

Browns Ferry 2

1Q/2008 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Corrective Actions To Ensure Sufficient Alternate Shutdown Cooling Flow During Appendix R Events

The inspectors identified a Green noncited violation of Unit 2 License Condition 2.C (14), and Unit 3 License Condition 2.C (7), Fire Protection Report, Appendix R Safe Shutdown Program, for failing to establish the required compensatory measures to provide equivalent safe shutdown capability in lieu of the incorrect operating pressure band specified by the Safe Shutdown Instructions for Alternate Shutdown Cooling. A Priority 1 Operator Work Around was initiated and the station's Safe Shutdown Instructions were subsequently revised to incorporate the correct pressure band. This finding was entered into the licensee's corrective action program as Problem Evaluation Reports 109829 and 133483.

This finding was considered more than minor because if left uncorrected it could result in a more significant safety concern regarding the operator's ability to safely shutdown the plant and maintain adequate shutdown cooling during an Appendix R fire. This finding is also associated with the Protection Against External Factors attribute of the Reactor Safety/ Mitigating Systems cornerstone. According to IMC 0609, Appendix F, Fire Protection SDP, Phase 1 this finding was determined to be of very low safety significance because the assigned Degradation Rating was considered to be Low since Alternate Shutdown Cooling flow was minimally impacted even with an inaccurate operating pressure band due to the inherent plant design. The cause of this finding was directly related to the aspect of appropriate and timely corrective action in the cross-cutting area of Problem Identification and Resolution (Corrective Action component) because the licensee did not take appropriate corrective actions to address a safety issue by failing to incorporate the required interim actions into an Operator Work Around (P.1(d)).

Inspection Report# : [2007005](#) (*pdf*)

Significance:  Dec 14, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform ASME Inspections of Safety-Related Piping.

The inspectors identified a Green non-cited violation of 10 CFR 50.55a(g)4 Codes and Standards. Specifically, the licensee failed to perform required code inspections of accessible portions of safety-related piping. The licensee entered this issue into their corrective action program.

This finding is more than minor because if left uncorrected it would become a more significant safety concern. The failure to perform required inspections of safety-related piping could have allowed undetected through-wall flaws to remain in-service. These undetected flaws could grow in size until leakage from the piping degrades system operation, or if sufficient general corrosion occurs, a gross rupture or collapse of the piping could occur. The finding is of very low safety significance because the finding did not represent a loss of safety function. The cause of the finding is related to the cross-cutting element of problem identification and resolution under the operating experience aspect of the corrective action component [P.2(b)].

[Section 1R21.4]

Inspection Report# : [2007007](#) (*pdf*)

Significance:  Dec 14, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Corrective Actions for Cable Submersion Were Not Effective.

The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action. Specifically, the licensee failed to correct a cable submergence issue which resulted in the failure of a safety-related cable.

This finding is more than minor because it is associated with 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. The finding is of very low safety significance because the finding was not a design or qualification deficiency, and did not represent a loss of safety function because the redundant train was available. The cause of the finding is related to the cross-cutting element of problem identification and resolution under the licensee thoroughly evaluates problems aspect of the corrective action component [P.1(c)].

Inspection Report# : [2007007](#) (*pdf*)

Significance:  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Online Risk Assessment of Unit 2 Startup With All Three RFPs Out of Service (Section 1R13)

Green. The inspectors identified a Green non-cited violation of 10 CFR 50.65(a)(4) for the licensee's failure to conduct an adequate risk assessment prior to and during the startup of Unit 2 with all three reactor feedwater pumps (RFP) uncoupled and out of service. Subsequent configuration specific probabilistic safety analysis by the licensee determined the risk was acceptable. This finding was entered into the licensee's corrective action program as PER 123308.

The inspectors determined that the licensee's failure to perform an adequate risk assessment was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of configuration control and adversely affected the cornerstone objective. Also, the licensee's risk assessment did not consider all the risk significant systems that were out of service which, when properly evaluated, resulted in an increased level of risk for Unit 2 (i.e., Red) from a Sentinel perspective. This finding was determined to be of very low safety significance because the actual risk deficit for incremental core damage probability was less than 1E-6, and less than 1E-7 for incremental large early release probability. The cause of this finding was directly related to the "appropriately plans work activities using risk insights" aspect of the Human Performance (Work Control component) cross cutting area because the licensee failed to effectively use their risk assessment tools in the work planning process prior to Unit 2 startup with all three reactor feedwater pumps out of service. (Section 1R13)

Inspection Report# : [2007003](#) (*pdf*)

Barrier Integrity

Significance:  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow the Freeze Seal Procedure and Procedural Inadequacy (Section 40A5.3)

Green. The inspectors identified a Green noncited violation of 10CFR50, Appendix B, Criterion V, for inadequate procedure and failure to follow quality-related procedure MSI-0-000-PLG001, Installation of Freeze Seals, while installing a freeze seal on the Unit 2 Reactor Vessel Bottom Drain to the Reactor Water Cleanup System. The freeze seal procedure and its use was placed on hold pending further training and industry benchmarking. This finding was entered into the licensee's corrective action program as PERs 120928 and 121179.

This finding was considered to be greater than minor because it was associated with the Barrier Integrity cornerstone attributes of Human Performance and Procedure Quality, and adversely affected the cornerstone objective to provide reasonable assurance that the Reactor Coolant System barrier provided protection to the public from radionuclide

releases caused by accidents or events. Furthermore, this finding could be reasonably viewed as a precursor to a significant event. This finding was determined to be of very low safety significance because the finding's risk was minimal due to the many systems available for reactor vessel injection, the instruments and alarms available to the operators for monitoring water level, and the amount of time available to act. The cause of this finding was directly related to the aspect of "supervisory and management oversight of contractor work activities" in the cross-cutting area of Human performance (Work Practices component) because of inadequate supervisory and management oversight of contractor execution of critical freeze seal activities during the Unit 2 refueling outage. (Section 4OA5.3)
Inspection Report# : [2007003](#) (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

Significance: N/A Aug 24, 2007

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution

The licensee was effective in identifying problems at a low threshold and entering them into the CAP. Issues were typically properly characterized and evaluations such as root causes were sufficiently thorough and detailed. Strong management oversight of the CAP was evident. Initial prioritization of issues and corrective actions appeared to be appropriate to risk and program guidance; however, numerous delays in completion of corrective actions had led to increased backlogs in closure of Problem Evaluation Reports (PERs). Recent management attention had resulted in the backlogs beginning to decrease at the time of this inspection. In addition, the inspectors concluded that the licensee had been slow to effect significant improvement in equipment reliability based on the number of equipment problems and timeliness of corrective actions. Also, some repeat problems, such as, adequacy of corrective action implementation were noted; however, these problems were improved from previous inspections.

The licensee was effective in evaluating internal and external industry operating experience items for applicability and taking appropriate action.

Based on review of the licensee's Concerns Resolution Program (CRP), discussions conducted with plant employees from various departments, and review of many PERs, the inspectors did not identify any reluctance to report safety concerns. The inspectors concluded that licensee management routinely emphasized the need for all employees to identify and report problems using the appropriate methods established within the administrative programs.

Inspection Report# : [2007008](#) (*pdf*)

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