic approach to conducting flood barrier inspections [H.13].

Inspection Report# : 2014005 *(pdf)*

Significance: G Dec 05, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Identify Aging Effects on Plant Equipment and Structures
The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to effectively identify, evaluate, and document aging effects on plant equipment and structures as part of the licensee's Aging Management Programs for a plant within its period of extended operation. The inspectors identified two corroded pipe supports and associated base plates in the Unit 1 high pressure coolant injection (HPCI) room as well as a severely corroded nut and stud on the 1/2 diesel generator cooling water pump outboard mechanical seal. These conditions had not been previously identified, evaluated, or documented. The licensee entered this finding into their Corrective Action Program.

The performance deficiency was determined to be more than minor and a finding in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. The finding screened as very low safety significance (Green) because the inspectors were able to answer "No" to each screening question, because the conditions had not yet affected structural integrity or operability of the systems. Specifically, the licensee confirmed the HPCI supports would be capable to perform their function and the remaining bolts on the mechanical seal were sufficient to prevent excessive leakage. The inspectors identified a cross-cutting aspect associated with this finding in the area of Human Performance, Resources component, because the licensee did not ensure that personnel, equipment, procedures, and other resources are adequate to assure nuclear safety by maintaining long term plant safety.
Inspection Report# : 2014008 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
ANGLE IRON SUPPORT INSTALLED WITH MINIMAL CLEARANCE TO UNIT 2 TORUS SHELL
A finding of very low safety significance (Green) and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the licensee's failure to evaluate the impact of a conduit support installed in close proximity of the Unit 2 torus shell. Specifically, during installation of the conduit support, the licensee failed to provide instructions to ensure that sufficient clearance from the torus shell was provided to accommodate the torus wall movements predicted in the Updated Final Safety Analysis Report (UFSAR) torus design basis load cases. Immediate corrective actions included performing an operability evaluation under Issue Report (IR) 1672301 that determined the torus remained operable under all design basis events. The licensee has also corrected the condition by cutting the conduit support to ensure sufficient clearance to the torus wall is maintained.

The performance deficiency was determined to be more than minor because the finding was associated with the design control attribute of both the Mitigating Systems and Barrier Integrity Cornerstones. The finding adversely affected the Mitigating Systems cornerstone attribute of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding also adversely affected the Barrier Integrity Cornerstone objective of providing reasonable assurance that physical design barriers (containment) protect the public from radionuclide releases caused by accidents or events. The inspectors determined the finding screened as very low safety significance (Green) because the licensee's operability evaluation determined the torus remained operable under all design basis conditions. The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was not representative of current performance because it was associated with a modification that occurred in the 1980s.

Inspection Report# : 2014004 *(pdf)*

Significance: G Sep 26, 2014
Identified By: NRC
Item Type: FIN Finding
INADEQUATE ROUNDS PACKAGE ACCEPTANCE CRITERIA
A finding of very low safety significance (Green) was identified by the inspectors when they determined that non-licensed operator general area rounds and field checks were inadequate for the circumstances. The inspectors determined that the failure to have non-licensed operator rounds package acceptance criteria that met procedural requirements was a performance deficiency. The licensee entered this issue into the CAP as Issue Report (IR) 02385609, "PIR – Operator Rounds For HPCI Bearing Oil Lvl Differ between Units." The licensee had not had time to determine corrective actions before the end of the inspection.
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 to response to initiating events to prevent undesirable consequences and is therefore a finding. Using Manual Chapter 0609, Attachment 0609.04 "Initial Characterization of Findings," and Appendix A "The Significance Determination Process for Findings at Power," the
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finding was screened against the mitigating systems cornerstone and determined to be of very low safety significance (Green) because the finding was/did not: 1) a deficiency affecting the design or qualification of a mitigating structure, system or component, 2) represent a loss of system and/or function, 3) represent an actual loss of function of a single train for greater than its technical specification allowed outage time, 4) represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant for greater than 24 hours and 5) did not involve the loss or degradation of equipment or function specifically designed to mitigate a seismic, flooding or severe weather event. The inspectors determined this finding affected the cross-cutting area of Human Performance in the aspect of Training. Specifically, the non-licensed operators should have been trained that an oil level not between the marked bands on the oil level indicator was an issue regardless of the rounds acceptance criteria for that parameter. (IMC 0310 H.9)
Inspection Report# : 2014007 *(pdf)*

Significance: G Sep 26, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
INADEQUATE ADMINISTRATIVE CONTROLS
A finding of very low safety significance (Green) and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors when they determined that Technical Specification (TS) surveillance procedures contained inadequate acceptance criteria. The failure to have TS surveillance procedure acceptance criteria that ensured the Emergency Diesel Generator (EDG) loading would not exceed the maximum licensed limit was a performance deficiency. The issue was entered into the licensee's CAP as IR 02389102, "PIR Admin Controls For Allowed EDG Frequency Tolerance." The licensee had not had time to determine corrective actions before the end of the inspection.
The performance deficiency was determined to be 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 is therefore a finding. Specifically, the licensee failed to ensure the acceptance criteria for EDG frequency and voltage would not affect the operability and reliability of the engine and safety related structures, systems or components. Using Manual Chapter 0609, Attachment 0609.04 "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process for Findings at Power," dated June 19, 2012, the finding was screened against the mitigating systems cornerstone and determined to be of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a mitigating structure, system or component. This finding has a cross-cutting aspect of resolution in the area of problem identification because the licensee did not take

effective corrective actions to address issues in a timely manner commensurate with their safety significance. Specifically, the licensee did not implement adequate administrative controls to their EDG testing procedures to ensure that the procedures adequately addressed the non-conservative TS. (IMC 0310 P.3)
Inspection Report# : 2014007 *(pdf)*

Barrier Integrity

Emergency Preparedness

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
INADEQUATE EVACUATION TIME ESTIMATE SUBMITTALS
The inspectors identified a finding of very low safety significance (Green) with an associated non-cited violation of 10 CFR 50.54(q)(2) as required by 10 CFR 50.47(b)(10) and 10 CFR Part 50, Appendix E, Section IV.4, for failing to maintain the effectiveness of the Quad Cities Nuclear Power Station Emergency Plan, as a result of failing to provide the station evacuation time estimate (ETE) to the responsible offsite response organizations by the required date.

Exelon submitted the Quad Cities Nuclear Power Station ETE to the NRC on December 12, 2012, prior to the required due date of December 22, 2012. The NRC completeness review found the ETEs to be incomplete due to Exelon fleet common and site-specific deficiencies, thereby preventing Exelon from providing the ETEs to responsible offsite response organizations and from updating site-specific protective action strategies as necessary. The NRC discussed its concerns regarding the completeness of the ETE, in a teleconference with Exelon on June 10, 2013, and on September 5, 2013, Exelon resubmitted the ETEs for its sites. The NRC again found the ETEs to be incomplete. The issue is a performance deficiency because it involves a failure to comply with a regulation that was under Exelon's control to identify and prevent. The finding is more than minor because it is associated with the Emergency Preparedness Cornerstone attribute of procedure quality and because it adversely affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding is of very low safety significance (Green) because it was a failure to comply with a non-risk significant portion of 10 CFR 50.47(b)(10). The licensee had entered this issue into their corrective action program (CAP) and re-submitted a new revision of the Quad Cities Nuclear Power Station ETE to the NRC on April 30, 2014. The cause of the finding is related to cross-cutting element of Human Performance, Documentation [H.7].

Inspection Report# : 2014004 *(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

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