D.C. Cook 1
4Q/2007 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2007
Identified By: Self-Revealing
Item Type: FIN Finding
Inadequate Design Review of the Unit 1 Main Feedwater Pump Digital controls system
The inspectors identified a finding of very low safety significance associated with a self-revealed event that resulted in a Unit 1 reactor trip. The licensee failed to correctly evaluate and incorporate the cooling needs of electrical equipment inside the Unit 1 main feedwater pump digital controls system cabinets into the design, which led to the loss of the east main feedwater pump due to overheated power supplies. Immediate corrective actions included replacement of affected power supplies and restoration of cooling to the cabinets. No violation of regulatory requirements was identified.

The finding was of more than minor significance because this issue was associated with the Equipment Performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during power operations. Specifically, inadequate design consideration for equipment temperature limitations and cooling needs led to the main feedwater pump failure that caused the reactor trip. The finding was of very low safety significance because the finding: (1) did not contribute to the likelihood of a primary or secondary system loss-of-coolant-accident initiator, (2) did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions would not be available, and (3) did not increase the likelihood of a fire or internal/external flooding event. The inspectors did not identify a cross-cutting area component related to this finding.
Inspection Report# : 2007006 *(pdf)*

Mitigating Systems

Significance: SL-IV Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Lack of Safety Evaluation for Ice Condenser Operation with Insufficient Ice Fusion time
The inspectors identified a Non-Cited Violation of 10 CFR 50.59(d)(1) associated with the licensee's failure to perform a 10 CFR 50.59 evaluation for operation of the plant with less than the design basis time allotted for ice condenser ice basket fusion. Specifically, the licensee failed to properly interpret design and licensing basis requirements associated with protection against external events (i.e., seismic) and as a result did not perform a 10 CFR 50.59 evaluation for plant operation with ice baskets that had less than the design basis time allotted for ice fusion. The licensee performed an evaluation of past operability and determined that the ice condenser would have continued to perform its pressure suppression function even with additional ice fall from the potentially unfused ice baskets.

Because this issue affected the NRC's ability to perform its regulatory function, the violation was reviewed under the traditional enforcement process; however, the underlying technical issue was evaluated using the Significance Determination Process. The violation was determined to be of more than minor significance because the inspectors could not reasonably determine that a 10 CFR 50.59 evaluation would not have ultimately required NRC prior approval. The inspectors reviewed the "Seismic, Flooding, and Severe Weather Screening Criteria" screening questions in Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations" and determined that Question No. 3 was applicable. The violation was of very low safety significance because the finding did not involve the total loss of a safety function identified by the licensee through Probabilistic Risk Assessment, Individual Plant Examination of External Events or similar analysis, that contributes to external event initiated core damage accident sequences. The inspectors did not identify a cross-cutting

area component related to this finding.
Inspection Report# : 2007006 *(pdf)*

Significance: G Jun 29, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Use of Incorrectly Configured Test Leads Rendered Two EDGs Inoperable
A finding of very low safety significance with an associated Non-Cited Violation of Technical Specification (TS) 5.4.1.a was self-revealed. On two separate occasions, a maintenance craftsman performed procedure steps to connect a multi-meter to an emergency diesel generator (EDG) kilowatt meter using incorrectly configured test leads, which caused a short-circuit and subsequent failure of a fuse in the EDG metering circuit when the engine was started during surveillance testing. This adversely affected the operability and availability of both the Unit 1 AB and CD EDGs. Corrective actions included replacing the fuses, coaching the maintenance craftsman involved with the incidents, and temporary suspension of his qualifications.

This finding was of more than minor significance because it is related to 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. Specifically, the use of incorrectly configured test leads rendered the EDGs inoperable and unavailable to perform their safety function. The finding was of very low safety significance because it did not represent a design or qualification deficiency, loss of safety function for a single train for greater than its TS allowed outage time, and was not risk-significant due to external event initiators. The primary cause of this finding was related to the cross-cutting area of human performance because the licensee's human error prevention techniques were not used commensurate with the risk of the task being performed. Specifically, the maintenance craftsman failed to appropriately control the test leads and to use self-verification techniques to ensure that correctly configured test leads were used during EDG testing. (IMC 0305 H.4(a))
Inspection Report# : 2007004 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Demonstrate Performance or Condition of Nuclear Instruments Were Effectively Controlled Through Performance of Appropriate Preventive Maintenance
The inspectors identified a finding of very low safety significance and an Non-Cited Violation of 10 CFR 50.65(a)(2). The licensee failed to demonstrate that the performance or condition of the Unit 1 and Unit 2 power range and intermediate range nuclear instruments was effectively controlled through appropriate preventive maintenance. As a result, the licensee failed to establish goals or monitor the performance of these instruments in accordance with paragraph (a)(1) of the Maintenance Rule to ensure that appropriate corrective actions were taken. The licensee was further evaluating corrective actions, including training, for this issue at the end of the inspection period and had placed the system into 10 CFR 50.65(a)(1) status.

This finding was of more than minor significance because violations of 10 CFR 50.65(a)(2), such as failure to demonstrate effective control of performance or condition and failure to classify the affected structure, system, or components (SSC) in (a)(1) status, involve degraded SSC performance or condition. The finding was of very low safety significance because the finding was associated with the Mitigating Systems Cornerstone and did not represent a design or qualification deficiency, loss of safety function for a train or system, and was not risk-significant due to external event initiators. The primary cause of this finding was related to the cross-cutting area of problem identification and resolution because the licensee failed to thoroughly evaluate multiple nuclear instrumentation component failures by appropriately completing the Maintenance Rule Evaluations. (IMC 0305, P.1(c))
Inspection Report# : 2007003 *(pdf)*

Significance: G Mar 02, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Correct a Condition Adverse to Quality

The inspectors identified a finding having very low safety significance and an associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action” for the licensee’s failure to promptly identify that the Unit 1 Train A (1-CD) emergency diesel generator (EDG) would exceed its capacity rating. Specifically, the 1-CD EDG’s capacity rating would have been exceeded if the 1-CD EDG was allowed to run at the upper frequency band of 61.2 Hz as allowed by Technical Specifications (TS). As a result, the licensee performed corrective action calculations to assess the finding and on March 1, 2007, imposed an operational upper frequency limit of =60.5Hz on the station’s Unit 1 EDGs. This finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee did not take appropriate corrective action to address the safety issue in a timely manner commensurate with its safety significance and complexity.

This finding was more than minor because the 1-CD EDG would have exceeded its design load rating at the maximum TS allowed frequency of 61.2Hz. Without the evaluation and imposing an administrative limit, the licensee could not ensure that the 1-CD EDG would reliably perform its safety related-function. The finding was of very low safety significance based on a Phase 1 screening in accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations.”
Inspection Report# : 2007002 *(pdf)*

Barrier Integrity

Significance: G Mar 02, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Correct Inadequate Safety Analysis Dose Calculations
The inspectors identified a finding having very low safety significance and an associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action” for failure to promptly identify and correct a condition adverse to quality regarding inadequate safety analysis dose calculations. Specifically, the licensee failed to address the aggregate effect of various nonconforming conditions on containment leakage rates for offsite dose and control room calculations to ensure that accurate and adequate margin remained available for offsite dose analyses and control room habitability. The finding was entered into the licensee’s corrective action program and an operability determination evaluation was initiated during the inspection. The primary cause of this violation was related to the cross-cutting area of problem identification and resolution because the licensee did not thoroughly evaluate known discrepant conditions.

This finding was more than minor because the licensee did not verify the capability of containment to maintain the offsite and control room dose within required limits under post-accident conditions to the values assumed in the analyses. The finding was of very low safety significance based on a Phase 1 screening in accordance with Inspection Manual Chapter 0609, Appendix A, “Significance Determination of Reactor Inspection Findings for At-Power Situations.”
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 02, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Previously Imposed Compensatory Measures
The inspectors identified a finding having very low safety significance and an associated Non-Citied Violation of 10 CFR Part 50.36, “Technical Specifications.” Specifically, the licensee failed to maintain previously imposed administrative limits (i.e., compensatory measures) required by non-conforming Updated Final Safety Analysis Report offsite and control room dose analyses. The station operated from April 25, 2003, through February 28, 2007, based on analyses that included assumed containment leakage values that were not bounded by the licensee’s TS 5.5.14, “Containment Leakage Rate Testing Program.” Once the finding was identified by the inspectors, the licensee re-imposed the required compensatory measures during the inspection. The primary cause of this violation was related to the cross-cutting area of human performance because the licensee failed to communicate decisions with respect to containment leakage and the basis for those decisions to personnel.

The finding was more than minor in accordance with Inpection Manual Chapter (IMC) 0612, Appendix B because the finding was associated with the configuration control (containment design parameters maintained) attribute of the Barrier Integrity Cornerstone and affected the cornerstone's objective of maintaining the functionality of containment. Specifically, the licensee did not re-impose compensatory measures to limit the maximum allowable containment leakage rate to the values assumed in the analyses. The finding was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."
Inspection Report# : 2007002 *(pdf)*

Emergency Preparedness

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

Last modified : February 04, 2008