Quad Cities 2
3Q/2007 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CONTROL TRANSIENT COMBUSTIBLES IN THE CABLE SPREADING ROOM
An inspector-identified finding and a Non-Cited Violation of a Quad Cities Nuclear Power Station license condition for fire protection was identified on May 3, 2007, due to the failure to adequately control transient combustible materials in a transient combustible exclusion zone. Specifically, the inspectors discovered two large cardboard boxes and an aerosol spray can that contained methyl alcohol improperly controlled and unattended in the cable spreading room. Corrective actions for this issue included removing the materials from the cable spreading room, providing additional oversight of the transient combustibles control program, and clearly labeling the cable spreading room as a transient combustible exclusion zone.

The inspectors determined that this issue was more than minor because it could be viewed as a precursor to a significant event, i.e., fire impacting multiple pieces of safety-related equipment. Specifically, multiple vertical cable risers were located within the zone of influence for the aerosol can. The inspectors determined that this issue was of very low safety significance based upon the criteria established in Inspection Manual Chapter 0609F, Table 2.9.1, “Risk Significance Based on ?Core Damage Frequency.” The inspectors concluded that this finding was cross-cutting in the area of Human Performance, Work Practices, Oversight, in that the licensee did not ensure that supervisory and management oversight of work activities, including contractors, was appropriate such that nuclear safety was supported.
Inspection Report# : 2007004 *(pdf)*

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: FIN Finding
MANUAL REACTOR SCRAM DUE TO PLUGGED PRESSURE SENSING LINE
A finding of very low safety significance was self-revealed on February 28, 2007, when operations personnel inserted a manual scram in response to increasing condenser back pressure. The licensee determined that blockage of an offgas system pressure sensing line created a condition which resulted in a system relief valve opening. The open relief valve caused the 2A steam jet air ejector efficiency to drop and increased condenser back pressure. Corrective actions for this issue included removing the blockage from the sensing line and developing a periodic maintenance task to ensure the sensing line remained clean. No violations of NRC requirements were identified due to the offgas system being non-safety related.

This finding was more than minor because it was associated with the equipment performance and procedure adequacy attributes of the initiating events cornerstone. The finding also impacted the cornerstone’s objective of limiting the likelihood of events that upset plant stability and challenge safety functions. This finding was of very low safety significance because adequate mitigating systems equipment remained available to respond to a transient with a loss of the power conversion system. The inspectors concluded that this finding was cross-cutting in the area of human performance, resources (H.2(c)), in that the licensee failed to have complete, accurate, and up-to-date procedures regarding pressure sensing line maintenance.
Inspection Report# : 2007003 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation

FAILURE TO HAVE PROCEDURES APPROPRIATE TO THE CIRCUMSTANCE FOR REPLACING THE MAIN STEAM LINE LOW PRESSURE TIME DELAY RELAY
A self-revealed finding was identified when Unit 2 experienced an unexpected half Group I containment isolation signal on January 23, 2007. The half isolation signal was caused by the licensee's failure to have procedures appropriate to the circumstance for replacing the main steam line low pressure time delay relays. As a result, one of eight relays installed in 1991 was allowed to remain in operation until it failed. The inspectors determined that the failure to have procedures for replacing the relays was a Non-cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings." Immediate corrective actions included replacing the failed relay, resetting the half containment isolation signal, and implementing a preventive maintenance activity to replace the remaining relays at a later date.

This finding was more than minor because it was associated with the procedure quality attribute of the Initiating Events Cornerstone. It also affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The inspectors determined that the finding was of very low safety significance because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. Lastly, the inspectors concluded that this finding was cross-cutting in the area of Human Performance, Resources, because the licensee did not have complete, accurate, and up-to-date procedures for replacing the relays.
Inspection Report# : 2007002 *(pdf)*

Mitigating Systems

Significance:  Sep 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY CORRECT MARCH 2007 1D RESIDUAL HEAT REMOVAL PUMP BREAKER FAILURE
A self-revealing finding and a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, was identified in September 2007 for the failure to identify and correct a condition adverse to quality. Specifically, the licensee failed to assure that the cause of the March 2007 failure of the 1D residual heat removal pump breaker was promptly identified and corrected. This resulted in an additional 1D residual heat removal pump breaker failure in May 2007. Corrective actions for this issue included performing an extent of condition review and modifying all of the Unit 1 Merlin Gerin breakers and cubicles. At the conclusion of the inspection period, 17 of the 47 Unit 2 breaker cubicles had also been modified. The remainder will be modified during the next Unit 2 refueling outage.

This issue was more than minor because, if left uncorrected, the failure of safety-related breakers would continue to result in the inoperability of risk significant equipment. This finding was of very low safety significance because it was not a design deficiency, did not result in the total loss of a safety function, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding was determined to be cross-cutting in the area of Problem Identification and Resolution, Corrective Action Program, Evaluation, because the licensee failed to thoroughly evaluate the March 2007 breaker failure to ensure that the resolution addressed the cause and extent of condition.
Inspection Report# : 2007004 *(pdf)*

Significance: SL-IV Sep 07, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate 10 CFR 50.59 Evaluations for the Main Steam Line Tunnel High Temperature Instrumentation and the Electrohydraulic Control System Pressure Regulator
The inspectors identified a Severity Level IV NCV of 10 CFR 50.59(d)(1) for the licensee’s failure to perform an adequate 10 CFR 50.59 evaluation for bypassing a channel of the Main Steam Line (MSL) tunnel high temperature instrumentation and for the failure to perform an adequate 10 CFR 50.59 evaluation for changing the license basis to allow operating the Electrohydraulic Control (EHC) System pressure regulator with only one channel in service. Even though the licensee did not intend to operate the plant permanently with a channel of the MSL tunnel high temperature bypassed or with only one EHC pressure regulator channel, the 10 CFR 50.59 evaluations that were performed

allowed it. Because of this, the inspection team could not reasonably determine that these changes would not have required a license amendment, because the bypassing of the MSL tunnel high temperature channel could have resulted in more than a minimal increase in the likelihood of a malfunction of a structure, system, or component important to safety. Additionally, the change to allow operating the EHC System pressure regulator with only one channel in service could have created a possibility of a malfunction of an SSC important to safety with a different result. This issue was entered into the licensee's corrective action program.

Because the issue potentially impacted the NRC's ability to perform its regulatory function, this finding was evaluated using the traditional enforcement process. The finding was determined to be more than minor because the inspectors could not reasonably determine that these 10 CFR 50.59 evaluations would not have ultimately required NRC prior approval. The inspectors evaluated the finding using Inspection Manual Chapter (IMC) 0609, Appendix A, Phase 1 screening for the mitigating systems cornerstone and determined that the finding was of very low safety significance because they were able to answer "no" to the Mitigating Systems screening questions in the Phase 1 Screening Worksheet. Specifically, while the licensee failed to perform an adequate 10 CFR 50.59 evaluation for bypassing a channel of the MSL tunnel high temperature instrumentation and for allowing operation of the EHC System pressure regulator with only one channel in service, the licensee would have been able to perform these same actions under the NRC Part 9900 Technical Guidance for Degraded or Nonconforming Conditions.
Inspection Report# : 2007008 *(pdf)*

Significance: G Sep 07, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Account for Delays in ECCS MOV's Due to Voltage Dips during Load Sequencing
The inspections identified an NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," that was of very low safety significance. Specifically, Motor Operated Valve (MOV) delays caused by voltage dips during load sequencing were not translated into and accounted for in the design basis for the In-Service Testing (IST) stroke time acceptance criteria for the Residual Heat Removal (RHR) system inboard and outboard shutoff valves and two core spray inboard isolation valves. This issue was entered into the licensee's corrective action program.

The issue was more than minor because it was associated with the Mitigating System Cornerstone attribute of "Design Control," and affected the cornerstone objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the MOV delays caused by voltage dips during Emergency Core Cooling System (ECCS) load sequencing were not accounted for in the licensee's design basis. This introduced non-conservativisms in the margins for MOV IST acceptance criteria and also potentially for the acceptance criteria themselves. This finding was of very low safety significance, because the inspectors answered "no" to all five questions under the Mitigating Systems Cornerstone column of the Phase 1 worksheet. Specifically, even though the MOV delays were non-conservative, the actual MOV stroke times during the most recent IST testing for the valves in question were much less than the IST acceptance criteria
Inspection Report# : 2007008 *(pdf)*

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: FIN Finding
INADEQUATE OPERABILITY JUSTIFICATION FOR UNIT 2 4 KV BREAKERS
The inspectors identified a finding of very low safety significance on May 21, 2007, due to the failure to adequately document and justify the basis for continued operability of the 4 kV breakers in Unit 2 following the identification of a common mode failure mechanism on the 4 kV breakers in Unit 1. In response to this issue, the licensee documented additional information to justify the continued operability of the breakers. The licensee was also developing additional corrective actions to improve the implementation of the operability determination/evaluation process. No violation of NRC requirements was identified because operability determinations were not required by NRC regulations.

This finding was more than minor because if left uncorrected, continued inadequate justifications could result in incorrectly concluding that safety-related components remained operable rather than inoperable. This finding was of very low safety significance because it was not a design deficiency, did not result in a loss of safety function, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors concluded that this finding was cross-cutting in the area of human performance, decision making (H.1(b)), in that the

licensee did not use conservative assumptions to demonstrate that the proposed action was safe rather than unsafe.
Inspection Report# : 2007003 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: FIN Finding
INADQUATE OVERSIGHT AND PERFORMANCE OF TRAINING RESULTS IN TRIPPING AN OPERATING CONTROL ROOM FAN
A self-revealed finding was identified on January 1, 2007, when an initial license trainee tripped the "A" control room ventilation system during a training evolution. The inspectors determined that inadequate oversight of the training evolution by the task performance evaluator contributed to this issue. No violation of NRC requirements was identified because the "A" control room ventilation system was non-safety related.

The failure to perform and provide appropriate oversight of training activities was determined to be more than minor because, if left uncorrected, it would lead to the unexpected shut down of other risk significant equipment and the performance of negative training. This finding was of very low safety significance because it did not represent a degradation of the control room radiological barrier, a degradation of the control room smoke or toxic gas barrier, or an actual open pathway in the reactor containment. The inspectors determined that this finding was cross-cutting in the area of Human Performance, Work Practices, because the licensee failed to ensure that the supervisory and management oversight of work activities was appropriate to ensure that nuclear safety was supported.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
REPLACING UNIT 2 PORVS WITH ERVS NOT IN ACOCRDANCE WITH 10 CFR 50.49
The team identified a finding of very low safety significance involving the replacement of an environmentally qualified (EQ) Category I component with an EQ Category II component. Specifically, a Non-Cited Violation of 10 CFR 50.49, was associated with this finding, in that, in 2004, the licesee replaced the Target Rock Power Operated Relief Valves, qualified Category I in accordance with environmental qualificiation requirements, with Dresser Electromatic Relief Valves, qualified as Category II components, which was not allowed under the regulation. Corrective actions for this issue included evaluating whether the currently installed valves could be qualified as EQ Category I components.

The finding was more than minor because it was associated with the design control attribute of the Mitigating System cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety signficance because the valves continued to be operable based upon qualification to EQ Category II. Therefore, reasonable confidence remained that the valves would perform their safety function under accident conditions. This finding is related to the cross-cutting element of Human Performance, Decision Making, in that the licensee did not use conservative assumptions in the decision to replace EQ Category I valves with EQ Category II valves. Specifically, the licensee continued to rely on an incorrect interpretation that EQ requirements were met.
Inspection Report# : 2007002 *(pdf)*

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: FIN Finding
PERFORMANCE OF MAINTENANCE ACTIVITIES WITHOUT A PROCEDURE
The inspectors identified a Green finding due to the licensee’s performance of maintenance without documented work instructions on two occasions. In one instance, the licensee failed to identify that the agitation of the 2A reactor feedwater pump minimum flow valve solenoid constituted a maintenance activity. As a result, actions were not taken to address the undocumented maintenance activity. Immediate corrective actions included briefing personnel on both events, stopping the associated work activities, providing enhanced guidance on manual agitation of equipment, and reinforcing that documented work instructions were required prior to performing maintenance.

The inspectors determined that this issue was more than minor because if left uncorrected, it could lead to the performance of additional, undocumented maintenance activities on both safety-related and non-safety related equipment. The finding was of very low safety significance because the maintenance did not result in a loss of safety function for any system. The inspectors concluded that this finding was cross-cutting in the area of human performance, work practices in that human error prevention techniques were not utilized, the proper documentation of activities did not occur, and personnel proceeded in the face of uncertainty. No violation of NRC requirements was identified due to the undocumented maintenance being performed on non-safety related equipment.
Inspection Report# : 2006007 *(pdf)*

Significance: G Dec 15, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO DEVELOP CORRECTIVE ACTIONS
The inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for failure to assure that conditions adverse to quality were promptly corrected. Specifically, the inspectors concluded that the licensee failed to develop actions to correct conditions adverse to quality identified during root cause investigation activities for a Unit 1 standby liquid control tank leak identified in October 2006. This finding had a cross-cutting aspect in the area of problem identification and resolution because the licensee failed to thoroughly evaluate conditions identified during its root cause investigation for the SLC tank leakage which resulted in the failure to develop appropriate corrective actions. The licensee entered this performance deficiency into the CAP for resolution.

This finding is associated with the Mitigating Systems Cornerstone. The finding was more than minor because if left uncorrected, future conditions adverse to quality would not be fully evaluated or corrected. The inspectors assessed the significance of this finding as very low safety significance because the finding did not represent an actual loss of safety function of the standby liquid control tank.
Inspection Report# : 2006017 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Comply with TS SR 3.8.4.2 for 125 Vdc Battery Terminal Connection Corrosion and Resistance Measurements (Section 1R21.3.b.1)
The team identified a Non-Cited Violation (NCV) of Technical Specification (TS) Surveillance Requirements (SR) 3.8.4.2, Amendment 199/195, having very low safety significance for failure to meet the TS SR when visible corrosion on Units 1 and 2, 125 Vdc safety-related battery inter-cell and terminal connections was identified. Upon discovery, the licensee’s corrective actions included: initially cleaning of all 125 Vdc terminals and connectors; taking connection resistance measurements; and initiating a root cause analysis to identify the cause(s) of this adverse to quality condition.

The finding was more than minor because failure to ensure that Units 1 and 2, 125 Vdc safety-related batteries are being maintained in accordance with vendor specified requirements, applicable procedures and TS SRs could result in unacceptable battery terminal connection resistances and decreased battery capacity, rendering the DC system incapable of performing its intended safety function. Based on the results of the licensee’s analysis, the finding was determined to be of very low safety significance using the SDP Phase 1 screening worksheet. The cause of the finding related to the cross-cutting aspect of human performance, work practices, procedures because the licensee failed to maintain procedure compliance. (Section 1R21.3.b.1)

Inspection Report# : 2006003 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Battery Connection Resistance Value Specified in TS SRs Insufficient to Ensure Operability (Section 1R21.3.b.2)
The team identified a NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” having very low safety

significance involving the failure to verify and ensure that the 125 Vdc safety-related batteries would remain operable if all the inter-cell and terminal connections were at the resistance value (< 150 micro-ohms) allowed by TS SR 3.8.4.2 and SR 3.8.4.5.

The finding was more than minor because if left uncorrected, the finding could become a more significant safety concern. Specifically, the 125 Vdc safety-related batteries would become incapable of meeting their design basis function if the inter-cell and connection resistance were allowed to increase to the TS allowed value. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet. (Section 1R21.3.b.2)

Inspection Report# : 2006003 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Calculation Input Design Data Discrepancies for the Auxiliary Power Analysis and EDG Loading (Section 1R21.3.b.3)
The team identified a NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance involving inadequate design review of the loading calculation for the emergency diesel generators (EDG's). Specifically, the licensee's engineers failed to adequately identify design input data and perform an adequate design review of the design data for the EDGs that was used in the auxiliary power analysis and the EDG loading calculations. The licensee subsequently determined that the EDGs were operable and that the load margin was not adversely affected based on a revised loading calculation.

The finding was more than minor because failing to correctly identify and input the correct equipment design data into the auxiliary power analysis program would result in the load conditions on the EDG's or other areas of the electrical power analysis not being accurately evaluated, resulting in inaccurate determination of EDG loading. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet. (Section 1R21.3.b.3)

Inspection Report# : 2006003 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Licensee Used Inappropriate Vortex Analysis Methodology (Section 1R21.3.b.4)
The team identified a NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance involving licensee's failure to select an appropriate method for calculating the onset of vortexing at the intake of the high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) pumps' suction lines from the contaminated condensate water storage tank (CCST) water storage tank. Additionally, the licensee failed to fully account for the impact of instrument uncertainty in the tank level switch setpoint which determines the point where suction for the pumps is switched from the CCST to the torus. Once identified, the licensee issued IR 00524923 which contained an evaluation of a more appropriate method for determining the onset of vortexing in the tank.

The finding was more than minor because the failure to prevent the formation of vortexing at the intake of the HPCI and RCIC suction lines would result in air entrainment causing pulsating pump flow and/or reduction in pump performance. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet. (Section 1R21.3.b.4)

Inspection Report# : 2006003 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Sizing Calculation for ADS/SRV Air Accumulator Storage Tank (Section 1R21 Non-Conservative .3.b.5)

The team identified a NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” having very low safety significance involving the sizing calculation for the Target Rock ADS/SRV air accumulator tank. Specifically, the team identified that the licensee failed to correctly specify the minimum differential air pressure required to actuate the ADS/SRV valves, failed to include the volume of the piping from the solenoid to the ADS/SRV actuator, and had the wrong assumption for leakage rate used as acceptance criteria in air drop testing. Once identified, the licensee determined that the calculation required revision to correct the problems that were identified by the team.

The finding was more than minor because the failure to have adequate pneumatic pressure and volume in the accumulator tank would result in over-predicting the accumulator capacity. The finding was of very low safety significance based on the results of the licensee’s analysis and screened as Green using the SDP Phase 1 screening worksheet. (Section 1R21.3.b.5)

Inspection Report# : 2006003 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Discrepant MCC Voltages Used in Degraded MOV Voltage Drop Calculations (Section 1R21.3.b.6)
The team identified a NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” having very low safety significance concerning the failure to use proper and most current design input for the control circuit voltage drop calculation for safety related motor operated valves in motor control center 28-1B. Subsequently, on September 1, 2006, the licensee determined, based on review of other electrical design calculations, that the affected circuits will have adequate voltage to ensure proper function of the valves components

The finding was more than minor because the licensee failed to update the control circuit voltage drop calculation for the MOVs to reflect the more conservative MCC design input voltage and ensure the correct voltage for the motor contactor pick up was available. This finding has been screened as Green using the SDP Phase 1 screening worksheet. (Section 1R21.3.b.6)

Inspection Report# : 2006003 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Load Tabulation in Operations Procedure QCOP 6500-28 (Section 1R21.3.b.7)
The team identified a NCV of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” having very low safety significance for failing to maintain an adequate procedure for establishing an accurate load tabulation to ensure that the bus feeder breakers to Bus 24-1 were not overloaded during bus cross-tie operation. Specifically, the procedure did not require entering the expected load data from Bus 14-1 during a bus cross-tie operation into the load tabulation. Once identified, the licensee entered the finding into their corrective action program as IR 00521012 and planned to revise the procedure.

The finding was more than minor because, if left uncorrected, it could result in an overloaded bus feeder breaker, since Bus 14-1 cross-tie load could not be accounted for in the tabulation of the Bus 24-1 loading. The finding was of very low safety significance based on the results of the licensee’s analysis and screened as Green using the SDP Phase 1 screening worksheet. (Section 1R21.3.b.7)

Inspection Report# : 2006003 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Inconsistency in Procedures for Cleaning Batteries (Section 1R21.3.b.8)
The team identified a NCV of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” having very low safety significance for the operations 125 Vdc safety-related battery procedure being discrepant from

vendor specified instructions and other plant battery procedures. Specifically, the procedure stated that, “if electrolyte is spilled on batteries, then use only demineralized water for cleaning.” This differed from the vendor’s specific instructions and other maintenance procedures which stated that electrolyte spill on batteries shall be neutralized with baking soda water solution. The licensee entered the finding into their corrective action program as IR 00525113.

The finding was more than minor because demineralized water will not neutralize the electrolyte spill on the batteries and could lead to undesirable consequences such as corrosion and potentially affect the battery’s design function. This finding has been screened as Green using the SDP Phase 1 screening worksheet. (Section 1R21.3.b.8)

Inspection Report# : 2006003 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Comply with Preventive Maintenance Procedure Requirements Concerning Re-Torquing of Corroded Electrical Terminal Connections (Section 1R21.3.b.9)
The team identified a NCV of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” having very low safety significance for failure to follow the 125 Vdc station battery preventive maintenance procedure requirement and vendor recommendation not to re-torque corroded battery cell connections. Additionally, the licensee failed to document the as left re-torque values, after re-torquing was performed. Subsequently, the licensee evaluated the as-found conditions and determined the batteries remained operable.

The finding was more than minor because frequent re-torquing of connections will result in distortion of cell posts and connectors, thus degrading rather than improving the connections and may result in affecting the capability of the battery in performing its safety function. This finding has been screened as Green using the SDP Phase 1 screening worksheet. The cause of the finding related to the cross-cutting aspect of human performance, resources, documentation as the documentation, procedures, and work packages used during the battery maintenance did not contain complete, accurate, and up to date information regarding the connection torquing. (Section 1R21.3.b.9).

Inspection Report# : 2006003 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Non-Conservative HPCI Pump Test Acceptance Criteria (Section 1R21.3.b.10)
The team identified a NCV of 10 CFR Part 50, Appendix B, Criterion XI, “Test Control,” having very low safety significance for failure to ensure that the HPCI pump hydraulic performance tests had acceptance criteria that incorporated the acceptance limits from applicable design documents. If the HPCI pump had degraded to the lower limit of the acceptance band, as listed in the test acceptance criteria, the pump would not have been able to meet the design basis discharge pressure and flow requirements. Following the identification of the issue the licensee entered the issue into the corrective action program as IR 00525592 and verified the operability of the pump based on actual test results.

The finding was more than minor because inadequate pump testing could result in HPCI pump not capable of providing the required design basis flow during accident conditions. The finding was of very low safety significance and screened as Green because subsequent analysis determined that the pumps were currently capable of meeting the design basis discharge pressures and flows. (Section 1R21.3.b.10)

Inspection Report# : 2006003 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Non-conservative Safety-Related Air Storage Tank Capacity Test (Section 1R21.3.b.11)

The team identified a NCV of 10 CFR Part 50, Appendix B, Criterion XI, “Test Control,” having very low safety significance involving the air drop testing for the Target Rock ADS/SRV air accumulator tank. Specifically, the team identified that the licensee failed to correctly specify the minimum accumulator pneumatic pressure required to test the Target Rock ADS/SRV valves. Once identified, the licensee entered the finding into their corrective action program as IR 0052383 to revise the test procedure. An Operability Evaluation for Unit 1 was performed by the licensee to ensure system operability was not affected.

The finding was more than minor because the failure to test the pneumatic accumulator tank at its design basis minimum pressure would result in over-predicting the accumulator capacity. This condition could effect reliable operation of the Target Rock ADS/SRV valves. The finding was of very low safety significance because licensee determined the issue was a test deficiency confirmed not to result in loss of operability per “Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment. (Section 1R21.3.b.11)

Inspection Report# : 2006003 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: FIN Finding
Shift Management Failed to Adequately Document Basis for Operability Determination (Section 1R21.3.b.12)

Inspection Report# : 2006003 *(pdf)*

Barrier Integrity

Significance: G Sep 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURES AND USE HUMAN PERFORMANCE TOOLS RESULTS IN REACTOR BUILDING VENTILATION ISOLATION
A self-revealing finding and a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, was identified on September 8, 2007, due to the failure to follow procedures during the performance of Unit 1 125 Vdc ground detection activities. The failure to follow procedures resulted in the inadvertent isolation of the Unit 2 reactor building ventilation system. Corrective actions for this issue included restoring the isolated plant equipment, briefing personnel on the event, revising the ground detection procedure to ensure consistency with other Exelon stations, requiring additional oversight of ground detection activities, and implementing additional human performance improvement initiatives.

The inspectors determined that this issue was more than minor because if left uncorrected, it would lead to additional equipment issues. The inspectors determined that this issue was of very low safety significance because it did not represent a degradation of a radiological barrier provided by the standby gas treatment system, did not represent a degradation of the barrier function of the control room ventilation system against smoke or a toxic atmosphere, and did not represent an actual open pathway in the physical integrity of the reactor containment. The inspectors concluded that this finding was cross-cutting in the area of Human Performance, Work Practices, Human Error Prevention because the licensee’s human error prevention techniques were not used to ensure that the work activity was performed safely.
Inspection Report# : 2007004 *(pdf)*

Emergency Preparedness

Significance: G Mar 31, 2007

Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO COMPLETE HYDROSTATIC TESTS ON ALL SCBA AIR BOTTLES AT PROCEDURAL REQUIRED INTERVALS
The inspectors identified a Green finding and a Non-Cited Violation of NRC requirements on February 8, 2007, due to the licensee's failure to complete hydrostatic tests on multiple self-contained breathing apparatus (SCBA) air bottles at the required frequency. The inspectors determined that approximately 12 percent of the in-service emergency response related SCBA air bottles had not been tested within the previous 3-year period as required by licensee procedures.

The issue was more than minor because it was associated with the facilities/equipment attribute of the Emergency Preparedness Cornerstone. The finding also affected the cornerstone objective of ensuring the licensee was capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The inspectors determined that the issue resulted in a failure to comply with 10 CFR 50.54(q) and the Emergency Plan requirements associated with one of the Planning Standards in 10 CFR 50.47(b). The issue also represented a degradation of the emergency worker protection portion of the Planning Standard provided in 10 CFR 50.47(b)(10) that involved more than an isolated, small percentage of the licensee's SCBA equipment. Since the finding did not represent a functional failure of the Planning Standard, the finding was determined to be of very low safety significance. This finding was also cross-cutting in the area of Human Performance, Resources, because the principal cause of the problem was the lack of an adequate procedure and process to ensure that SCBA bottles were tested at the proper frequency and tracked in the licensee's inventory. Corrective actions for this issue included hydrostatic testing of the affected bottles, verification that all other SCBA bottle hydrostatic tests were current, expanding the SCBA bottle monthly inspection requirements, and plans to re-evaluate the process used to introduce newly acquired SCBA equipment into the licensee's inventory.
Inspection Report# : 2007002 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Dec 15, 2006
Identified By: NRC
Item Type: FIN Finding
Biennial PI&R Inspection Summary
In general, the station identified issues and entered them into the corrective action program (CAP) at the appropriate level. In addition, issues that were identified from operating experience reports and instances where previous corrective actions were ineffective or inappropriate were also entered into the CAP. The inspectors concluded that issues were properly prioritized and generally evaluated well. The inspectors determined that conditions at the Quad Cities station were conducive to identifying issues. The licensee staff at Quad Cities was aware of and generally

familiar with the CAP and other station processes, including the Employee Concerns Program, through which concerns could be raised. One finding of very low safety significance (Green) was identified associated with the effectiveness of the corrective action program. The finding originated from the review of a root cause investigation conducted for the Unit 1 standby liquid control tank through-wall leak.

Inspection Report# : 2006017 *(pdf)*

Last modified : December 07, 2007