

Oconee 2

3Q/2005 Plant Inspection Findings

Initiating Events

G**Significance:** Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement an Inspection Program for the Main Steam Lines

A NRC-identified non-cited violation of 10 CFR 50 Appendix B, Criterion X, Inspection, was identified for the failure to develop and implement an inspection program for monitoring the main steam line in the Unit 1, 2 and 3 East Penetration Rooms. The finding was considered to be a performance deficiency in that the licensee had committed to perform inspections of the steam lines to support the acceptability of Duke's design and analysis for the main steam lines, but the inspections were not being performed. The finding was considered to be more than minor because it impacted the Reactor Safety Initiating Events Cornerstone in that failure to perform the inspections could lead to failure to identify degrading main steam line conditions, which would cause an increase in the likelihood of an initiating event. The finding was screened as having very low safety significance under the Initiating Events Cornerstone, in that it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. This finding involved the cross-cutting aspect of Problem Identification and Resolution. (Section 1R22.3)

Inspection Report# : [2005004\(pdf\)](#)**G****Significance:** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Design Clearances on Feedwater Piping Whip Restraints

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures and Drawings, for the failure to maintain design clearances on Unit 2 feedwater piping whip restraints. Specifically, the inspectors identified that clearances between the Unit 2 feedwater pipe whip restraint nuts and structural mounting plates were not in accordance with (i.e., significantly less than) the gap requirements specified in the associated design drawing; thereby, creating additional piping stresses while at normal operating conditions. This finding was greater than minor because it is associated with the configuration control attribute and affected the objective of the Initiating Events Cornerstone to limit the likelihood of events that challenge critical safety functions. In addition, if left uncorrected, this finding could have become a more significant safety concern, in that continued increased stresses on the feedwater piping and the uncertainties in the analyses could have resulted in a piping failure. The finding was evaluated using the Reactor Safety SDP and determined to be of very low safety significance because the inspectors determined that the licensee's conclusion, that the pipe would not have failed at the time of discovery, was reasonable. (Section 4OA5.11)

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

Mitigating Systems

G**Significance:** Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Performing Licensed Duties While Medically Unqualified

A NRC-identified non-cited violation of 10 CFR 50.74 was identified for failure to make a notification of a change in operator or senior operator status regarding information for one licensed operator concerning his medical qualification. Specifically, the operator failed to meet the American Nuclear Standards Institute /American Nuclear Society (ANSI/ANS-3.4, "Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants," 1983 Standard for a blood pressure (BP) limitation. This impacted the NRC's ability to perform its regulatory function, in that the NRC was not able to make a licensing decision with regards to a potential restriction to ensure compliance with ANSI/ANS-3.4. Consequently, an operator stood several watches in a Technical Specification license position with his BP greater than the ANSI/ANS limits. This finding is of very low safety significance because there was no evidence that the operator endangered plant operations as a result of hypertension while performing licensed duties since the original issuance of his license. However, the regulatory significance was important because pertinent information was not provided to the NRC when the operator knowingly discontinued taking his medication. Subsequently, this impacted a licensing decision for the individual. (Section 1R11.2)

Inspection Report# : [2005004\(pdf\)](#)

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Significance: Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Develop and Implement a Cleanliness Inspection Program for the Containment Electrical Penetrations

A NRC-identified non-cited violation of 10 CFR 50 Appendix B, Criterion X, Inspection, was identified for the failure to develop and implement an inspection program for inspection and cleaning of the containment electrical penetrations located in the East and West Penetration Rooms of Units 1, 2, and 3. The finding was considered to be a performance deficiency in that the licensee had failed to develop an inspection program for their containment electrical penetrations to ensure cleanliness of the electrical connections. The inspectors concluded that if left uncorrected (no inspection) debris and rust accumulation could lead to failure of the electrical circuits during a high energy line break as a result of grounds and shorts. Therefore, failure to perform cleanliness inspections was considered to be more than minor because it could impact the Reactor Safety Mitigating Systems Cornerstone objective for reliability of a mitigating system/train (i.e., circuits needed to mitigate a high energy line break. The finding was screened as very low safety significance in the Phase 1 review under the Mitigating Systems Cornerstone, in that failure to perform an electrical penetration inspection was not considered to be a design deficiency, was not considered to represent a loss of safety system function, was not considered to represent an actual loss of safety function of a single train, and did not involve seismic, flooding or severe weather. This finding involved the cross-cutting aspect of Problem Identification and Resolution. (Section 1R22.2) Inspection Report# : [2005004\(pdf\)](#)

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Significance: Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Untimely Corrective Actions for Repairs to a Unit 2 East Penetration Room Floor Seal

A NRC-identified non-cited violation of 10 CFR 50 Appendix B, Section XVI, Corrective Action, for inadequate corrective actions related to the lack of timeliness of repairs to a Unit 2 East Penetration Room floor seal. The failure to promptly repair the damaged floor seal was considered to be a performance deficiency. The finding was considered to be more than minor because if left uncorrected, additional seal area could fail and it would affect the Mitigating System Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events, in that the high pressure injection (HPI) pumps could be flooded following a high energy line break in the East Penetration Room. However, in the seal's current level of degradation, the inspectors concluded that the deficiency would not by itself result in the loss of function of the HPI pumps, because flooding would be limited by the size of the degraded/failed seal. Consequently, the finding was determined to be of very low safety significance, as it was screened out under the Mitigating Systems Cornerstone in the SDP Phase 1 Screening Worksheet with the determination that there was no loss of safety function. This finding involved the cross-cutting aspect of Problem Identification and Resolution. (Section 4OA2.6) Inspection Report# : [2005004\(pdf\)](#)

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Significance: Dec 31, 2004

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Incorrect Wiring of the SSF Submersible Pump Motor Leads

A self-revealing non-cited violation of 10 CFR 50, Appendix B, Criterion XI, Test Control, was identified for the failure to establish and perform adequate testing to ensure that the standby shutdown facility (SSF) submersible pump would operate correctly to provide SSF equipment with a makeup source of water to the Unit 2 condenser circulating water (CCW) header when called upon. Specifically, the licensee's test program had failed to reveal that the pump's power leads had been reversed since November 19, 1992, despite the performance of twelve surveillances between November 19, 1992, and February 3, 2004. Failure to maintain the SSF submersible pump in a ready to operate condition was considered to be more than minor, in that, its incorrectly wired motor leads directly affected the cornerstone objective to ensure equipment reliability of a mitigating system (i.e., the SSF). A Phase 3 risk analysis determined that this issue was of very low risk significance. This was based primarily on the availability of an alternate source of water inventory to fill the Unit 2 CCW header (i.e., via reverse, gravity supplied CCW flow from Lake Keowee through the unit's condensate coolers). (Section 4OA5.8) Inspection Report# : [2004005\(pdf\)](#)

Significance: N/A Jan 23, 2004

Identified By: NRC

Item Type: VIO Violation

Failure to Obtain Prior NRC Approval to a Change to the Facility Involving Unreviewed Safety Questions on High Energy Line Break Analysis

The inspectors identified an apparent violation of 10 CFR 50.59 (a)(1) (1999 version of 10 CFR) which states, in part, that the licensee may make changes in the facility as described in the safety analysis report without prior Commission approval, provided the proposed change does not involve an unreviewed safety question (USQ). 10 CFR 50.59 (a)(2) states, in part, that a proposed change involves an USQ if the probability of occurrence or malfunction of equipment important to safety previously evaluated in the safety analysis report may be increased, or if it may create an accident different from any previously evaluated.

On May 17, 2001, the licensee made a change to the facility, as described in the Updated Final Safety Analysis Report, Section 3.6.1.3, associated with the High Energy Line Break (HELB) analysis, which involved unreviewed safety questions, and failed to obtain prior NRC approval. The UFSAR Section was changed to increase the maximum initiation time following HELB of Emergency Feedwater from 15 to 30 minutes and of High Pressure Injection from 1 hour to 8 hours (based on referenced reports and analysis). The analysis discussed an increased

cycling of pressurizer Safety Relief Valves on steam and water, boiler condenser mode of decay heat removal, and an unapproved computer code for application to HELB, but failed to recognize that such changes may increase the probability of occurrence or the consequences of a malfunction of equipment important to safety or may create an accident different from any previously evaluated. In addition, the change resulted in more than a minimal increase in risk.

Based on the results of the inspection, a pre-decisional enforcement conference was held on March 2, 2004, in the NRC's Region II Office in Atlanta, Georgia, with the licensee staff to discuss the apparent violation, its significance, root causes, and corrective actions. Based on the information developed during the inspection, and the information presented at the conference, the NRC determined that a violation of NRC requirements occurred. On April 8, 2004, the NRC issued a Notice of Violation (NOV) and proposed imposition of a \$60,000 Civil Penalty (ADAMS accession number ML040990355). The violation involves a failure to adhere to the requirements of 10 CFR 50.59, in that Duke Energy Corporation made changes to the Oconee facility as described in Section 3.6.1.3 of the UFSAR and referenced analyses that involved unreviewed safety questions (USQs) without obtaining prior NRC approval.

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

Inspection Report# : [2004007\(pdf\)](#)

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

Barrier Integrity

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Significance: Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate QC Inspection Results in the Improper Installation of Thermal Overloads on the Unit 1 and 2, B Train, CROABF

A self-revealing, non-cited violation (NCV) of 10 CFR 50 Appendix B, Criterion X, Inspection, was identified for an inadequate quality control (QC) inspection associated with the installation of the thermal overloads on the Unit 1 and 2 Control Room Outside Air Booster Fan (CROABF) Train B. The finding was considered to be a performance deficiency because the licensee failed to conduct an adequate QC inspection of the installation of the S4.4 overload relay heater elements on the safety-related B CROABF. The licensee's failure to correctly install the thermal overloads on the Unit 1 and 2, B Train, CROABF was considered to be more than minor because it affected the Barrier Integrity Cornerstone attribute of maintaining control room habitability. Similar to NCV 05000269/2005002-02, this finding represented a similar degradation of the barrier function of the control room against smoke and/or a toxic atmosphere; thereby, requiring a Phase 3 evaluation be performed. However, since the exposure time associated with this CROABF finding is shorter than that used in the Phase 3 evaluation of NCV 05000269/2005002-02, it too is considered to be of very low safety significance. This finding involved the cross-cutting aspect of human performance. (Section 40A3.3)

Inspection Report# : [2005004\(pdf\)](#)

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Significance: Mar 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Corrective Actions Following 3B RBCU Fan Failure Results in 2A RBCU Fan Failure

A self-revealing, non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action, was identified for inadequate corrective actions following the 3B reactor building cooling unit (RBCU) fan blade failure, which led to the failure of a 2A RBCU fan blade. The finding was considered to be more than minor because it affected the barrier integrity cornerstone attribute of maintaining containment functionality, in that the failure to fully identify and correct the causes of the 3B RBCU fan blade failure resulted in a 2A RBCU fan blade failure less than eight months later. However, during an event requiring control of the containment environment with one RBCU inoperable, the two remaining RBCUs and two trains of reactor building spray would have been available to mitigate the consequences of the event; consequently, the finding was determined to be of very low safety significance using the SDP Phase 1 analysis. This finding also involved the cross-cutting aspect of problem identification and resolution. (Section 40A2.2)

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

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Significance: Mar 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Improper Thermal Overloads Installed in the Unit 1/2, B Train, Control Room Outside Air Booster Fan

A self-revealing, non-cited violation of 10 CFR 50 Appendix B, Criterion III, Design Control, was identified for the installation of improperly sized thermal overloads on the Unit 1/2, B train, control room outside air booster fan (CROABF). The finding was considered to be more than minor because it affected the barrier integrity cornerstone attribute of control room habitability, in that the thermal overload relays in the Unit 1/2, train B, CROABF were undersized for the operating current of the fan's motor, resulting in the motor tripping after 2.5 hours of operation during a post maintenance test. Because the finding represented a degradation of the barrier function of the control room against smoke and/or a toxic atmosphere, a Phase 3 evaluation was performed. This evaluation concluded that the finding was of very low safety significance. (Section 40A3.2)

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

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

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

Miscellaneous

Last modified : November 30, 2005