

Oconee 3

2Q/2010 Plant Inspection Findings

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)

Mitigating Systems

Significance: **G** Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Install Structural Rebar as Required by Instructions and Drawings

Green. An NRC-identified non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" was identified. The licensee failed to adhere to drawings and instructions during the installation of rebar in the Unit 3 Borated Water Storage Tank (BWST) Natural Phenomena Barrier System foundation. This issue has been entered into the licensee's corrective action program as PIP O-10-4985.

The inspectors determined that the licensee's failure to follow approved drawings and instructions for construction of the Unit 3 BWST Natural Phenomena Barrier System foundation was a performance deficiency. The inspectors determined that the performance deficiency was more than minor because, if left uncorrected, insufficient concrete coverage on the rebar could lead to rebar corrosion and challenge the integrity of the Unit 3 BWST Natural Phenomena Barrier System. The inspectors used Inspection Manual Chapter 0609, "Significance Determination Process", Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings" and determined that the finding was of very low safety significance (Green) because the finding did not result in the actual loss of function of the Unit 3 BWST. This finding had a cross-cutting aspect in the area of Human Performance under the "Procedural Compliance" aspect of the "Work Practices" component because the licensee failed to effectively communicate expectations to follow procedures. [H.4(b)] (Section 1R17)

Inspection Report# : [2010003](#) (pdf)

Significance: **W** Jun 09, 2010

Identified By: NRC

Item Type: VIO Violation

Failure to promptly identify and correct an adverse condition affecting operability of the Unit 2 and Unit 3 standby shutdown facility

A NRC-identified White violation of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, was identified for the licensee's failure to promptly identify and correct a condition adverse to quality associated with a degraded condition on Unit 2 and Unit 3 Standby Shutdown Facility (SSF) Reactor Coolant Makeup (RCM) subsystem letdown lines. This violation has been entered into the corrective action program as PIP O-10-1213.

The licensee's failure to promptly identify and correct the degraded condition of the Unit 2 and Unit 3 SSF RCM letdown lines as required by 10 CFR 50, Appendix B, Criterion XVI was a performance deficiency. The performance deficiency was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of Equipment Performance and adversely impacted the cornerstone objective because the degraded condition had the potential to affect reactor coolant system inventory control during an SSF event. This finding was characterized as a White finding of low to moderate significance with regard to safety. This finding does not present an immediate safety concern because the filters have been removed from the SSF RCM subsystem letdown lines on all three units. This finding directly involved the cross-cutting area of Human Performance under the Conservative Assumptions and Safe Actions aspect of the "Decision Making" component (H.1(b)). (Section 4OA5.b.1)

Inspection Report# : [2010007](#) (pdf)

Inspection Report# : [2010008](#) (pdf)

Significance: **SL-III** Jun 09, 2010

Identified By: NRC

Item Type: VIO Violation

Materially inaccurate information provided to NRC regarding SSF event mitigation capability

A licensee-identified SL-III violation of 10 CFR 50.9(a) was identified when the licensee determined that information contained in the “Oconee Nuclear Station SSF RC Letdown Action Plan” was inaccurate. This information was material to NRC because it was used, in part, as the basis for determining whether the licensee’s response to the degraded condition was adequate and whether additional compensatory actions or NRC review would be necessary. This violation has been entered into the corrective action program as PIP O-10-0561.

The failure to provide complete and accurate information impacted the regulatory process in that the inaccurate information was material to NRC’s determination that the licensee’s response to the degraded condition was adequate. The severity level of this violation is characterized at Severity Level III in accordance with the NRC Enforcement Policy. Cross-cutting aspects are not assigned to violations being dispositioned through the traditional enforcement process. (Section 40A5.b.2)

Inspection Report# : [2010007](#) (*pdf*)

Inspection Report# : [2010008](#) (*pdf*)

Significance: Y Jun 09, 2010

Identified By: NRC

Item Type: VIO Violation

SSF reactor coolant makeup subsystem inoperable for greater than allowed by technical specifications

A self-revealing Yellow violation of Technical Specification 3.10.1 was identified when the Standby Shutdown Facility (SSF) Reactor Coolant Makeup (RCM) subsystem letdown line failed to pass the required flow. As a result, the SSF RCM subsystem was rendered inoperable for greater than the seven days allowed by technical specifications (TSs). This violation has been entered into the corrective action program as PIP O-09-7536.

The licensee’s failure to ensure the SSF RCM subsystem remained operable as required by TSs was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of Equipment Performance and adversely impacted the cornerstone objective in that the letdown line could not perform its design function during an SSF event. This finding was characterized as a Yellow finding of substantial importance to safety. This finding does not present an immediate safety concern because the filters have been removed from the SSF RCM subsystem letdown lines on all three units. No cross-cutting aspect was identified because the most significant contributor to this finding was not indicative of current licensee performance. (Section 40A5.b.3)

Inspection Report# : [2010007](#) (*pdf*)

Inspection Report# : [2010008](#) (*pdf*)

Significance: G Apr 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Identify and Correct Fire Brigade Performance Weaknesses

A Green NRC-identified NCV of Condition 3.D of Facility Operating Licenses DPR-38 (Unit 1), DPR-47 (Unit 2) and DPR-55 (Unit 3) was identified for the licensee’s failure to identify, critique, and develop corrective actions for fire brigade performance weaknesses during a fire drill as required by NSD 112, “Fire Brigade Organization, Training and Responsibilities.” This violation has been entered into the corrective action program as PIP O-10-1247.

The licensee’s failure to identify, critique, and develop corrective actions for fire brigade performance weaknesses during a fire drill as required by NSD 112 was a performance deficiency. The performance deficiency was more than minor because it was associated with the protection against external factors attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective in that fire brigade performance weaknesses may delay fire brigade response allowing a fire to propagate leading to a more significant event. This finding was determined to be of very low safety significance because the condition of the automatic fire detection and suppression systems was satisfactory and the performance weaknesses would not have affected the ability to achieve safe shutdown. This finding directly involved the cross-cutting area of Human Performance, component of Work Practices, and aspect of personnel follow procedures in that the requirements of NSD 112; Section 112.6, were not met (H.4(b)). (Section 1R05)

Inspection Report# : [2010002](#) (pdf)

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 4OA5.2)

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

Emergency Preparedness

Occupational Radiation Safety

Significance:  Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Conduct an Adequate Area Radiation Survey of a Room in the Radwaste Facility

Green. A self-revealing non-cited violation (NCV) of 10 CFR 20.1501(a) was identified for the licensee's failure to conduct an adequate area radiation survey to evaluate the magnitude and extent of radiation levels for an area located in the Radwaste Facility. This issue has been entered into the licensee's corrective action program as PIPs O-09-04475 and O-10-01503.

The failure to conduct an adequate area radiation survey to evaluate the magnitude and extent of radiation levels for an area located in the Radwaste Facility is a performance deficiency. This finding is more than minor because it is associated with the Occupational Radiation Safety cornerstone attribute of exposure control and monitoring and it affected the associated cornerstone objective because the failure to conduct an adequate area radiation survey to evaluate the magnitude and extent of radiation levels for an area located in the Radwaste Facility did not ensure the 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 IMC 0609, Appendix C, and was determined to be of very low safety significance. The cause of this finding is related to the cross-cutting aspect of radiological safety in the work control component of Human Performance because the licensee did not conduct an adequate area radiation survey to evaluate the magnitude and extent of radiation levels for an area located in the Radwaste Facility.

[H.3(b)] (Section 2RS1)

Inspection Report# : [2010003](#) (*pdf*)

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)

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

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