Quad Cities 2
2Q/2016 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Jun 30, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
FAILURE TO IDENTIFY CONDITIONS ADVERSE TO QUALITY
The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to identify a condition adverse to quality. Specifically, the licensee failed to identify the installation of the low pressure coolant injection (LPCI) loop-select differential pressure indicating switches (DPISs) on both units beyond their performance centered maintenance template recommended replacement frequency and beyond their environmental qualification (EQ) service life established in EQ binder EQ 83Q as conditions adverse to quality (CAQ) in their corrective action program (CAP). The licensee's corrective actions included entering the non conforming conditions into the CAP (Issue Report 2663100) and evaluating the CAQs for operability. The licensee determined the current DPISs were operable but non conforming, and replaced all remaining LPCI loop select DPISs.
The failure to identify CAQs within the CAP was determined to be more than minor because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, the failure to identify when safety-related structures, systems, or components (SSCs) are beyond their qualified life could lead to an SSC not being able to perform its specified safety function. The finding was screened against the Mitigating Systems Cornerstone and determined to be of very low safety significance because the SSC maintained its operability. The inspectors determined this finding affected the cross cutting area of problem identification and resolution, in the aspect of Identification, which states, "The organization implements a corrective action program with a low threshold for identifying issues. Individuals identify issues completely, accurately, and in a timely manner in accordance with the program." Specifically, the licensee failed to document a condition adverse to quality related to the LPCI loop select DPISs on both units in the CAP in a timely manner [P.1].

Inspection Report# : 2016002 *(pdf)*

Significance: G Sep 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
FAILURE TO EVALUATE DEGRADED OR NON-CONFORMING CONDITIONS FOR OPERABILITY
A finding of very low safety significance and an 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 document degraded or non conforming conditions in the corrective action program (CAP) and route or discuss the issue with Operations shift management so that operability of the affected components could be evaluated. Immediate corrective actions included entering the issues into the CAP and evaluating the issues for operability. The licensee captured the issue in the CAP as Issue Reports (IRs) 2537968 and 2537936.

The finding was determined to be more than minor because, if left uncorrected, it could become a more significant safety concern. Specifically, the failure to identify degraded, non-conforming, or unanalyzed conditions in the CAP and bring those conditions to the attention of Operations shift management so that the operability of safety-related systems, structures, and components (SSCs) may be evaluated could lead to those SSCs being in an inoperable condition without the appropriate Technical Specification (TS) actions taken. The inspectors concluded this finding was associated with the Mitigating Systems Cornerstone. The finding was determined to be of very low safety significance because the control room emergency ventilation (CREV) and high pressure coolant injection (HPCI) systems remained operable. This finding had a cross cutting aspect of identification in the area of problem identification and resolution because the licensee did not identify issues completely, accurately, and in a timely manner in accordance with the program. Specifically, when degraded and non conforming conditions were identified, licensee personnel failed to promptly capture the issues in the CAP [P.1].

Inspection Report# : 2015003 *(pdf)*

Significance: G Sep 30, 2015
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
FAILURE TO ADEQUATELY INSPECT RELAY CONTACTS FOR OXIDATION RESULTS IN RELAY FAILURE
A finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was self-revealed for the licensee’s failure to establish a preventive maintenance procedure for HFA relays that was appropriate to the circumstances. Immediate corrective actions included burnishing of the associated relay contacts and testing the associated relays. In addition, the licensee revised their relay inspection procedure and planned future relay replacements during the next refueling outage. The licensee entered the issue into their CAP as IR 2485051.
The finding was determined to be more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of Procedure Quality and affected 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 perform adequate preventive maintenance on the automatic depressurization system (ADS) logic HFA relay in 2013 resulted in the build up of oxidation on the relay contacts. This build up caused the relay to fail its next scheduled test in 2015. A senior reactor analyst performed a detailed risk evaluation and determined the finding was of very low safety significance. This finding had a cross cutting aspect of operating experience in the area of problem identification and resolution, because the licensee did not systematically collect, evaluate, and implement relevant internal and external operating experience in a timely manner. Specifically, the licensee identified several internal and external operating experience events related to relay contact oxidation and failed to implement changes to their relay inspection procedures to ensure that effective corrective actions were implemented [P.5].
Inspection Report# : 2015003 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
FAILURE TO MAINTAIN PARAMETERS WITHIN LIMITS OF TS 3.6.2.5 AND 3.6.3.1
The inspectors identified a finding of very low safety significance and an associated non-cited violation of Technical

Specifications (TS) 3.6.2.5 and 3.6.3.1 for the licensee's failure to take actions required by TS 3.6.2.5 and 3.6.3.1. Specifically, on May 25, 2016, the licensee failed to restore the Unit 2 drywell-to-suppression chamber differential pressure and primary containment oxygen concentration to within the TS specified limits, or reduce power below 15 percent rated thermal power as required by TS 3.6.2.5 and 3.6.3.1, Conditions A and B. The licensee's corrective actions included restoring both parameters to within their specified limits on May 25, 2016. The violation was entered into the licensee's corrective action program as Issue Report 2677621.
The performance deficiency was determined to be more than minor and a finding because, if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, the failure to maintain drywell-to-suppression chamber differential pressure and primary containment oxygen concentration within their specified limits had the potential to lead to stresses that could challenge the structural integrity of the containment and/or lead to a combustible mixture inside the Unit 2 drywell following a loss of coolant accident, either of which could have challenged the assumptions of the safety analyses. The finding was screened against the Barrier Integrity Cornerstone and was determined to be of very low safety significance by the Region III senior reactor analyst using the insights from IMC 0609, Appendix H, "Containment Integrity Significance Determination Process," Table 6.2, "Phase 2 Risk Significance—Type B Findings at Full Power," because the duration of the condition was shorter than 3 days. The inspectors determined this finding affected the cross-cutting area of human performance in the aspect of Conservative Bias, which states, "individuals use decision making practices that emphasize prudent choices over those that are simply allowable. A proposed action is determined to be safe in order to proceed, rather than unsafe in order to stop." Specifically, the licensee failed to exercise prudent judgment when they raised power above 15 percent prior to meeting TS Limiting Condition for Operation 3.6.2.5 and 3.6.3.1 while still in the MODE of Applicability (MODE 1) [H.14].

Inspection Report# : 2016002 *(pdf)*

Significance: G Mar 31, 2016
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
FAILURE TO CONTROL DEVIATION FROM EQ STANDARD RESULTS IN LIMIT SWITCH SUBMERGENCE
A finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was self-revealed on February 2, 2016, when the operators received an alarm due to a steam leak in the
Unit 1 main steam isolation valve room which resulted in the limit switch compartment for Unit 1 reactor core isolation cooling (RCIC) system motor-operated valve (MOV),
MO 1–1301–17 (outboard primary containment steam isolation valve), becoming submerged with water. Specifically, the licensee failed to ensure that deviations from design standard, "Environmental Qualification Standard 74Q (EQ–74Q)," were controlled during original installation of MO 1–1301–17 such that the valve would not be subjected to a spray or submergence environment. The licensee documented the issue in their corrective action program under Issue Report 2625523. Corrective actions included a temporary repair of the steam leak, removal of water from the limit switch compartment, and compensatory measures that included daily monitoring for steam leaks in the Unit 1 main steam isolation valve room. In addition, the licensee performed an extent of condition review of other valves in the main steam isolation valve room. Planned corrective actions included installing t-drains or weep holes in MOVs that the licensee deemed susceptible to spray or submergence.
The performance deficiency was determined to be more than minor and a finding because it was associated with the Barrier Integrity Cornerstone attribute of Design Control and affected the cornerstone objective to provide reasonable assurance that physical design barriers (containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the failure to control any environmental qualification design deviations had the potential to impact the ability of MO 1–1301–17 to close on an isolation signal and prevent radioactive releases to the environment. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Appendix A, "The Significance Determination Process for Findings at Power,"

issued June 19, 2012. The inspectors determined the finding to be of very low safety significance (Green) in accordance with Exhibit 3, “Barrier Integrity Screening Questions,” because the inspectors answered “No” to all questions in Section B of Exhibit 3. This finding did not have a cross-cutting aspect because the performance deficiency was not indicative of current performance.

Inspection Report# : 2016001 *(pdf)*

Significance: G Mar 31, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
FAILURE TO IDENTIFY STRUCTURES, SYSTEMS, AND COMPONENTS AS SAFETY-RELATED
A finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion II, “Quality Assurance,” was identified by the inspectors for the licensee’s failure to identify the structures, systems, and components to be covered by the quality assurance program, in that they did not properly classify a component of the control room emergency ventilation system as safety related. The licensee documented the issue in their corrective action program under Issue Report 2596725. Immediate corrective actions included replacing Differential Pressure Switch (DPS) 0–5795–50 and revising the control room ventilation procedure to allow operators to disable the interlock between the ‘A’ and ‘B’ trains of the control room emergency ventilation system. The procedure change eliminated the need for the DPS to be classified as safety-related (and therefore corrected the violation) because in the event of a failure of the DPS, the system would still be able to perform its safety function. The performance deficiency was determined to be more than minor and a finding because it was associated with the Barrier Integrity Cornerstone attribute of Design Control and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the ‘B’ train of the control room emergency ventilation system is a habitability system that is provided to ensure control room operators are able to remain in the control room and operate the plant safely and to maintain the plant in a safe condition under accident conditions. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, “Significance Determination Process,” Appendix A, “The Significance Determination Process for Findings at Power,” issued June 19, 2012. The inspectors determined the finding to be of very low safety significance (Green) in accordance with Exhibit 3, “Barrier Integrity Screening Questions,” because the finding only represented a degradation of the radiological barrier function provided for the control room and did not represent a degradation of the barrier function of the control room against smoke or toxic atmosphere. This finding did not have a cross-cutting aspect because the performance deficiency was not indicative of current performance.
Inspection Report# : 2016001 *(pdf)*

Significance: G Sep 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
FAILURE TO ESTABLISH ADEQUATE PROCEDURE TO PRECLUDE UNACCEPTABLE PRECONDITIONING OF THE STANDBY GAS TREATMENT SYSTEM
A finding of very low safety significance and an associated non-cited violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was identified by the inspectors for the licensee’s failure to establish a procedure appropriate to the circumstances that precluded unacceptable preconditioning of the standby gas treatment (SBGT) system during surveillance testing. The licensee performed an evaluation and concluded the SBGT system was operable and planned additional testing on the relay timing function. Other corrective actions included revising the applicable procedures such that unacceptable preconditioning would not occur. The licensee captured this issue in their CAP as IR 2524699.
The finding was determined to be more than minor because it was associated with the Barrier Integrity Cornerstone attribute of Procedure Quality and affected the cornerstone objective to provide reasonable assurance that physical

design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the inadequate procedure had the potential to mask the ability of the SBGT system to initiate in time to prevent ex-filtration of radioactive gases during a design basis accident. The finding was determined to be of very low safety significance because it represented a degradation of the radiological barrier function for the SBGT system. This finding had a cross cutting aspect of questioning attitude in the area of human performance because the licensee did not recognize the possibility of mistakes, latent problems, or inherent risk, even while expecting successful outcomes. Specifically, the licensee failed to recognize that performing the steps in the specified sequence could unacceptably precondition the time-delay relay for the SBGT system and mask the ability of the system to perform its function [H.12].

Inspection Report# : 2015003 *(pdf)*

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

Last modified : August 29, 2016