Clinton
1Q/2007 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
THE INSPECTORS DETERMINED THAT THE FAILURE TO APPROPRIATELY IDENTIFY AND CORRECT THE CAUSE OF THE DIVISION 4 NSPS INVERTER IN MARCH WAS A PERFROMANCE DEFICIENCY.
A finding of very low safety significance and a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, was self revealed following a reactor scram on August 27, 2006, due to the licensee's failure to identify and correct a condition adverse to quality in March 2006. The licensee determined and corrected the actual cause of the failure and revised procurement procedures to disallow purchase of parts manufactured under the same process as the failed board. Additionally, the licensee commenced a common cause evaluation to assist in planning and developing additional corrective actions to address whether there are issues involving the licensee proficiency in identifying causes of operational occurrences.

The finding was more than minor because it resulted in a reactor scram and was associated with the equipment performance attribute of the initiating events cornerstone. The finding was of very low safety significance because it would not affect the availability of a mitigating system. The finding was also determined to affect the cross-cutting area of problem identification and resolution in that the actual cause of the March 26, 2006 failure was not properly identified, resulting in the corrective action not addressing the cause, and a more significant failure occurring in August 2006.
Inspection Report# : 2006007 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE OF THE ELECTRICAL CIRCUIT CARD RESULTED IN A LOSS OF SAFETY FUNCTION FOR THE MAIN TURBINE BYPASS VALVES.
A finding of very low safety significance involving a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, was self revealed when a low main condenser vacuum alarm was recieved in the main control room. The alarm was caused by the failure of an electronic circuit card. This circuit card failure also resulted in the main turbine bypass valves being interlocked closed (loss of safety function). The inspectors determined that the cause of this issue was inadequate instructions contained in the licensee's Performance Centered Maintenance (PCM) process.

The finding was greater than minor because failure to have adequate instructions to implement an effective preventive maintenance program could be reasonably viewed as a precursor to a more significant event. Additionally, this finding could affect the mitigating systems cornerstone in that it is associated with a degraded condition that could concurrently influence mitigation equipment and the operator's response to an initiating event. This finding was of very low safety significance because the exposure time was of short duration, less than 3 days.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: FIN Finding
FAILURE TO PERFORM AN ADEQUATE CONFIGURATION CONTROL RISK EVALUATION WAS A

PERFORMANCE DEFICIENCY WARRANTING A SIGNIFICANCE EVALUATION.
A finding of very low safety significance was self-revealed following the loss of the division 3 shutdown service water (SX) system on August 17, 2006. The loss of division 3 of SX occurred when a security guard bumped an SX circuit breaker hand switch for the cross tie valve, 1SX014C, with a piece of protective equipment. This finding resulted from the licensee's failure to do an adequate inadvertent contact configuration control risk assessment during the implementation of a 2005 requirement for security personnel to carry new equipment on their person.

The finding was more than minor because it impacted the mitigating systems cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events. With the circuit breaker in the OFF position, 1SX014C would remain opend uring a loss of offsite power event. In this configuration, the SX system could not perform its safety function of supplying cooling water to both the division 3 diesel generator and the high pressure core spray pump room cooling system. This finding was of very low safety significance due to the short duration exposure time, less than three days, and credit for operator actions to restore the system back to service. This finding affected the work practices component of the cross-cutting area of human performance. Licensee management failed to ensure the proper management and oversight of security personnel rounds activities.
Inspection Report# : 2007002 *(pdf)*

Significance: G Nov 17, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
POTENTIAL INOPERABILITY OF RCIC DUE TO VORTEXING
A finding of very low safety significance was identified by the inspectors for an Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control” requirements. Specifically, in Calculation IP-M-0384, “Evaluation of Vortex in the RCIC [Water] Storage Tank,” Revisions 0 and 1, the licensee failed to adequately demonstrate that the RCIC pump would be capable of performing its safety function prior to swapping suction paths from the RCIC tank to the suppression pool. As an immediate corrective action, the licensee aligned the suction path of the RCIC system to the suppression pool.

The finding was greater than minor because the calculation of record was not adequate and there was reasonable doubt of the successful outcome of a re-analysis. The finding was determined to be of very low safety significance because the inspectors answered “no” to all five screening questions in the Phase 1 Screening Worksheet under the Mitigating Systems column. After further analysis, the inspectors concluded that the RCIC pump was operable.
Inspection Report# : 2006011 *(pdf)*

Significance: W Aug 12, 2006
Identified By: NRC
Item Type: VIO Violation
HPCS OPERABILITY QUESTIONED DUE TO VORTEXING
White. A finding of low to moderate safety significance was identified by the inspectors for a violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control” requirements. Specifically, the licensee failed to adequately address vortexing in the reactor core isolation cooling (RCIC) water storage tank. As a result, the setpoint for the high pressure core spray (HPCS) pump suction source to swap from the RCIC tank to the suppression pool may be too low and result in significant air entrainment such that the HPCS pump would not be capable of completing its safety function. As a corrective action, on December 1, 2005, the licensee shifted the HPCS and RCIC inventory source to the suppression pool as a conservative measure. Vortexing from the suppression pool should not occur due to the depth of the HPCS and RCIC suction lines and the use of the suppression pool as a qualified inventory source was allowed per Clinton’s Updated Safety Analysis Report (USAR) and Technical Specifications (TS).

The finding was greater than minor because if left uncorrected, could result in the HPCS system becoming inoperable due to air entrainment as the water level in the RCIC water tank decreased toward the swapover setpoint. This finding affected the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage)

Based on the discussion during the regulatory conference, the NRC determined that operators would be directed to throttle HPCS in response to transient (i.e., non- Loss of Coolant Accidents and non- Anticipated Transient Without a Scram) scenarios. If operators successfully throttle the HPCS injection valve, the system flow rate will be low enough that air entrainment during suction swap-over to the suppression pool would no longer be a concern. For the final significance

determination, the NRC assumed that HPCS would fail in response to transient initiating events only if the operator failed to properly throttle the HPCS injection valve. For all other initiating events, HPCS was assumed to fail during the suction transfer, consistent with the assumption in the preliminary significance determination. Given the inherent uncertainty in estimating human error probabilities, the NRC used its best estimate of 2.6E-2 for the human error probability in the final significance determination.
Inspection Report# : 2007006 *(pdf)*
Inspection Report# : 2006011 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

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