

Summer 1Q/2007 Plant Inspection Findings

Initiating Events

Significance:  Dec 31, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Procedure for Maintaining Steam Generator Water Level Results in Turbine Trip During Power Escalation

A green self-revealing non-cited violation of Technical Specification 6.8.1.a was identified for operator failure to follow procedure for maintaining steam generator water level while transitioning from the emergency feedwater system to the main feedwater system. This resulted in a turbine trip including feedwater isolation and feedwater pump trip. As immediate corrective actions, the oncoming operations crew was provided simulator training on the evolution emphasizing lessons learned from the incident and procedures were enhanced to limit the main feedwater pump acceleration response ramp rate.

This finding is more than minor because it affected the human performance attribute of the Initiating Events cornerstone and affected the cornerstone objective, in that, the failure to utilize all available indications and anticipate plant response resulted in a plant transient causing a turbine trip. The finding was evaluated using Inspection Manual Chapter 0609, Significance Determination Process, Phase I Worksheet for initiating events. The finding is determined to be of very low safety significance because all necessary plant safety equipment responded as designed to the turbine trip event. The contributing cause of this finding involved the human performance and error prevention aspect of the Human Performance cross-cutting area

Inspection Report# : [2006005](#) (*pdf*)

Mitigating Systems

Significance:  Mar 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Corrective Actions Results in Repetitive Spurious Tripping of EDG Room Ventilation Fan Molded Case Circuit Breakers

A Green self-revealing non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified for inadequate corrective actions which resulted in repetition of a significant condition adverse to quality involving the spurious tripping of safety-related molded case circuit breaker associated with the "A" emergency diesel generator (EDG) room ventilation cooling fan "A" due to asymmetrical in-rush starting current. The licensee documented this failure in their corrective action program and implemented breaker trip setpoint changes to preclude spurious tripping from this phenomenon.

This finding is more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is of very low safety significance because it did not result in a loss of safety function of one or more trains of the EDGs and was not potentially risk-significant due to possible external events. The cause of this finding involved the thorough evaluation of identified problems aspect of the Problem Identification and Resolution cross-cutting area, in that, the extent of condition evaluation for the previous spurious trip of the "A" EDG room cooling fan "B" failed to consider the need to readjust the trip setpoint of "A" EDG room ventilation cooling fan "A" in order to mitigate the possibility of spurious tripping

Inspection Report# : [2007002](#) (*pdf*)

G**Significance:** Dec 31, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Surveillance Procedure Resulting in Inoperability of “B” ECCS Accumulator

A green self-revealing non-cited violation of Technical Specification 6.8.1.c was identified for failure to follow surveillance testing procedure resulting in the inadvertent partial draining of the “B” emergency core cooling system (ECCS) accumulator. The licensee was in the process of completing an apparent cause evaluation for the human performance error at the end of the inspection period.

This finding is more than minor because it affected the human performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the capability of systems that respond to initiating events to prevent undesirable consequences, in that, it had an actual impact of rendering an ECCS accumulator inoperable requiring an unexpected Technical Specification Limiting Condition for Operation entry. The finding was evaluated using Inspection Manual Chapter 0609, Significance Determination Process, Phase I Worksheet for mitigating systems. The finding is determined to be of very low safety significance because the accumulator always maintained adequate inventory to fulfill its safety function, it did not result in an actual loss of a single train for greater than its Technical Specification allowed outage time, and is not potentially risk significant due to external events. The direct cause of this finding involved the procedural compliance aspect of the Human Performance cross-cutting area.

Inspection Report# : [2006005](#) (*pdf*)**G****Significance:** Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Corrective Actions Associated with a Previous Violation Involving Failure to Implement Procedures for a Loss of Control Room Annunciator Event

The inspectors identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” for the licensee’s failure to take adequate corrective actions for a previously identified NCV. The corrective actions taken were not adequate as demonstrated by the failure of control room personnel to be cognizant of the new procedural guidance when a partial loss of control room annunciators occurred on July 24, 2006. The licensee presently plans to develop an abnormal operating procedure which has a formal training review.

This finding is more than minor because if left uncorrected, it would result in a more significant safety concern if appropriate compensatory actions were not implemented for loss of control room annunciator events. The finding is of very low safety significance because during the latest loss of annunciator event, operators took reasonable actions to address the condition; there was no actual loss of mitigating system equipment; and no other plant transients occurred during the time period the annunciators were inoperable. The direct cause of this finding involved the cross-cutting area of problem identification and resolution, in that, previous corrective actions were not adequate to ensure that operators were cognizant of, and implemented, procedures for responding to a loss of control room annunciator event

Inspection Report# : [2006004](#) (*pdf*)**G****Significance:** Sep 30, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Fire Protection Surveillance Procedure to Prevent Inadvertent Fire Damper Closures and High Temperatures in the Relay Room

A Green self-revealing non-cited violation (NCV) of Technical Specification (TS) 6.8.1.f was identified for failure to follow a fire protection surveillance testing procedure resulting in a TS Limiting Condition for Operation (LCO) entry due to exceeding the allowed room temperature of the control building relay room. The licensee is considering procedural enhancements and associated training.

This finding is more than minor because it is associated with the human performance and configuration control attributes of the Mitigating Systems cornerstone, and affected the cornerstone objective of ensuring the reliability of systems which respond to initiating events to prevent undesirable consequences, in that, it resulted in an unexpected TS LCO entry and high temperatures in an area of the plant containing temperature sensitive safety-related electronic equipment which could have been adversely impacted by the elevated temperatures. The finding is of very low safety significance because the

environmental qualification temperatures of the most limiting equipment in the affected area was not exceeded; it did not result in a loss of safety function of one or more trains of mitigating system equipment; and was not potentially risk-significant due to possible external events. The direct cause of this finding is related to the procedural compliance aspect of the cross-cutting area of human performance.

Inspection Report# : [2006004](#) (*pdf*)

Significance:  Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Take Adequate and Timely Corrective Actions to Preclude Repetitive Spurious Tripping of Safety Related Molded Case Circuit Breakers

The inspectors identified a non-cited violation of 10 CFR 50 Appendix B Criterion XVI was identified for the licensee's failure to take adequate and timely corrective actions to preclude repetition of a significant condition adverse to quality. Specifically, the licensee failed to prevent the spurious tripping of safety-related molded case circuit breakers for the Emergency Diesel Generator (EDG) room ventilation supply fans due to asymmetrical in-rush current. The licensee has entered this issue in its corrective action program for resolution.

This finding is more than minor because it is associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective of ensuring the availability, reliability and capability of the EDGs. The finding is of very low safety significance because it did not result in a loss of safety function of one or more EDG trains and was not potentially risk-significant due to possible external events. The direct cause of this finding involved the cross-cutting area of Problem Identification and Resolution, in that, the identified corrective actions were not adequate to resolve the fans tripping due to asymmetrical in-rush current.

Inspection Report# : [2006003](#) (*pdf*)

Significance:  Jun 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Identify the SBLOCA Most Limiting Condition for Verification of RHR MOV Operability

The team identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action. Specifically, the licensee's corrective action to address an industry operating experience issue applicable to their station was inadequate in that the evaluation did not correctly identify the most limiting condition of a small break loss of coolant accident (SBLOCA) on their ability to open the residual heat removal (RHR) system containment suction motor operated valves (MOVs) which was the subject of a previous industry operating experience report from the McGuire Nuclear Station in 2005. The licensee entered the deficiency into their corrective action program for resolution.

This finding is more than minor because it affected the design control attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding is of very low safety significance (Green) because subsequent analysis demonstrated that the valves remained capable of performing their design function. This finding involved the cross-cutting area of Problem Identification and Resolution because the problem evaluation did not correctly identify the most limiting condition for operation of the RHR containment suction MOVs following a SBLOCA scenario.

Inspection Report# : [2006008](#) (*pdf*)

Significance:  Jun 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Deficient Extent of Condition Review for EDG B Lube Oil TCV Malfunction

The team identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action. Specifically, the licensee's corrective action to evaluate an extent of condition on emergency diesel generator (EDG) A following identification of an EDG B lube oil thermostatic control valve (TCV) malfunction was deficient. The extent of condition review to assess the potential for a similar component malfunction on EDG A was technically inadequate, incomplete, and did not provide assurance that the EDG A remained operable for all possible operating conditions, particularly increased heat sink conditions occurring in the summer. The licensee entered the deficiency into their corrective action program for resolution.

The finding is more than minor because it affected the equipment performance attribute of the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding is of very low safety significance because the licensee determined that the EDGs were operable based on heat sink temperatures and that TCV performance monitoring would be accomplished when heat sink temperatures are expected to increase. This finding involved the cross-cutting area of Problem Identification and Resolution because the evaluation, specifically the extent of condition review, was inadequate in that it failed to assure that the EDG B component malfunction did not apply to EDG A.

Inspection Report# : [2006008](#) (*pdf*)

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Significance: Jun 23, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Acceptance Criteria for EDG Intercooler Performance Testing

The team identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, Design Control. Specifically, the licensee used non-conservative acceptance criteria for the emergency diesel generator (EDG) intercooler performance test, PTP-213.002, Service Water System Heat Exchanger Data Collection. The acceptance criteria for the allowed heat exchanger fouling factor based on tubes plugged was non-conservative and could allow heat exchanger degradation below design limits. Additionally, the wall thickness criteria for tube pitting would allow full penetration to occur between tube inspections. Loss of tube integrity would degrade the ability of the heat exchanger to remove the design heat load of the EDG. The licensee entered the deficiency into their corrective action program for resolution.

The finding is more than minor because it affected the procedure quality attribute of the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding is of very low safety significance because the licensee determined that EDGs were operable based on the affected heat exchanger having been recently cleaned; the latest intercooler performance results indicated substantial heat exchanger duty margin; and the proposed monthly trending of the heat exchanger.

Inspection Report# : [2006008](#) (*pdf*)

Barrier Integrity

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Significance: Mar 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Shutdown of Required Containment Radiation Monitor During Reactor Building Purge System Operation Results in Violation of TS 3.3.2

A Green self-revealing non-cited violation of Technical Specification 3.3.2 was identified for failure to maintain two containment radiation monitors operable and capable of automatically isolating reactor building purging operations in the event of high containment radioactivity during a design basis accident. The licensee documented this violation in their corrective action program and implemented procedural enhancements and control board tagging controls to alert operators when containment purging operations were in service.

This finding is more than minor because it affected the configuration control attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that the containment physical design barrier protect the public from radionuclide releases caused by accidents or events. The finding is of very low safety significance because there was no loss of safety function since radiation monitor RM-A4 was still operable during this period to provide isolation of the inside containment purge supply and exhaust containment isolation valves and because of the short time the RM-A2 train was inoperable. The cause of this finding is related to the human performance and error prevention aspect of the cross-cutting area of human performance due to inadequacies in the pre-job briefing that failed to recognize the adverse interaction posed by conducting the surveillance test with the reactor building alternate purge system in service.

Inspection Report# : [2007002](#) (*pdf*)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : June 01, 2007