

Oconee 3

3Q/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*)

Mitigating Systems

Significance:  Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

EQ components not installed in the as-qualified configuration

A NRC-identified non-cited violation was identified for the licensee’s failure to comply with 10 CFR 50.49(f) in that Rosemount transmitters, Limitorque valve actuators, and electrical penetration assemblies (EPAs), each an item of electric equipment important to safety, were found installed in a configuration other than the tested configuration and the licensee did not establish the qualification of the installed configuration.

The failure to comply with the requirements of 10 CFR 50.49(f) was a performance deficiency. The performance deficiency was more than minor in that if left uncorrected it could have adversely affected indication required by operators to diagnose and respond to an event or resulted in unexpected equipment response. The inspectors determined that a Phase 2 evaluation was required for the Rosemount transmitters with plastic shipping plugs installed because of a potential loss of safety function of the Low Pressure Injection system. The inspectors performed a Phase 2 and concluded that the finding was of very low safety significance (Green) because the ability to achieve hot shutdown was not affected. The other three conditions screened as Green in Phase 1 because the finding did not result in the actual loss of function of the transmitters with improperly torqued covers, the Limitorque actuators, or EPAs. The finding involved the cross-cutting area of Human Performance under the Procedures aspect of the Resources component in that the licensee failed to develop complete and accurate procedures and work packages for the installation and periodic maintenance of Rosemount transmitters. (H.2.c) (Section 40A2.2)

Inspection Report# : [2010004](#) (*pdf*)

Significance: **G** Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Unqualified electrical penetration assemblies

An NRC-identified non-cited violation of 10 CFR 50.49(l) was identified when the licensee did not follow the requirements for replacing components within EPAs when existing components qualified under the Division of Operating Reactors, Guidelines for Evaluating Environmental Qualification of Class 1E Electrical Equipment in Operating Reactors (DOR Guidelines), dated November 1979, were combined with replacement components qualified to current standards. The outboard Viking EPA terminal box and associated terminal blocks, not qualified under current standards, were left in 86 EPAs that had been upgraded and made available for use in safety-related or environmentally-qualified applications.

The failure to replace or to justify reasons to the contrary for not replacing the Viking EPA outboard terminal box and terminal blocks was a performance deficiency. The performance deficiency was more than minor because if left uncorrected, the licensee could have used the non 10 CFR 50.49 qualified terminal blocks as an electrical pathway for environmentally qualified or safety related loads. The inspectors completed a Phase 1 screening 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 equipment receiving signals or power supplied through the modified EPAs. The finding directly involved the cross-cutting area of Human Performance under the Proper Maintenance Practices aspect of the Resources component in that the terminal boxes and associated terminal blocks which were not qualified under current standards were left in EPAs that had been upgraded and made available for use in safety-related or environmentally-qualified applications.

(H.2.a)

Inspection Report# : [2010004](#) (*pdf*)

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 40A5.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:  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 40A5.2)

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

Barrier Integrity

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)

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

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

Last modified : November 29, 2010