

Quad Cities 1

2Q/2010 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Dec 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE OF RHR TORUS SPRAY ISOLATION VALVE TO OPEN DUE TO DECLUTCH MECHANISM PROBLEMS

A finding of very low safety significance and an NCV of TS 3.6.2.4, “Residual Heat Removal (RHR) Suppression Pool Spray,” was self-revealed for the licensee’s failure to meet the TS limiting conditions of operation (LCO) requirements prior to transitioning into an operating mode where the LCO was required to be satisfied. Specifically, Motor Operator (MO) 1-1001-37B was found to have been inoperable when the operating crew moved from Mode 4 to Mode 2 on May 30, 2009. The valve actuator had been inadvertently declutched (i.e. motor disengaged) and the valve was not demonstrated operable by stroking the valve electrically after the actuator motor was declutched. Inspectors determined that the finding was cross-cutting in the area of Problem Identification and Resolution - Corrective Action because plant personnel failed to identify the physical contact with the valve actuator that resulted in the valve being declutched; therefore, operators incorrectly assessed the system condition as in compliance with TS 3.6.2.4 (P.1(a)).

The finding is more than minor because it was associated with the equipment performance quality attribute of the Mitigating Systems cornerstone and affected the objective of ensuring availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, failure to verify system availability and capability prior to entering the required modes resulted in fewer available mitigating systems than assumed in the operating risk evaluations. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Phase 1 - Initial Screening and Characterization of findings,” Table 4a. Inspectors answered all of the questions for the Mitigating Systems cornerstone “No.” Therefore, the finding screened as Green or very low safety significance.

Inspection Report# : [2009005](#) (*pdf*)

Significance:  Sep 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE OF LICENSEE TO PROPERLY TRANSLATE TS OPERABLE-OPERABILITY

The inspectors identified a finding of very low safety significance and an NCV of 10 CFR 50 Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure to provide a procedure appropriate to the circumstances for an activity affecting quality. Specifically, the licensee failed to properly translate the Technical Specification (TS) Operable-Operability definition into procedures that established operability of systems affected by a hazard barrier that had been disabled for maintenance. This resulted in the operators disabling an internal flooding barrier without identifying that the affected systems were inoperable. Corrective action included immediate restoration of the barrier and the issue was entered into the licensee’s corrective action program. Subsequently, the procedure was revised to require operators to identify the system as inoperable or employ appropriate compensatory measures to maintain operability when a flooding barrier is impaired.

This issue is more than minor because, if left uncorrected, it could become a more significant safety concern, in that the unit could continue to operate at power for longer than allowed by TS with more than one required emergency core cooling system (ECCS) system exposed to internal flooding from a single failure from a non-Class 1 system and

challenging safe shutdown assumptions. The inspectors performed a Phase 1 SDP evaluation and answered “No” to all of the Mitigating Systems questions in IMC 0609, Attachment 4, Table 4a. The issue, therefore, screened as Green or very low safety significance. The incorrect procedural guidance was the principal contributor to the operator’s failure to identify that the affected systems were inoperable, and the inspectors determined that the event is cross-cutting in Human Performance, Resources, Procedures (H.2(c)).

Inspection Report# : [2009004](#) (pdf)

Significance:  Sep 10, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Evaluate Lack of Water Spray System Piping

A finding of very low safety-significance and associated non-cited violation (NCV) of license condition 3.F for Units 1 and 2 was identified by the inspectors for the licensee’s failure to evaluate the lack of supports for a water spray system. Specifically, the licensee failed to evaluate a deviation from fire protection standards for the lack of supports on two sections of water spray system piping. Upon discovery of the unsupported piping, the licensee entered the issues into their corrective action program and performed an evaluation of the piping which subsequently demonstrated acceptability.

The finding was determined to be more than minor because there was reasonable doubt on the acceptability of the unsupported piping. The issue was of very low safety-significance because the piping was subsequently determined to be acceptable. No cross-cutting aspects were associated with this finding because the finding was not representative of current performance. (Section 1R05.4.b(1))

Inspection Report# : [2009006](#) (pdf)

Significance:  Sep 10, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide Adequate Electrical Coordination for Control Circuit

A finding of very low safety-significance and NCV of 10 CFR Part 50, Appendix R, Section III.L.3 was identified by the inspectors for the licensee’s failure to ensure that the alternate shutdown capability was independent from the fire area of concern. Specifically, the licensee failed to provide adequate electrical coordination of protective devices to ensure that postulated fire-induced electrical faults would have not resulted in the loss of post-fire alternative safe shutdown equipment, i.e., safe shutdown makeup pump. The licensee subsequently entered the issue into their corrective action program, revised the affected safe shutdown procedure, and replaced the affected circuit breakers to improve electrical coordination.

The finding was determined to be more than minor because the failure to ensure adequate electrical coordination between the fuses and the upstream breaker for the safe shutdown makeup pump control circuit could have impacted the capability of achieving and maintaining safe shutdown condition following a postulated fire in the cable spreading room or auxiliary electric equipment room. The issue was of very low safety-significance because there was a high degree of confidence that a fire would be controlled prior to cable damage resulting from credible fire scenarios. No cross-cutting aspects were associated with this finding because the finding was not representative of current performance.

Inspection Report# : [2009006](#) (pdf)

Barrier Integrity

Significance:  Dec 31, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

DARLEY PUMP LEAKING GASOLINE FROM THE FUEL PUMP

A finding of very low safety significance was self-revealed for the failure to perform maintenance that would ensure the pump was in a standby condition and readily available to accomplish the requirements of QCOA 0010-16, "Flood Emergency Procedure." Although the staged portable pump would not have supported the external flooding emergency response procedure, no violation of regulatory requirements occurred. The inspectors did not identify a cross-cutting aspect associated with this finding because the issue is not reflective of current licensee performance. Immediate corrective actions included replacement of the degraded battery and overhaul of the pump's fuel pump. Other actions included identification of preventative maintenance tasks and a program owner of the pump and support equipment.

This issue was more than minor because it was associated with the Structures, Systems, and Component (SSC) Performance attribute of the Barrier Integrity Cornerstone objective of maintaining the functionality of spent fuel pool cooling. The finding affected the cornerstone objective of providing assurance that physical design barriers protect the public from radionuclide releases caused by events including external flooding. Specifically, the pump could fail due to maintenance preventable component failure resulting in inadequate or degraded makeup to the spent fuel pool during an external flooding event. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of findings," Tables 4a and 4b. The inspectors determined that even though this equipment is assumed to completely fail, the licensee could provide an alternate portable pump already located on site and capable of performing the safety function during this slow developing event. Since alternate equipment was available and the delay in mobilizing the alternate equipment would not have resulted in loss of capability to mitigate the impact of the flooding event, the issue is of very low safety significance or Green.

Inspection Report# : [2009005](#) (pdf)

Significance:  Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INOP RCIC PRIMARY CONTAINMENT ISOLATION VALVES

A finding of very low safety significance and an NCV of TS 5.4.1.a were self-revealed for the failure of the Unit 1 reactor core isolation cooling (RCIC) steam exhaust check valve that resulted in a trip of the RCIC system and created a condition where both containment isolation valves in the RCIC steam exhaust line would not have performed their primary containment isolation function. Unit 1 performed a normal shutdown when this condition was identified, and the inboard and outboard primary containment isolation valves were repaired prior to restart.

This finding is more than minor because it challenged the Barrier Integrity Cornerstone attribute for Containment Isolation functionality. The inspectors performed a Phase 1 SDP screening and the IMC 0609, Attachment 4, Table 4a, Containment Barrier questions were all answered, "No." Therefore the issue screened as Green or very low safety significance. The inspectors determined that this finding did not have a cross-cutting aspect because the licensee's decision to discontinue periodic inspections of the RCIC steam exhaust check valves in 1996 was not subject to the program review that the licensee currently employs; therefore, this performance deficiency is not indicative of current licensee performance.

Inspection Report# : [2009004](#) (pdf)

Emergency Preparedness

Significance:  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

INCORRECT WIND DIRECTION ON NARS FORM

A NRC-identified finding of very low safety significance and associated NCV of 10 CFR 50.47(b)(9) was identified for delayed corrective action without appropriate compensatory actions for a defective computer point that sends wind direction data to the plant parameter display system (PPDS). This defective computer point resulted in incorrect wind direction on a Nuclear Accident Reporting System (NARS) form transmitted to the State of Illinois as part of the

declaration of an Unusual Event on May 19, 2010. Corrective actions included the restoration of the computer point for PPDS. Inspectors identified this performance deficiency had a cross cutting aspect in Problem Identification and Reporting Evaluation because although the non functional computer point, R234, was identified in December 2009, the licensee failed to thoroughly evaluate, classify, and prioritize the condition of bad data from a computer point and assess how the condition affected PPDS (P.1(c)).

This finding is more than minor because the performance deficiency matches an example of a Green finding from IMC 0609, Appendix B, Section 4.9, page B 20, "Equipment or systems necessary for dose projection are not functional for longer than 24 hours from the TIME OF DISCOVERY without compensatory measures, or corrective actions are inadequate or delayed." Using IMC 0609, Appendix B, Sheet 1, "Failure to Comply Flowchart," the performance deficiency screened as very low safety significance, or Green.

Inspection Report# : [2010003](#) (*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

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