

# Oconee 3

## 1Q/2010 Plant Inspection Findings

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### Initiating Events

**Significance:**  Oct 15, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

#### **Unit 3 trip due to generator phase differential lockout (Section 40A3)**

A self-revealing finding was identified when Unit 3 experienced a reactor trip from 42 percent power as a result of a main generator lockout. The generator lockout was caused by an incorrect tap setting on a phase differential relay (HU-4).

The failure to develop a technical procedure as required by Nuclear System Directive (NSD)-703 was determined to be a performance deficiency. The performance deficiency was more than minor because it was associated with the external factors attribute of the Initiating Events cornerstone and it affected the cornerstone objective in that the lack of a technical procedure adversely impacted the ability to correctly perform the calibration of the relay which caused a main generator lockout and reactor trip. This finding was assessed using IMC 0609, Attachment 4, and determined to be of very low safety significance (Green) because the function of any mitigation equipment was not affected. The cause of this finding was directly related to the cross-cutting aspect of human error prevention techniques in the “Work Practices” component of the Human Performance cross-cutting area [H.4(a)]. (40A3.4)

Inspection Report# : [2009004](#) (*pdf*)

**Significance:**  Aug 28, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Provide Margin Between the LPI Relief Valve Set Point and the Peak Discharge Pressure of the LPI System**

A self-revealing, non-cited violation (NCV) of 10 CFR 50 Appendix B, Criterion III, Design Control, was identified for failure to provide sufficient margin between the peak discharge pressure of the low pressure injection (LPI) system and the relief valve setpoint for the Unit 3 B-train LPI cooler (3LP-37). This resulted in the inadvertent opening of 3LP-37 during LPI startup for decay heat removal on April 25, 2009. The licensee entered the issue into the corrective action program and revised the applicable operating procedure to provide additional margin during LPI startup for decay heat removal.

The failure to provide sufficient margin between the LPI relief valve set point and the peak discharge pressure of the LPI system upon startup was a performance deficiency. The finding was more than minor because, if left uncorrected, it would have the potential to lead to a more significant safety concern, specifically for loss of inventory if the relief valve failed to reseal. Additionally, the finding was associated with the Initiating Events cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown, primarily inventory control. The finding was of very low safety significance (Green) because it met the availability requirements set forth in IMC 0609, Appendix G, Shutdown Operations SDP, which verified that the licensee was maintaining an adequate mitigation capability for shutdown operation. The cause of the finding had a cross-cutting aspect in the area of “human performance.” It was directly related to the “licensee not conducting effectiveness reviews of safety-significant decisions to verify the validity of the underlying assumptions, identify possible unintended consequences, and determine how to improve future decisions” aspect of the “decision-making” component. Specifically, licensee calculation OSC-5616, reviewed and revised in 2008, identified a possible unintended consequence that 3LP-37 could lift during LPI pump start. This was not incorporated into plant procedures to prevent future relief valve lifts. Additionally, with the assumption that the relief setpoint for 3LP-37 was low, the licensee started the LPI system during the 3EOC24 outage under the same conditions that 3LP-37 lifted during the 3EOC23 outage (H.1(b)). (Section 40A2.a.3)

Inspection Report# : [2009006](#) (pdf)

**Significance:**  Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Adequately Implement Procedures for Draining the Reactor Coolant System**

Green. A self-revealing non-cited violation (NCV) of Technical Specification 5.4.1 was identified for the failure to adequately implement the procedural requirements for draining the RCS to 100 inches in the pressurizer, resulting in draining approximately 4100 gallons more RCS inventory than desired.

The finding was considered to be more than minor because it was associated with the initiating events cornerstone attribute of human performance and affected the objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. The finding was determined to be of very low safety significance (GREEN) based on the availability of diverse level indications and their associated low level alarms, and it was estimated that an additional 30 hours of draining would be required to approach midloop conditions. This finding has a cross-cutting aspect of personnel follow procedures (H.4(b)), as described in the Work Practices component of the Human Performance cross-cutting area.

Inspection Report# : [2009003](#) (pdf)

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## Mitigating Systems

**Significance:**  Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

### **Inadequate Implementation of Risk Management Actions Associated With Modification Work Activities on the BWSTs for all Three Oconee Units**

An NRC-identified Green NCV of 10 CFR 50.65(a)(4) was identified for the licensee's failure to effectively implement the risk mitigation actions contained in the approved complex activity plans associated with modifications on all three Borated Water Storage Tanks (BWST). This violation has been entered into the licensee's CAP as Problem Investigation Process report (PIP) O-10-0171.

The failure to properly implement the risk management actions of the complex activity plan was a performance deficiency. The finding was more than minor because the modification work on the BWSTs was performed in a manner that had the potential to adversely affect the Emergency Core Cooling Systems primary water source for all three units if left uncorrected by damaging level transmitters and associated cables supporting ECCS suction swap-over. The inspectors completed a Phase 1 screening using Inspection Manual Chapter 0609, "Maintenance Risk Assessment and Risk Significance Determination Process," Appendix K, and determined that the finding was of very low safety significance (Green) based on the Incremental Core Damage Probability resulting from the work activities being less than 1E-6. The finding directly involved the cross-cutting area of Human Performance under the "Work Activity Coordination" aspect of the "Work Control" component in that the licensee failed to appropriately coordinate work activities to ensure the increased risk was minimized in accordance with the approved Complex Activity Plan [H.3(b)]. (Section 1R13)

Inspection Report# : [2009005](#) (pdf)

**Significance:**  Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

### **Inappropriate Removal of Workers Associated With Modification Work Activities on the BWST's from Work Hour Controls**

An NRC-identified Green NCV of 10 CFR 26.205 was identified when the licensee excluded individuals working on BWST modifications from work hour controls. This violation has been entered into the licensee's corrective action

program as PIP O-09-6989.

The exemption of workers involved in work on a safety-related system from work hours controls was a performance deficiency. The performance deficiency was more than minor because if left uncorrected, the exclusion of workers from work hour controls could have led to a more significant safety concern due to personnel exceeding work hour limits while

performing modification work on the BWSTs that could have adversely affected the primary water supply to the emergency core cooling systems. In addition, more than 60 workers were improperly excluded from work hour controls over the 2.5-month period encompassed by the licensee's exclusion. This finding was determined to be of very low safety significance (Green) based on no deficiencies occurring due to worker fatigue which affected risk significant structures, systems, or components. This finding has a cross-cutting aspect of the licensee formally defining the authority and roles for decisions affecting nuclear safety and communicating these roles to applicable personnel as described in the Decision-Making component of the Human Performance cross-cutting area [H.1(a)]. The licensee failed to ensure that the roles of personnel involved in processing requests exempting workers from work hour restrictions were adequately defined and communicated to ensure implementation of the work hour limits. (Section 40A5.2)

Inspection Report# : [2009005](#) (pdf)

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## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

**Significance:**  Dec 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Comply with Radiological Postings and the Requirements for Entering a Posted High Radiation Area**

A self-revealing Green NCV of Technical Specification 5.4.1, Procedures, was identified for the failure to read and comply with all radiological postings and, prior to entering a high radiation area, attend a documented radiation protection briefing, know the radiological conditions in the area, and log onto a Radiation Work Permit that allows entry into a high radiation area, as required by procedure Nuclear Site Directive (NSD) 507, Radiation Protection (RP). The licensee has entered this violation into the corrective action program as PIP O-09-5609.

The failure to follow the requirements of NSD 507 with respect to radiological postings and entry into high radiation areas was a performance deficiency. This finding is greater than minor because it is associated with the Occupational Radiation Safety Cornerstone attribute of Program and Process (Exposure Control) and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. The finding was evaluated using the Occupational Radiation Safety Significance Determination Process and determined to be of very low safety significance (Green) because it was not related to As Low As Reasonably Achievable (ALARA) planning, did not involve an overexposure or substantial potential for overexposure, and the ability to assess dose was not compromised. The cause of this finding was directly related to the cross-cutting aspect of human performance and error prevention under the work practices component in the area of Human Performance, because the security personnel failed to use self-checking prior to passing through the Unit 1/Unit 2 fuel receiving bay door into the posted high radiation area [H.4(a)]. (Section 2OS1)

Inspection Report# : [2009005](#) (pdf)

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## Public Radiation Safety

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### 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.

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### Miscellaneous

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