

Harris 1

4Q/2005 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Adequate ESCW Design Change

Green. An NRC-identified non-cited violation of 10CFR50, Appendix B, Criterion III, "Design Control" was identified for failure to ensure that adequate design control measures were implemented on an ESCW system design change (Engineering Change 51444). The inadequate design change resulted in both trains of the essential services chilled water (ESCW) system being inoperable for a period of time greater than allowed in Technical Specification 3.7.13. The ESCW system was inoperable because check valves were installed in the service air supply lines to the expansion tanks which were incapable of maintaining expansion tank pressure upon loss of the non-safety service air system pressure. The inadequate design change of the ESCW system is more than minor because it affects 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). The finding is also associated with the Mitigating Systems Cornerstone attribute of design control. The significance determination process (SDP) of NRC Inspection Manual Chapter 0609, Appendix A was used to determine the safety significance of the finding. Since the degradation of the ESCW system represented a loss of system safety function, a Phase 2 SDP analysis was required. The Phase 2 SDP analysis determined that the significance of the finding was potentially greater than green because the degradation of the ESCW system existed for more than 30 days, and the ESCW system is a support system for the high head safety injection (HHSI) system, which affects several core damage sequences. Therefore, a Phase 3 evaluation for the finding was performed. Based upon data which showed that the chillers' check valves leaked at a low enough rate that the chillers would operate for at least 24 hours before causing loss of function of the systems they support, the finding was considered to have very low safety significance. The cause of the finding is related to the organization aspect of the human performance cross-cutting area. Specifically, the engineering organization's lack of understanding of design control requirements with regard to manual actions led to implementation of the inadequate ESCW system modification.

Inspection Report# : [2005004\(pdf\)](#)

Significance:  Jul 01, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT CONDITION ADVERSE TO QUALITY AFFECTING EDGs

Green. The inspectors identified a non-cited violation of 10 CFR 50 Appendix B Criterion XVI for failure to promptly correct a condition adverse to quality related to operational indicator lights on the emergency diesel generator (EDG) local engine control panel. The approved modification to fix the condition has been rescheduled five times. Indicator light changeout has resulted in several trips of EDG dc control power breakers, causing partial loss of dc control power to the effected EDG. In February 2005, an EDG pneumatic control system problem was identified that compounded the effect on the EDGs from the indicator light changeout problem.

The issue is greater 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 (i.e., core damage). The finding was determined to be of very low safety significance because it involved a design deficiency which did not result in a loss of function. The two degraded conditions, the indicator light changeout problem and the EDG pneumatic control system problem, combined to increase the likelihood of an EDG failure. The cause of this finding is identified as a performance aspect of the problem identification and resolution cross-cutting area, in that the failure to promptly correct the light changeout problem resulted in additional partial losses of EDG control power.

Inspection Report# : [2005006\(pdf\)](#)

Significance:  Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

OPERATOR ERROR DURING ESSENTIAL SERVICES CHILLED WATER (ESCW) TRAIN SWAP

Green. A self-revealing non-cited violation (NCV) of TS 6.8.1, which requires written procedures to be implemented for plant operations, was identified for failure to properly implement an essential services chilled water (ESCW) system procedure. A control room operator using the

incorrect section of an ESCW procedure, cross-connected the two trains of the system. This led to depressurization of the running train, pressurization of the standby train, and lifting of a relief valve in the standby train resulting in volume loss. Failure of the relief valve to reseal led to additional water volume loss and depressurization of the standby train.

The finding is greater than minor because if left uncorrected it would become a more significant safety concern due to the loss of water from the ESCW system. The finding is associated with the configuration control attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding is considered to have very low safety significance (Green) because the safety functions of the ESCW trains were not lost at the same time and the safety function of neither train was lost for greater than the allowed technical specification outage time. The finding was related to the cross-cutting area of human performance because the operator used the incorrect section of the plant operating procedure resulting in the depressurization of one train of ESCW.

Inspection Report# : [2005003\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Correct a TDAFW Pump Condition Adverse to Quality

Green. An inspector-identified finding and non-cited violation of 10CFR50, Appendix B, Criterion XVI, "Corrective Action" was identified for failure to promptly correct a condition adverse to quality. The licensee had identified, but did not implement prompt corrective action for a known condition adverse to quality. Specifically, although the design application of specific resistor in the turbine-driven auxiliary feedwater (TDAFW) pump speed control circuitry was determined to be deficient in March 2004, the resistor was not upgraded. The inspectors identified that the licensee did not evaluate this additional information to implement the upgrade sooner. Not reacting to the March 2004 information and not correcting the problem sooner, contributed to the failure of the TDAFW pump on January 5, 2005. The finding is more than minor because it affects the Mitigating Systems Cornerstone attribute of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e. core damage). The finding is also associated with the cornerstone attribute of equipment availability and reliability. NRC Inspection Manual Chapter 0609, Appendix A was used to evaluate this finding. Phase 2 and Phase 3 Significance Determination Process analyses determined that this finding is of very low safety significance (Green) because of an exposure time of 3.5 days and that, following the failure of the TDAFW to start, the pump could be started and controlled by plant operators. This finding is related to the cross-cutting area of problem identification and resolution due to the failure to promptly resolve a known condition adverse to quality.

Inspection Report# : [2005002\(pdf\)](#)

Barrier Integrity

G

Significance: Mar 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Design Results in FWIV's Being Unable to Provide Containment Isolation

Green. A self-revealing finding and non-cited violation of 10CFR50, Appendix B, Criterion III, "Design Control," was identified for the implementation of an inadequate design change, Engineering Service Request (ESR) 97-0233. The inadequate design change resulted in damage to the seats of all three feedwater isolation valves (FWIV). The damaged seats existed for a period of time greater than the allowed inoperability time specified in Technical Specification 3.6.3. The finding is more than minor because it affects the Barrier Integrity Cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radio nuclide releases caused by accidents or events, and is associated with the cornerstone attribute of design control. The finding also affected the Initiating Events cornerstone attribute of design control due to the increased likelihood of FWIV stem separation and reactor trip at higher reactor power. NRC Inspection Manual Chapter 0609, Appendix A and Appendix H were used to evaluate this finding. A Phase 2 Significance Determination Process analysis determined that this finding is of very low safety significance (Green) because the upstream feedwater valves were available for feedwater isolation and the loss of the power conversion system was not considered because the valve stems in the A and B FWIV were not degraded.

Inspection Report# : [2005002\(pdf\)](#)

Emergency Preparedness

G

Significance: Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain an Acceptable Program for Periodic Calibration of Emergency Plan ARMs in Accordance with 10CFR20.1101

Green. An NRC-identified non-cited violation of 10 CFR 20.1101 was identified for failure to maintain an acceptable program for periodic calibration of Area Radiation Monitor (ARM) detectors as required by 10 CFR 20.1501(b). For seven ARM detectors that are referenced in the Emergency Plan, the licensee eliminated the periodic calibrations and designated the equipment as 'run to failure'.

The identified issue is more than minor in that the failure of the specific ARM equipment could impair licensee actions to support emergency response activities. This finding involving radiological monitoring is related to the Emergency Preparedness Cornerstone. The change from a periodic calibration frequency to no calibration frequency (i.e. 'run-to-failure') would not ensure that equipment and instrumentation needed to support emergency response activities were being properly maintained. This finding was evaluated using the Emergency Preparedness SDP and was determined to be of very low safety significance based on the identified ARM detectors still being within the calibration frequency that was previously established.

Inspection Report# : [2005004\(pdf\)](#)

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

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

Miscellaneous

Significance: N/A Jul 01, 2005

Identified By: NRC

Item Type: FIN Finding

IDENTIFICATION AND RESOLUTION OF PROBLEMS

The inspectors determined that the licensee was effective in identifying problems and entering them into the CAP. The threshold for problem evaluation was low based on observed samples, independent walkdowns and staff interviews. The inspectors determined that the licensee properly prioritized issues and performed evaluations that were technically accurate and sufficiently detailed. Formal root cause evaluations were thorough and well documented. One example was noted where a safe shutdown molded case circuit breaker failure was not evaluated for potentially generic concerns. Corrective action implementation was generally timely, effective and appropriate to the problem. In the sample reviewed, the inspectors noted frequent investigation extensions and several examples where corrective action timeliness goals were not met, which was consistent with observations within the last licensee Self Evaluation Unit program assessment. The vendor quality initiative and modification timeliness initiative were examples where detailed self-critical evaluation identified improvements to CAP implementation problems. Management emphasized the need for staff to identify and resolve issues using the CAP. A safety conscious work environment was evident.

Inspection Report# : [2005006\(pdf\)](#)

Last modified : March 03, 2006