# Quad Cities 2
# 4Q/2003 Plant Inspection Findings

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## Initiating Events

**Significance:** G Sep 30, 2003
Identified By: NRC
Item Type: FIN Finding
**FAILURE TO PERFORM THOROUGH EXTENT OF CONDITION REVIEW AND INTERNAL DRYER INSPECTION FOLLOWING FIRST STEAM DRYER FAILURE**
Green. The inspectors determined that the failure to perform visual inspection of the dryer's internal surfaces and complete an extent of condition review which evaluated the full spectrum of frequencies acting on the Unit 2 steam dryer following a June 2002 failure contributed to a repetitive failure in June 2003.

This finding was more than minor because it impacted the equipment performance attribute of the initiating events cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability. The inspectors determined that this finding was of very low risk significance because the failed steam dryer did not contribute to a loss of safety function for any mitigating system. The licensee's corrective actions included repairing the steam dryer and implementing additional measures to ensure that appropriate extent of condition reviews were completed when required. (Section 4OA2.3)
Inspection Report# : 2003009*(pdf)*

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## Mitigating Systems

**Significance:** G Dec 31, 2003
Identified By: NRC
Item Type: FIN Finding
**FAILURE OF STEAM DRYER MONITORING PLAN TO DETECT SIGNIFICANT DRYER DEGRADATION IN THE EARLY STAGES TO PRECLUDE FAILURE WHICH COULD IMPACT SAFETY-RELATED EQUIPMENT.**
A self-revealing finding was identified due to the failure of the steam dryer monitoring plan to detect significant Unit 1 dryer degradation in the early stages. As a result, actions which could have been taken to preclude the generation of loose parts, and minimize potential damage to mitigating systems equipment, were unable to be taken.

This finding was determined to be more than minor because it impacted the equipment performance attribute of the mitigating systems cornerstone and impacted the objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that this finding was of very low safety significance as the dryer failure did not result in the loss of safety function of any mitigating systems equipment.
Inspection Report# : 2003013*(pdf)*

**Significance:** G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
**PROCEDURES FOR PLACING RESIDUAL HEAT REMOVAL PUMP IN SHUTDOWN COOLING NOT APPROPRIATE TO THE CIRCUMSTANCES**
A self-revealing event occurred on April 17, 2003, due to the failure to have procedures appropriate to the circumstances for placing a residual heat removal pump in the shutdown cooling mode of operation. When taken in conjunction with a degraded relief valve, the inadequate procedural guidance increased the pressure in the residual heat removal piping to a level which exceeded the relief valve setpoint. The discharge from the relief valve traveled to the reactor building floor drain sump and was unnoticed by control room and radwaste operations personnel for more than 10 hours due to weaknesses in control room and radwaste panel monitoring. By the time this condition was identified, the floor drain sump had overflowed and approximately one-half inch of water had accumulated on portions of the reactor building basement floor. The failure to have a procedure appropriate to the circumstance was determined to be a violation of NRC requirements. The inspectors considered the weakness in panel monitoring by both control room and radwaste operations personnel to be a human performance issue since this delayed the identification of this self-revealing condition. Lastly, the failure of the licensee to identify the weaknesses in operator performance prior to prompting by the inspectors was considered a problem identification and resolution issue.

This finding was more than minor because it was associated with the procedure quality and protection against external factors attributes of the mitigating systems cornerstone. In addition, this finding impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences such as flooding. The inspectors determined that this finding was of very low safety significance as adequate decay heat removal and mitigating systems capability was maintained.
Inspection Report# : 2003013*(pdf)*

**Significance:** G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
**FAILURE TO DEMONSTRATE PERFORMANCE OR CONDITION OF REACTOR BUILDING FLOOR DRAIN SUMP HIGH LEVEL ALARMS WERE EFFECTIVELY CONTROLLED THROUGH PERFORMANCE OF PREVENTIVE MAINTENANCE**
The inspectors identified a Green finding involving a Non-Cited Violation for the failure to demonstrate effective control of the condition of the reactor building floor drain sump high level alarms through the performance of preventive maintenance. As a result, the licensee had not set goals or monitored the performance of the alarms as required by 10 CFR Part 50.65(a)(1).

This finding was determined to be more than minor because if left uncorrected the failure to perform appropriate preventive maintenance would become a more significant safety concern. Due to the nature of this finding, it was unable to be assessed using the Significance Determination Process. However, the details of this finding were reviewed by Region III management, maintenance rule personnel in the Office of Nuclear Reactor Regulation, and Office of Enforcement personnel and determined to be of very low risk significance.
Inspection Report# : 2003013*(pdf)*

**Significance:** G Sep 30, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
**CONDITION ADVERSE TO QUALITY NOT IDENTIFIED AND CORRECTED DUE TO FAILURE TO**

**FOLLOW TROUBLESHOOTING AND EQUIPMENT DEFICIENCY PROCEDURES**
Green. The inspectors identified a Green finding and a Non-Cited Violation due to the failure to follow procedures after discovering that a shutdown cooling suction valve would not operate from the control room. The failure to follow procedures resulted in several human performance issues including: the failure to initiate a work request when required, the performance of troubleshooting activities prior to developing a formal troubleshooting plan, the use of repetitive cycling to resolve equipment deficiencies, and the use of the equipment cycling results as a basis for continued component operability. The deficiencies in work request initiation subsequently contributed to the licensee's failure to correct this equipment deficiency.

The inspectors determined that the failure to follow procedures after discovering this equipment deficiency was more than minor because if left uncorrected, this practice could lead to the failure to appropriately identify and correct subsequent deficiencies. The inspectors determined that the finding was of very low safety significance because the shutdown cooling suction valve could be manually operated if needed and adequate decay heat removal could be maintained using the remaining residual heat removal equipment. The licensee's corrective actions included maintaining the ability to manually open the suction valve, performing preventive maintenance on the valve's breaker, and re-enforcing the actions to be taken upon discovering an equipment deficiency. (Section 4OA2.2)
Inspection Report# : 2003009*(pdf)*

**Significance:**  Jun 30, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
**FAILURE TO PROVIDE A CORRECT PROCEDURE FOR VENTING EMERGENCY CORE COOLING SYSTEM TO DEMONSTRATE THE PIPING FULL OF WATER**
The inspectors identified a Non-Cited Violation of Technical Specification Paragraph 5.4.1 for the licensee's failure to provide a correct procedure for venting emergency core cooling systems to ensure continued operability. As a result, 1B core spray operability was not properly evaluated after a large volume of gas was vented from the system.

This finding was greater than minor because it prevented a proper operability evaluation of the 1B core spray system after operators vented a large volume of gas from the system. It adversely affected the procedure quality attribute of the mitigating systems cornerstone. If left uncorrected, the finding could become a more significant safety concern. The finding was of very low safety significance because the failure to address the as-left operability of the 1B core spray system did not result in the actual loss of the 1B core spray safety function.
Inspection Report# : 2003005*(pdf)*

**Significance:**  Jun 30, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
**FAILURE TO IMPLEMENT ADEQUATE CORRECTIVE ACTION FOR A PREVIOUSLY IDENTIFIED EMERGENCY DIESEL GENERATOR PRECONDITIONING CONCERN**
The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI for the licensee's failure to implement adequate corrective action for a previously identified emergency diesel generator preconditioning concern. The inadequate corrective action contributed to the preconditioning of two emergency diesel generators and prevented proper preconditioning evaluations.

This finding was greater than minor because it contributed to the preconditioning of two emergency diesel generators and prevented a proper preconditioning evaluation. It adversely affected the procedure quality attribute of the mitigating systems cornerstone. If left uncorrected, the finding could become a more significant safety concern. The finding was of very low safety significance because it did not result in the actual loss of the emergency diesel generator

safety function.
Inspection Report# : 2003005*(pdf)*

**Significance:** G Mar 31, 2003
Identified By: NRC
Item Type: FIN Finding
**UNIT 2 REACTOR CORE ISOLATION COOLING RENDERED INOPERABLE DURING SCAFFOLD DISASSEMBLY**
The inspectors identified a finding involving a human performance error that resulted in the loss of the safety function of the Unit 2 reactor core isolation cooling system. An individual inadvertently bumped the system's trip throttle mechanism while removing scaffolding from the area.

The inspectors determined that the finding was more than minor because it impacted the mitigating systems attributes and objectives. In particular, the finding affected the availability, reliability, and capability of the reactor core isolation cooling system, a system that responds to initiating events to prevent undesirable consequences. The finding was of very low safety significance based on the low probability of core damage for the analyzed sequences.
Inspection Report# : 2003003*(pdf)*

**Significance:** G Mar 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
**FAILURE TO MAINTAIN ADEQUATE SPATIAL SEPARATION OF FLAMMABLES FROM THE DIESEL DRIVEN FIRE PUMPS**
The inspectors identified a finding involving a Non-Cited Violation for the licensee's failure to maintain 80 feet of spatial separation between a flammable liquids storage cabinet and the furthest diesel fire pump as required by the Quad Cities Operating Licenses and the Fire Protection Program.

The inspectors concluded that this finding was more than minor because the improper cabinet placement and potential storage of a large amount of flammable materials could lead to a fire which could engulf both fire pumps and cause a loss of the non safety-related service water system and the circulating water system. In addition, this finding was associated with the initiating events cornerstone attribute of protecting the plant against external factors and impacted the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions. The finding was of very low safety significance based on the determination that the actual stored flammable liquids, if inadvertently ignited, would not produce sufficient radiative heat flux to damage both fire pumps at the same time.
Inspection Report# : 2003003*(pdf)*

**Significance:** G Mar 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
**FAILURE TO PROPERLY LATCH FUSE DRAWERS CAUSING AUTOMATIC INITIATION AND LOADING OF EMERGENCY DIESEL GENERATOR**
The inspectors identified a finding involving a Non-Cited Violation on Unit 1 for the failure to properly latch the potential transformer fuse drawers for bus 14 and bus 14-1. This resulted in the fuse drawers dropping open and causing the automatic initiation and loading of the emergency diesel generator due to loss of voltage on the emergency bus. Multiple operations department procedures failed to contain instructions to ensure that the potential transformer fuse drawers for the safety-related busses were properly latched. Unit 1 was unknowingly vulnerable to a loss of

voltage condition on two safety-related busses during a seismic event.

The finding was more than minor because it was associated with attributes in both the mitigating systems and initiating events cornerstones and also affected each cornerstone objective. For example, a seismic event could cause both drawers to open resulting in a loss of both busses; a scram, and the loss of two residual heat removal service water pumps. The finding was of very low safety significance primarily due to the low initiating event frequency associated with a seismically induced loss of offsite power.
Inspection Report# : 2003003*(pdf)*

**Significance:** G Mar 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
**FAILURE TO RESET PRIMARY CONTAINMENT ISOLATION LOGIC CAUSING RHR LPCI INOPERABILITY**
The inspectors identified a finding on Unit 2 involving a Non-Cited Violation for the failure to reset the primary containment isolation logic after testing the low pressure coolant injection valves which caused the inoperablility of both residual heat removal loops for more than 18 days.

The inspectors determined that the failure to reset the isolation logic after testing was more than minor because it involved the configuration control, equipment performance, and human performance attributes of the mitigating systems cornerstone, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance based on the operators' abilities to recover the system during accident conditions, if required for injection, and the low probability of core damage for the analyzed sequences.
Inspection Report# : 2003003*(pdf)*

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## Barrier Integrity

**Significance:** G Apr 29, 2003
Identified By: NRC
Item Type: FIN Finding
**DEFICIENT MONITORING AND TRENDING OF TAILPIPE TEMPERATURES ON THE 3B PORV**
The inspectors identified a Green finding for deficient monitoring and trending of tailpipe temperatures on the 3B power operated relief valve due, in part, to not fully implementing the recommendations of General Electric Service Information Letter 196 and the long-term acceptance of high temperatures that masked a potential degraded condition.

This issue was more than minor because the issue is associated with both the Initiating Events and the RCS (reactor coolant system) Barrier Cornerstones due to the relief valve spuriously lifting. This directly affects the associated cornerstone objectives of limiting the likelihood of those events that upset plant stability and maintaining the functionality of the reactor coolant system. This capability is important for mitigating events which can lead to core damage. A Phase 3 analysis concluded the safety significance of the inspection finding based on the change in CDF (core damage frequency) to be very low.
Inspection Report# : 2003006*(pdf)*

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

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## Miscellaneous

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