D.C. Cook 1
1Q/2012 Plant Inspection Findings

Initiating Events

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: FIN Finding
Failure to Install a Grommet Seal on the Main Turbine Thrust Bearing Probe
One self revealed finding of very low safety significance was identified for the failure to install a grommet seal on the main turbine thrust bearing probes as required by a site design standard, VTD SKFI 0001, "Eddy Probe Systems Technical Manual," during the Unit 1 2009 turbine failure restoration project. Consequently, oil migrated into the thrust bearing probe conduit, which contributed to a main turbine trip and resultant automatic reactor trip on September 7, 2011. For corrective actions, the licensee separated the main turbine thrust bearing probe cables into separate conduits; wrapped the cables in additional shielding and insulation to prevent signal coupling; and installed sealing glands on the main turbine thrust housing to eliminate oil intrusion into the conduits. This issue was entered into the licensee's corrective action program as Action Request 2011 10107.

This finding was related to the Initiating Events Cornerstone and was more than minor because it adversely affects the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding is associated with the attribute of human performance. Specifically, the failure to install a grommet seal on the main turbine thrust bearing probes contributed to a main turbine trip and resultant automatic reactor trip. This finding was of very low safety significance because the finding does not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment will not be available. This finding is associated with a cross cutting aspect in the resources component of the human performance cross cutting area. Specifically, the work order associated with installing the main turbine thrust bearing probes did not include sufficient guidance to ensure that the grommet seal was installed

Inspection Report# : 2012002 *(pdf)*

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Procedure for PT Examination on ASME Class 1 Piping Weld
A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, procedures, and drawings," was identified by the inspectors on September 27, 2011, for the licensee's failure to follow procedure while performing a liquid dye penetrant (PT) examination on safety injection system piping weld. Specifically, on Unit 1, the examiner conducting the PT examination did not measure and hence, appropriately record indications that were identified during the PT examination. Licensee corrective actions included: re performing the PT examination on the safety injection piping weld, re performing the examiner's prior PT examinations conducted during the current outage to validate the PT examination results, and re train the examiner. This issue was entered into the licensee's corrective action program (CAP) as AR 2011 11130.

The finding was determined to be more than minor because the finding, if left uncorrected, would become a more significant safety concern. Absent NRC identification, the failure to follow the PT examination procedure would have the potential to lead to a more significant safety concern. Specifically, failure to measure and hence, appropriately record all reportable indications leaves the potential to accept components with unacceptable cracks to be returned to service. Cracks in components returned to service would place safety related piping systems at increased risk for through wall leakage and/or failure. The licensee promptly corrected this issue and no components with unacceptable flaws were returned to service. The inspectors answered "No" to the SDP Phase I screening question for operating reactors in the Initiating Events Cornerstone, "Assuming worst case degradation, would the finding result in exceeding the Technical Specification (TS) limit for any reactor coolant system leakage or could the finding have

likely affected other mitigation systems resulting in a total loss of their safety function assuming the worst case degradation"? Therefore, this finding screened as having very low safety significance (Green). This finding has a cross cutting aspect in the area of human performance, work practices, because the licensee contracted vendor did not follow the established PT examination procedure, and the licensee did not ensure appropriate supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported.

Inspection Report# : 2011005 *(pdf)*

Significance: G Dec 31, 2011
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Follow the Clearance Procdure during Maintenance on Safety-Related Equipment
One self revealed finding of very low safety significance with an associated NCV of TS 5.4.1.a was identified for the failure to implement a procedure required during maintenance on safety-related equipment. The licensee did not follow the clearance procedure while performing maintenance on the Unit 1 reactor vessel head vent assembly. Specifically, workers did not verify that the head vent assembly was isolated from the reactor vessel prior to attempting to remove the vent hose as required by the clearance procedure. Consequently, maintenance workers breached a pressurized system that was not isolated, which resulted in a more than expected amount of reactor coolant being released from the system. For corrective actions the licensee immediately isolated the leak, modified the clearance procedure with additional instructions and communicated lessons learned to the workers. This issue was entered into the licensee's Corrective Action program (CAP) as AR 2011 12207.

This finding was related to the Initiating Events cornerstone and was more than minor because it adversely affects the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding is associated with the attribute of human performance. Specifically, performing maintenance on a pressurized plant system without verifying the system was properly isolated increased the likelihood of events that challenge plant stability while shutdown. This finding was of very low safety significance because the safety function guidelines for core heat removal, inventory control, power availability, containment integrity, and reactivity control were met in accordance with a phase 1 screening using Appendix G to IMC 0609 for shutdown operations significance determination. This finding is associated with a cross cutting aspect in the work control component of the human performance cross cutting area. Specifically, the outage command center did not adequately coordinate work activities between maintenance and operations to ensure the reactor vessel head vent hose assembly was properly removed
Inspection Report# : 2011005 *(pdf)*

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Examine RCS Piping Following Application of Mechanical Stress Improvement
A finding of very low safety significance and associated Non Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," were identified by the inspectors for the licensee's failure to examine reactor coolant system (RCS) pipe surfaces affected by mechanical stress improvement to ensure that surfaces were uniform and free of cracks, buckles or other defects. As a corrective action, the licensee issued AR 2011 4426 to document the nonconforming condition of the RCS piping and was evaluating corrective actions including an action to request NRC approval to deviate from these code requirements.

The finding was determined to be more than minor because the finding was associated with the Initiating Events Cornerstone attribute of Design Control and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. Because the licensee did not perform surface examinations intended to provide reasonable assurance in the physical integrity of the RCS boundary, the availability and reliability of the RCS may have been reduced. The RCS piping was considered operable because of the low plastic strains involved, such that the likelihood of substantive cracking or buckling was small. The inspectors answered "No" to the Phase I screening question "Assuming worst case degradation, would the finding result in exceeding the Technical Specification limit for any RCS leakage or could the finding have likely affected other mitigation systems resulting in a total loss of their safety function assuming the worst case degradation?" Therefore,

the finding screened as having very low safety significance. This finding has a cross cutting aspect in the area of human performance, resources, because the licensee did not provide complete, accurate and up to date design documentation. Specifically, the failure to examine RCS pipe surfaces was caused by the incomplete and inaccurate design documents for implementation of the mechanical stress improvement process (Inspection Manual Chapter 310 Item [H.2(c)]). (Section 4OA5.1).
Inspection Report# : 2011003 *(pdf)*

Mitigating Systems

Barrier Integrity

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 : May 29, 2012