

## Browns Ferry 3

### 2Q/2005 Plant Inspection Findings

---

#### Initiating Events

**Significance:**  Mar 31, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

##### **Failure to Follow Clearance Tag Procedure Results in a Reactor Scram**

Green. A self-revealing NCV was identified for the failure to comply with Unit 3 Technical Specification 5.4.1, Procedures, specifically SPP-10.2, Clearance Program. As a result of failing to correctly implement the procedure during switchyard tagging removal, a Unit 3 reactor scram occurred.

This finding is greater than minor because it affected the human performance attribute of the Initiating Events Cornerstone to limit the likelihood of those events that upset plant stability and challenge critical safety functions during at-power operations. This finding was evaluated using the SDP and was determined to be a finding of very low safety significance because all plant systems operated as designed following the scram. This finding involved the cross-cutting aspect of Human Performance.

Inspection Report# : [2005002\(pdf\)](#)

**Significance:**  Dec 31, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

##### **Inadequate Procedures and Poor Human Performance Resulted in a Drop of the Reactor Building Crane Trolley.**

A self-revealing NCV was identified for the licensee's failure to comply with 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures and Drawings. As a result of inadequate procedures and poor human performance, a Reactor Building crane trolley was dropped approximately four feet onto the refuel floor while being rigged.

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. In addition, if left uncorrected, this finding would result in a more significant safety concern. This finding was determined to be a finding of very low safety significance because no initiating event or transient actually occurred, there was no permanent structural damage to the refuel floor, there was no functional degradation, and mitigating capability was not affected. The cause of the finding is related to the cross-cutting element of human performance.

Inspection Report# : [2004005\(pdf\)](#)

---

#### Mitigating Systems

**Significance:**  Mar 31, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

##### **Failure to Adequately Implement the Inservice Testing Program.**

Green. A self-revealing NCV was identified for the Failure to Comply with Unit 3 TS 5.5.6, Inservice Testing Program, specifically 3-SI-3.2.3, Testing ASME Section XI Check Valves. As a result of failing to follow procedures, a common cause failure was not addressed, resulting in Unit 2 operating with multiple stuck open Service Water inlet check valves to Residual Heat Removal (RHR) Heat Exchangers for a period of time in excess of one year.

This finding is greater than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding was evaluated using the SDP and was determined to be a finding of very low safety significance because the accident analysis did not specifically credit the closure function of these check valves. However, 10 CFR 50.55a required, in part, that both opening and closing functions be demonstrated even when the close function is not credited. The cause of this finding involved the cross-cutting aspect of Human Performance due to the failure to properly follow the written guidance of the surveillance instruction.

Inspection Report# : [2005002\(pdf\)](#)

**Significance:**  Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Demonstrate that the RMOV Board 1B Performance Was Effectively Controlled per 10 CFR 50.65 (a)(2).**

The inspectors identified an NCV of 10 CFR 50.65 (Maintenance Rule) for failing to demonstrate that the performance of the Reactor Motor-Operated Valve (RMOV) Board 1B was being effectively controlled through the performance of appropriate preventive maintenance such that the system remained capable of performing its intended function. As a result, after it exceeded its Maintenance Rule a(2) performance criteria, the licensee had not established goals nor monitored the performance of the RMOV Board 1B per 10 CFR 50.65a(1).

This finding is more than minor because it affected the reliability objective of the Equipment Performance attribute under the Mitigating Systems Cornerstone. The finding is of very low safety significance because there was no design deficiency, the equipment affected by the board failure either failed in a safe manner or had its redundant equipment functional.

Inspection Report# : [2004005\(pdf\)](#)

---

## Barrier Integrity

**Significance:**  Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**Untimely and Ineffective Corrective Actions To Ensure RHR Keep Fill Containment Isolation Valves Fulfill Their Safety Function Per 10 CFR 50.65 (a)(1)**

The inspectors identified a non-cited violation of 10CFR50.65(a)(1) in which the licensee has failed to implement timely and effective corrective actions to preclude multiple, repetitive failures of containment isolation valves in the Unit 2 and 3 Residual Heat Removal (RHR) Keep Fill System. These failures ultimately resulted in the failure of two containment isolation valves simultaneously for the same penetration, which created an open pathway from containment and a consequential loss of the maintenance rule safety function. Licensee monitoring and corrective actions per 10 CFR 50.65(a)(1) were ineffective at ensuring that containment isolation valves in the RHR Keep Fill System were capable of performing their intended safety function.

The finding is greater than minor because if left uncorrected it would become a more significant safety concern and because it affected the Containment Isolation SSC Reliability objective of the SSC and Barrier Performance attribute under the Barrier Integrity Cornerstone. The finding was assessed using the SDP, Manual Chapter 0609, Appendix H, Table 4.1. This assessment determined the finding to be of very low safety significance because, in the case of the most consequential containment isolation valve failures, the associated pathway was a small (i.e., 2-inch) line and would not have significantly contributed to Large Early Release Frequency (LERF). This finding had cross-cutting aspects associated with Problem Identification and Resolution.

Inspection Report# : [2005003\(pdf\)](#)

---

## Emergency Preparedness

---

## Occupational Radiation Safety

**Significance:**  Jun 30, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

**Two Examples of Failure to Comply with Radiation Work Permit Requirements**

The inspectors reviewed two examples of a self-revealing, non-cited violation of TS 5.4.1 for the failure of workers to comply with radiation work permit (RWP) requirements. The first example occurred on March 22, 2004, when an operator entered a posted high radiation area on an RWP that did not allow entry into high radiation areas. The operator received a electronic dosimeter dose rate alarm. Radiation dose rates in the area were 600 mrem per hour on contact and 300 mrem per hour at 30 cm from the radiation source. The second example occurred on October 4, 2004, when a craft worker entered an area in the overhead, greater than 6 feet, of the Unit 1 reactor building 593-foot elevation without contacting radiation protection personnel as required by the RWP. The worker did not review the planned work with radiation protection personnel prior to entry and did not monitor electronic dosimetry prior to reaching the dose alarm setpoint. A survey of the overhead area indicated dose rates of 200 mrem per hour on contact, 60 mrem per hour at 30 cm, and 25 mrem per hour general area from overhead piping. The finding is greater than minor because it was associated with the Occupational Radiation Safety cornerstone attribute of program and

process and it affected the associated cornerstone objective to ensure adequate protection of worker health and safety from exposure to radiation. Using the Occupational Radiation Safety Significance Determination Process, the finding was determined to be of very low safety significance because it did not involve (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. In addition, this finding had cross-cutting aspects associated with human performance when personnel failed to follow radiation work permit instructions.

Inspection Report# : [2005003\(pdf\)](#)

**G**

**Significance:** Nov 24, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

#### **Failure to Barricade, Conspicuously Post, and Control a High Radiation Area**

The inspectors reviewed a self-revealing, non-cited violation of TS 5.7.1 resulting when operations personnel failed to inform radiation protection personnel of the operation of the waste backwash transfer pump which caused an increase in dose rates to high radiation area levels. Specifically, on November 24, 2004, a radwaste operator received an electronic dosimeter dose rate alarm when he entered the waste surge and collector pump room on the 546-foot elevation of the radwaste building. The operator entered an area with dose rates of 159 mrem per hour and received a dose of 5 mrem from the entry. A survey of the area showed contact dose rates with overhead piping were as high as 2500 mrem per hour, with general area dose rates of 300 mrem per hour.

The finding is greater than minor because it is associated with the Occupational Radiation Safety cornerstone attribute of exposure control and it affected the associated cornerstone objective to ensure the adequate protection of worker health and safety from exposure to radiation. Using the Occupational Radiation Safety Significance Determination Process, the finding was determined to be of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. The cause of this finding had cross-cutting aspects associated with human performance.

Inspection Report# : [2005003\(pdf\)](#)

**G**

**Significance:** 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\(pdf\)](#)

---

## Public Radiation Safety

---

## Physical Protection

[Physical Protection](#) information not publicly available.

---

## Miscellaneous

Last modified : August 24, 2005