Browns Ferry 2
3Q/2004 Plant Inspection Findings

Initiating Events

Significance: G Sep 25, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Violation of Technical Specification 3.3.1.1 - Turbine Control Valve Fast Closure Circuit
The inspectors identified a violation of Technical Specification (TS) 3.3.1.1. The Reactor Protection System (RPS) function in Table 1, Item 9, Turbine Control Valve Fast Closure, Trip Oil Pressure Low, was affected by disabling the inputs of the turbine generator power-load unbalance (PLU) circuit. The PLU input was the sole input signal that would initiate a reactor scram and was credited in the main generator load rejection event safety analysis. The licensee did not recognize the need to enter the associated TS Limiting Condition Of Operation and did not take the required actions to restore RPS trip capability within one hour and immediately reduce power to less than 30% RTP. As a result, Unit 2 operated in an unanalyzed condition from July 11, 2004 until August 11, 2004.

This finding is greater than minor because it affected the objective of the Barrier Cornerstone, specifically Fuel Cladding Barrier and could induce localized fuel rod leaks during the postulated event. This finding is of very low safety significance because reactor power was only the susceptible power range (30%-70%) for a short duration, no actual transient occurred, the turbine bypass system was operational during the time period, and leaking fuel represents degradation of only one of three major barriers designed to mitigate leaking fuel and to protect the public. The reactor pressure vessel and containment barriers were never affected by this deficiency.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 25, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Failure to Adequately Conduct Post-Design Change Testing in accordance with10 CFR 50, Appendix B, Criterion III, Design Control
A self-revealing NCV was identified for the licensee's failure to adequately control post-design change testing in accordance with 10 CFR 50, Appendix B, Criterion III, Design Control. Following a design change to main turbine monitoring circuits credited in a safety analysis, failure modes unaccounted for and not tested by the test program resulted and later contributed to a Unit 2 reactor scram.

This finding is greater than minor because it is associated with program and process attributes and affected the objective of the Reactor Safety/Initiating Event Cornerstone to limit the likelihood of those events that upset plant stability and challenge critical safety functions during at power operations. This finding is of very low safety significance because all plant systems operated as designed following the scram.
Inspection Report# : 2004004*(pdf)*

Significance: G Oct 03, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Changes Made to the Fire Protection Program Regarding Compensatory Fire Watch Implementation Without NRC Approval
A Severity Level IV non-cited violation (NCV) of 10 CFR 50.48(a) and the Unit 2 and 3 Operating License Conditions was identified for a change to the approved fire protection program (FPP) which removed the requirement to implement fire watches for impaired fire protection systems and features. On October 23, 2002, the licensee inappropriately used the fire protection license change process to revise the FPP to permit the removal of fire suppression systems and/or fire rated barrier assemblies, necessary to satisfy the separation and suppression requirements of 10 CFR 50, Appendix R, Section III.G, from service without compensatory measures being implemented (i.e., fire watches being posted) in the affected plant area. The change could adversely affect the ability to achieve and maintain safe shutdown (SSD) in the event of a severe fire in the affected area.

This issue was not assessed in accordance with the SDP but instead was assessed in accordance with guidance in Sections IV.A.1 through IV.A.4 and Section IV.B of the NRC's Enforcement Policy. The issue was significant because the licensee's change process for the FPP allowed this degraded condition to be accepted without prior NRC approval. The inspectors concluded that this issue had a credible impact on safety because the licensee's failure to properly evaluate the removal of fire watch posting requirements could adversely affect or degrade the ability for achieving and maintaining SSD from the main control room, local shutdown stations, or alternate shutdown stations. However, the inspectors determined that this finding was of very low significance because, based on an assessment of the impacts of the identified fire protection features removed from service, the licensee's overall SSD capabilities in the affected fire areas and related FPP features (fire brigade) remained adequate to achieve and maintain SSD conditions. Therefore, this finding is characterized as Green.
Inspection Report# : 2003007*(pdf)*

Mitigating Systems

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Sep 25, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Failure to Implement Adequate Engineering Controls for Airborne Radioactive Material
A self-revealing NCV of 10 CFR 20.1701 was identified for failure to implement adequate engineering controls to limit airborne radioactivity stemming from decontamination activities for the 1C Reactor Water Cleanup (RWCU) Regenerative Heat Exchanger. Specifically, the High Efficiency Particulate Air (HEPA) filtration unit being used during the evolution did not have a HEPA filter cartridge. In addition, the HEPA filtration unit used during this evolution had been selected from the station's common pool of HEPA units. Consequently, this type of event could have occurred on Unit 2 or Unit 3 had the unit been selected for use on one of the other two units.

This finding is more than minor because it adversely affects the Occupational Radiation Safety cornerstone objective to ensure the adequate protection of worker health and safety from exposure to radiation from radioactive materials and the attribute of having adequate programs and processes for contamination control. The finding is of very low safety significance because the licensee's three-year rolling average for collective dose is less than 240 person-rem.
Inspection Report# : 2004004*(pdf)*

Significance: G Mar 27, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Ensure That ARMs Are Periodically Calibrated.
The inspectors identified a Non-Cited Violation of 10 CFR 20.1501(b) for failure to ensure that instruments and equipment used for quantitative radiation measurements (e.g., area radiation monitors) were calibrated at an adequate periodicity for the radiation measured.

The inspectors determined that the licensee's failure to ensure that area radiation monitors were calibrated at an appropriate periodicity for the radiation measured was a performance deficiency. This finding is greater than minor because it is associated with the Occupational Radiation Safety Cornerstone and adversely affects the cornerstone objective attribute to ensure the adequate protection of worker health and safety from exposure to radiation from radioactive material. The finding is of very low safety significance because there are other instrumentation and means to identify degraded operation involving a radioactive material release, and no known operational event occurred during this period.
Inspection Report# : 2004002*(pdf)*

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: N/A Nov 21, 2003
Identified By: NRC
Item Type: FIN Finding
Browns Ferry PI&R Inspection Results
Overall, the licensee maintained an effective program for the identification and correction of conditions adverse to quality. The licensee was effective at identifying problems at a low threshold to enter into the Corrective Action Program (CAP). In general, the licensee consistently prioritized issues in accordance with their CAP and routinely performed adequate evaluations that were technically accurate and of sufficient depth. However, minor problems were identified related to thoroughness of CAP issue documentation and categorization of level D PERs for issues where higher categorization may have been more consistent with the licensee's CAP requirements. The licensee's CAP tracking program output reports were considered paper intensive and a contributor to inefficiencies identified in the area of issue documentation and ability to perform efficient CAP trending.

Formal root cause evaluations for significant conditions adverse to quality were thorough and detailed. Corrective actions developed for lower level root and contributing causes were generally timely, effective, and commensurate with the safety-significance of the issue. Although the licensee incorporated a wide variety of root cause techniques, non-uniform root cause report outputs resulted in a cumbersome process for personnel to ensure all contributing causes were being adequately considered for broader corrective actions or extent of condition reviews. The licensee's periodic self-assessments and audits were effective in identifying deficiencies in the CAP and covered all areas of plant performance. Corrective actions for previous performance examples were being actively monitored within self-assessments and audits of the CAP. Several identified repetitive deficiencies with the CAP that resulted in the issuance of higher level CAP problem reports to address. Overall, the ability to perform self critical assessments was considered an effective program attribute, especially when addressing repetitive human factor performance issues where desired improvements were continuous in nature.

Site management was purposely active and involved in the CAP and focused appropriate attention on significant plant issues. At the Management Review Committee (MRC) meetings, management made frequent modification of Problem Evaluation Report (PER) priorities, PER descriptions, PER root cause determination techniques, and other items to ensure CAP expectations were being implemented.

Based on review of the licensee's Concern Resolution Program and discussions conducted with plant employees from various departments, the inspectors did not identify any reluctance to report safety concerns.

Initial reviews of the CAP for Unit 1 concluded that the licensee had established adequate processes and measures for including Unit 1 into the CAP at Browns Ferry. Problem identification thresholds were sufficiently low and management was actively involved in implementation of the program in order to instill consistent expectations and improve program efficiencies. Trending of Unit 1 PERs was well established and recent data did not indicate any areas of concern with the current Unit 1 recovery activities.
Inspection Report# : 2003008*(pdf)*

Significance: SL-II Jun 23, 2001
Identified By: NRC
Item Type: VIO Violation
EMPLOYEE PROTECTED ACTIVITY
On February 7, 2000, a Severity Level II violation with civil penalty was issued to the licensee. The violation was not site-specific and involved employment discrimination contrary to the requirements of 10 CFR 50.7, "Employee Protection," in that the licensee did not select a former employee to a competitive position in the corporate chemistry organization in 1996, due, at least in part, to his engagement in protected activities. On January 22, 2001, the licensee denied the violation and on May 4, an Order was issued sustaining the violation and imposing the civil penalty. On June 1, TVA requested an enforcement hearing on the Order.
Inspection Report# : 2001002*(pdf)*

Last modified : December 29, 2004