D.C. Cook 2
3Q/2003 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2003
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Failure to AssureThat Prompt Corrective Actions Were Taken to Address Age-related Failures of Reactor Control Instrumentation Power Supplies to Prevent Repetition of Power Supply Failures
The licensee failed to take effective corrective actions to address age-related failures of reactor control instrumentation power supplies and prevent an automatic Unit 2 reactor trip on February 5, 2003, due to the failure of similar power supplies.

This finding was more than minor because, if left uncorrected, it would become a more significant safety concern since continued failures of reactor control instrumentation power supplies could result in additional reactor trips and challenge safety-related equipment. The finding was of very low safety significance because all mitigating systems were available during the event. A Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified.
Inspection Report# : 2003006*(pdf)*

Significance: G Dec 28, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Assure that Prompt Corrective Actions were Taken to Address Age-Related Failures of Reactor Control Instrumentation Power Supplies to Prevent Repetition of Power Supply Failures
The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." The licensee failed to assure that prompt corrective actions were taken to address age-related failures of reactor control instrumentation power supplies to prevent repetition of power supply failures, a significant condition adverse to quality. This issue was self-revealed on May 12, 2002, when an automatic reactor trip of Unit 2 occurred due to the failure of redundant 24-volt direct current power supplies in reactor control instrumentation cabinet 2-PS-CGC-16. The failure of both power supplies caused the number 21 steam generator feedwater regulating valve to close. Unit 2 subsequently tripped on low steam generator water level coincident with low feedwater flow.

The inspectors assessed this finding using the Significance Determination Process (SDP). The inspectors concluded that this issue, if left uncorrected, would become a more significant safety concern with the likelihood of continued failures of reactor control instrumentation power supplies and was therefore more than a minor concern. The inspectors also concluded that this finding was associated with the initiating events cornerstone and adversely affected the cornerstone objective. Specifically, the failure of redundant power supplies in reactor control instrumentation cabinets would upset plant stability (cause a reactor trip) and challenge the function of critical safety equipment. The inspectors performed a Phase 1 SDP review of this finding using the guidance provided in NRC Inspection Manual Chapter (IMC) 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Because this finding contributes to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available, the inspectors determined that this finding required a Phase 2 SDP analysis. After a

review of additional information, the inspectors determined that a Phase 3 analysis was required. The Phase 3 SDP analysis, performed with the assistance of the NRC probabilistic risk analysis staff, determined that the resultant Core Damage Frequency and Large Early Release Frequencyassociated with this finding were less than 1E-6 per year and 1E-7 per year, respectively. Based on these results, this issue was determined to be of very low safety significance.

Inspection Report# : 2002009*(pdf)*

Significance: G Dec 28, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement a Corrective Action to Prevent Recurrence Associated with Reactor Control Instrumentation Power Supply Failures
The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." The licensee failed to take corrective action to preclude the repetition of reactor control instrumentation 24-volt direct current power supply failures. Specifically, the licensee failed to perform weekly verification of control group power supplies to ensure that the "power available" status lights were lit. This corrective action was identified by the licensee in response to the Unit 2 reactor trip on May 12, 2002, which was caused by the failure of redundant power supplies in reactor control instrumentation cabinet 2-PS-CGC-16. The licensee subsequently performed this check on November 22, 2002, and discovered a failed 24-volt direct current power supply in Unit 1 cabinet 1-PS-CGC-16.

The inspectors assessed this finding using the Significance Determination Process (SDP). The inspectors concluded that this issue could be reasonably viewed as a precursor to a significant event (i.e., potentially result in a reactor trip similar to the Unit 2 trip on May 12, 2002), and was therefore more than a minor concern. The inspectors also concluded that this finding was associated with the initiating events cornerstone and adversely affected the cornerstone objective. Specifically, the failure of redundant power supplies in reactor control instrumentation cabinets would upset plant stability (cause a reactor trip) and challenge the function of critical safety equipment. The inspectors performed a Phase 1 SDP review of this finding using the guidance provided in NRC Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Because this finding contributes to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available, the inspectors determinedthat this finding required a Phase 2 SDP analysis. After a review of additional information, the inspectors determined that a Phase 3 analysis was required. The Phase 3 SDP analysis, performed with the assistance of the NRC probabilistic risk analysis staff, determined that the resultant Core Damage Frequency and Large Early Release Frequency associated with this finding were less than 1E-6 per year and 1E-7 per year, respectively. Based on these results, this issue was determined to be of very low safety significance.
Inspection Report# : 2002009*(pdf)*

Significance: G Dec 28, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Provide Appropriate Instructions for a Planned Shutdown of Unit 2 which Resulted in Unnecessarily Challenging the Automatic Start Funtion of Unit 2 Turbine Auxiliary Feedwater Pump
The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." The licensee failed to provide appropriate instructions for conducting a planned shutdown of Unit 2 on January 19, 2002, which resulted in unnecessarily challenging the automatic start function of Unit 2 turbine driven auxiliary feedwater pump (TDAFWP). This issue was self-revealed when the TDAFWP unexpectedly started due to low steam generator levels following the manual reactor trip.

The inspectors assessed this finding using the Significance Determination Process (SDP). The inspectors concluded

that this finding was associated with the initiating events cornerstone and adversely affected the cornerstone objective and was therefore more than a minor concern. Specifically, the function of critical safety equipment was challenged and plant stability was upset during the performance of a normal plant shutdown by the automatic start of Unit 2 TDAFWP. The inspectors performed a Phase 1 SDP review of this issue using the guidance provided in NRC Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Because this finding did not cause or contribute to the likelihood of an initiating event, the inspectors concluded that this issue was of very low safety significance.
Inspection Report# : 2002009*(pdf)*

Mitigating Systems

Significance: G Sep 30, 2003
Identified By: Self Disclosing
Item Type: FIN Finding
Incorrect Sensing Line Configurations on Control Room Air Conditioning Units
A finding of very low safety significance was self-revealed when licensee personnel failed to control the sensing line configuration on the Control Room Air Conditioning (CRAC) chiller units in accordance with design documentation which resulted in spurious tripping of an idle CRAC chiller unit upon initial start following an extended shutdown period. The primary cause of this finding was related to the cross-cutting area of Human Performance. The licensee subsequently corrected the sensing line configuration and successfully tested the operation of all four chiller units.

The finding was more than minor because this finding was associated with the Design Control and Equipment Performance attributes 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 because the reliability of the CRAC chiller units was impacted. This finding was of very low safety significance because the design deficiency did not result in a loss of function of the CRAC chiller units per Generic Letter 91-18. No violation of regulatory requirements occurred
Inspection Report# : 2003010*(pdf)*

Significance: G Sep 30, 2003
Identified By: Self Disclosing
Item Type: FIN Finding
Maintenance Errors Result in Delay of Motor Driven Auxiliary Feedwater Pump Replacement
A finding of very low safety significance was self-revealed when maintenance craftsmen failed to accurately measure, machine and install a replacement coupling during a planned maintenance activity on the Unit 2 West motor driven auxiliary feedwater pump which resulted in the unavailability of the pump significantly beyond the original 18-hour planned maintenance period. The licensee was granted enforcement discretion for Technical Specification 3.7.2.1.a to preclude a plant shutdown. The licensee subsequently completed repairs to the motor driven auxiliary feedwater pump and returned the pump to service within the enforcement discretion period. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because the finding was associated with the Equipment Performance and Human Performance attributes 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 since the motor driven auxiliary feedwater pump was rendered unavailable for an extended period of

time. The finding was of very low safety significance because the unavailability of the motor driven auxiliary feedwater pump on overall plant risk was not significant. No violation of regulatory requirements occurred.
Inspection Report# : 2003010*(pdf)*

Significance: G Sep 30, 2003
Identified By: Self Disclosing
Item Type: FIN Finding
Inappropriate Procedure for Testing Switchyard Breaker
A finding of very low safety significance was self-revealed when licensee personnel failed to accomplish testing of 345 kilovolt (kV) switchyard breaker "L" with an adequate procedure which resulted in the loss of the Class 1E reserve feed supply to Train "B" safety-related equipment for Unit 1 and Unit 2. The primary cause of this finding was related to the cross-cutting area of Human Performance. The licensee subsequently restored the switchyard Class 1E reserve feed supply and issued a standing order to control maintenance and testing in the switchyard.

The finding was more than minor because this finding was associated with the Procedure Quality 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 since the reliability of the offsite Class 1E reserve feed supply to safety-related equipment for both units was affected. This finding was of very low safety significance since it did not result in the actual loss of the safety function of any safety-related equipment. No violation of regulatory requirements occurred
Inspection Report# : 2003010*(pdf)*

Significance: G Sep 30, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Correctly Implement a Design Modification on the Unit 2 West Residual Heat Removal System Train
The inspectors identified a Non-Cited Violation of Technical Specification 6.8.1.a. The licensee failed to correctly implement a design modification on the Unit 2 West residual heat removal (RHR) train in accordance with the approved work instructions and design documents. Specifically, the licensee failed to correctly install the first weld of the new high point vent assembly per the approved weld detail and returned the pump to service with the non-conforming condition. The inspectors identified this error after the weld had already been accepted by the licensee's quality control (i.e., performance verification) inspection process and the pump was returned to service. The licensee subsequently corrected the weld to meet the approved design.

The inspectors concluded that this issue was associated with the mitigating systems cornerstone and adversely affected the cornerstone objective. Specifically, the inspectors determined that the installed weld would be more susceptible to vibration induced fatigue failure than the approved weld, and if this condition were not corrected it could lead to a premature failure of the weld, affecting the function and integrity of the RHR system. The inspectors concluded that this finding was a licensee performance deficiency of very low safety significance because it did not result in loss of safety function for the West RHR train for greater than its Technical Specification allowed outage time.
Inspection Report# : 2003010*(pdf)*

Significance: G Jul 11, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Untimely corrective action for diesel fuel oil day tank level issue
A finding of very low safety significance was identified involving a Non-Cited Violation of 10 CFR 50, Appendix B,

Criterion XVI, Corrective Actions, for the failure to timely resolve Technical Specification interpretation inconsistencies associated with the total required volume in the emergency diesel generator fuel oil day tanks. These inconsistencies were identified by the licensee in August 2000, however, as of July 11, 2003, this issue remains unresolved.

This finding is greater than minor because the licensee corrective actions have not been timely in resolving this issue. This issue affected 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 there was not a loss of function as each fuel oil system contains redundant, safety-related fuel oil transfer pumps that would start prior to reaching the unusable volume in the day tank; and that these pumps have shown good reliability.
Inspection Report# : 2003007*(pdf)*

Significance: G Jun 30, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify the Cause and Take Corrective Action to Preclude Repetitive Unit 2 CD Emergency Diesel Generator Load Oscillations
The licensee failed to take effective corrective actions to address Unit 2 CD emergency diesel generator (EDG) load oscillations that occurred on November 2, 2002, to prevent recurrence of these oscillations on January 26, 2003.

This finding was more than minor since the repetitive Unit 2 CD EDG load oscillations were associated with the Configuration Control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because the impact of the unavailability of the EDG on overall plant risk was not significant. A Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified.
Inspection Report# : 2003006*(pdf)*

Significance: G Mar 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Evaluate Operability of a Letdown Isolation Valve for Degraded Conditions
The licensee failed to promptly evaluate operability of the Unit 1 normal Reactor Coolant System letdown isolation valve 1-QRV-112 on two occasions when its ability to satisfy inservice testing program requirements could not be demonstrated.

This issue was of very low safety significance since the redundant letdown isolation valve, 1-QRV-111, was available during the period that 1-QRV-112 was inoperable and therefore no actual loss of safety function occurred. One Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified.
Inspection Report# : 2003002*(pdf)*

Significance: G Mar 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Correctly Evaluate Inservice Testing Failures of a Steam Generator Power Operated Relief Valve
Licensee personnel failed to promptly evaluate operability of number 23 steam generator power operated relief valve

(PORV) 2-MRV-233 following inservice testing failures on two occasions.

This issue was of very low safety significance since the redundant steam generator PORVs were available and therefore no actual loss of safety function occurred. One Non-Cited Violation of Technical Specification 4.0.5.a was identified.
Inspection Report# : 2003002*(pdf)*

Significance: G Mar 03, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Take Corrective Action to Ensure That Only Turbine Trip Throttle Valve Latch Hooks with the Correct Geometry Would be Installed in the Turbine-Driven Auxiliary Feedwater Pumps
The licensee failed to take corrective action to ensure that only turbine trip throttle valve latch hooks with the correct geometry would be installed in the turbine-driven auxiliary feedwater pumps after determining that the incorrect part had been supplied by the manufacturer.

This finding was determined to be a Non-Cited Violation of 10 CFR 50 Appendix B Criterion XVI, "Corrective Action". This finding was of very low safety significance because failure to take corrective action did not result in parts of incorrect geometry being installed in the auxiliary feedwater system and therefore did not affect the operability or availability of the system.

Inspection Report# : 2003004*(pdf)*

Significance: G Mar 03, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Take Adequate Corrective Action to Revise Procedure 12-MHP-5021-056-007
The licensee failed to take adequate corrective action to revise procedure 12-MHP-5021-056-007, "Turbine-driven Auxiliary Feedwater Pump Trip and Throttle Valve Linkage Adjustment" to include the manufacturer's recommendations regarding the set-up of the turbine trip throttle valve.

This finding was determined to be a Non-Cited Violation of 10 CFR 50 Appendix B Criterion XVI, "Corrective Action". This finding was of very low safety significance because the inadequate corrective action in revising the procedure did not affect the operability or availability of the auxiliary feedwater system

Inspection Report# : 2003004*(pdf)*

Significance: G Dec 28, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Assure that Corrective Actions were Taken to Preclude Repetition of EDG Starting Air System Relay Failures
The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." The licensee failed to assure that corrective actions were taken to preclude repetition of emergency diesel generator (EDG) starting air system relay failures, a significant condition adverse to quality. This issue was self-revealed when the failure of a starting air system relay for the Unit 2 AB EDG occurred on October 16, 2002, causing the engine to roll without a valid start signal. The inspectors subsequently identified that appropriate corrective actions to prevent

repetition had not been taken following two previous age-related EDG air start relay failures in January 1999 and September 2000.

The inspectors assessed this finding using the Significance Determination Process (SDP). The inspectors concluded that this issue, if left uncorrected, would become a more significant safety concern and was therefore more than a minor concern. The inspectors also concluded that this finding was associated with the mitigating systems cornerstone and adversely affected the cornerstone objective. Specifically, the repetitive EDG air start relay failures affected the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors performed a Phase 1 SDP review of this finding using the guidance provided in NRC Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," and determined that this finding was a licensee performance deficiency of very low safety significance because the finding: (1) was not a design or qualification deficiency; (2) did not represent an actual loss of safety function of a system; (3) did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time; (4) did not represent an actual loss of safety function of one or more Non-Technical Specification trains of equipment designated as risk significant; and (5) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.

Inspection Report# : 2002009*(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: SL-IV Jun 30, 2003
Identified By: NRC
Item Type: VIO Violation
Deliberate Failure to Follow Radiation Protection Requirements
Severity Level IV Violation. On May 16, 2003, the NRC issued a Notice of Violation to the licensee associated with an incident that occurred at the D. C. Cook Nuclear Power Plant on January 28, 2002. The incident involved an employee of the Framatome Corporation, a contractor at the D. C. Cook plant, that failed to follow the instructions of a radiation protection technician and subsequently failed to immediately exit the work area in the Unit 2 Containment Building when the employee's electronic dosimetry alarmed. The NRC Office of Investigations investigated the matter and concluded that the individual deliberately failed to follow radiation protection requirements.

Since the violation was determined to be deliberate, the NRC did not assign a significance to the violation using the Significance Determination Process. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violation was categorized at Severity Level IV.
Inspection Report# : 2003006*(pdf)*

Public Radiation Safety

Significance: G Oct 28, 2002
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Failure to Conduct an Adequate Radiological Survey
A finding of very low safety significance was self-revealed when a second survey of a valve that was previously surveyed and unconditionally released from the radiologically controlled area identified that the valve was contaminated. The primary cause of this finding was related to the cross-cutting area of Human Performance.

The finding was more than minor because this finding was associated with the Human Performance and Program and Process attributes of the Public Radiation Safety cornerstone and adversely impacted the cornerstone objective of ensuring adequate protection of the public health and safety from exposure to radioactive materials released or potentially released into the public domain. The finding was of very low safety significance because the public radiation exposure resulting from the problem was low and the finding was not repetitive. To address this issue, the licensee performed a thorough extent of condition evaluation to ensure that contaminated residue was identified which included radiation surveys in offsite areas and of personal items located outside the radiologically controlled area. One Non-Cited Violation of Technical Specification 6.8.1 regarding licensee procedures that govern the unconditional release of radioactive material was identified
Inspection Report# : 2003010*(pdf)*

Physical Protection

Miscellaneous

Last modified : December 01, 2003