

Dresden 2

1Q/2011 Plant Inspection Findings

Initiating Events

Significance:  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide An Adequate Procedure for Several Instrument Maintenance Surveillance Tests

The inspectors identified a NCV of Technical Specification (TS) 5.4.1 for the failure to provide an adequate procedure for the verification of correct installation and restoration of equipment during an instrument maintenance surveillance test in May 2010. The licensee's corrective actions included a task to add requirements for an independent verification of the removal of volt ohm meters (VOMs) in the ohm meter mode in 17 affected procedures. The licensee entered this finding into the corrective action program as issue report (IR) 1068559.

Using IMC 0612, Appendix E, "Examples of Minor Violations," issued on September 20, 2007, the inspectors determined that there were no similar examples to this finding in Appendix E. The inspectors referenced IMC 0612, Appendix B, "Issue Screening," dated January 1, 2010. The inspectors determined that the finding was more than minor based on Block 9, Figure 2, paragraph 2.b, "If left uncorrected, would the finding become a more significant safety concern." The inspectors determined that the failure to perform an independent verification that a testing configuration had been returned to normal could result in the inability of a system or component to perform its function which would be a more significant safety concern. No systems had been incorrectly returned to service as a result of the inadequate procedure and, therefore, this violation had very low safety significance. This finding had a cross cutting aspect in the area of Problem Identification and Resolution - Corrective Actions because the licensee did not address a previously identified safety issue in a timely manner.

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

Significance:  Jun 30, 2010

Identified By: Self-Revealing

Item Type: FIN Finding

Failure To Perform An Adequate Inspection of Circulating Water Valve 3 4402 C

On January 22, 2010, a finding of very low safety significance was self revealed for failure to perform an adequate inspection of the grease condition of the 3 4402 C valve actuator HBC gear box, which was contrary to the requirements of MA AA 723 301, "Periodic Inspection of Limitorque Model SMB/SB/SBD 000," Revision 3. No violation of regulatory requirements occurred because valve 3 4402 C was a nonsafety-related component. The licensee planned to drill inspection ports into and/or replace the HBC gear boxes for valves 2/3 34403 A(B)(C)(D) and 2/3 34402 A(B)(C)(D) and 2 34402 C and change the preventive maintenance requirement to perform a 12 year mechanical inspection of the HBC gear box. This finding was placed in the licensee's corrective action program as IR 1034444, "Failure of the 3 4402 C Condenser Inlet Valve."

The finding was determined to be more than minor because the finding could be reasonably viewed as a precursor to a significant event. Specifically, valve 3 4402 C acted as an inlet in the circulating water system for the south water box. When the valve failed, it was almost completely closed. Had the valve failed open, circulating water would have been diverted from the condenser potentially causing a loss of vacuum that would have resulted in a reduction in power and/or a turbine trip and reactor trip. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 4a, Initiating Events Cornerstone Column, Transient Initiators question 1, does the finding contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available, was answered "no," and, therefore, screened as Green. This finding had no cross cutting aspect due to the issues involved in this valve failure were not indicative of current performance.

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

Mitigating Systems

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Control Room Ventilation Smoke Detector Failure to Perform Post-Maintenance Testing

The inspectors identified a finding of very low safety significance and associated NCV of the Dresden Nuclear Power Station Renewed Facility Operating License for the licensee's failure to perform adequate post-maintenance testing on a smoke detector in the Control Room Ventilation System ductwork. Corrective actions by the licensee included creating an action to determine what happened with the test results and moving the repair of the smoke purge dampers up in the schedule.

Using IMC 0612, Appendix B, "Issue Screening," issued on January 1, 2010, the inspectors determined that this finding was more than minor. The inspectors were unable to resolve the more than minor issue based on the examples in IMC 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009. The inspectors did, however, determine that the performance deficiency was associated with the Reactor Safety – Mitigating Systems Cornerstone attribute of equipment performance. The failure to perform post-maintenance testing on the smoke detector could impact the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that this finding had a cross-cutting aspect in the area of Work Control because the licensee did not appropriately plan work activities by incorporating the need for planned contingencies. Specifically, when the control room ventilation dampers would not reposition to the smoke purge position, the licensee still had the ability to test the alarms associated with the detector but failed to do so (H.3(a)).

Inspection Report# : [2011002](#) (pdf)

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform Surveillance Testing on East Turbine Building Vent HVAC Smoke Detectors

The inspectors identified a non-cited violation (NCV) of the Dresden Nuclear Power Station Renewed Facility Operating License having very low safety significance for the licensee's failure to perform adequate testing on four smoke detectors in the east turbine building ventilation system ductwork. This violation was presented to the licensee late in the inspection period and the licensee had not had time to develop corrective actions before the end of the inspection period.

Using Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening," issued on January 1, 2010, the inspectors determined that this finding was more than minor. The inspectors were unable to resolve the more than minor issue based on the examples in IMC 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009. The inspectors did however, determine that the performance deficiency was associated with Reactor Safety – Mitigating Systems cornerstone attribute of equipment performance. The failure to perform post-maintenance testing on the smoke detectors in the control ventilation ductwork could impact the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors completed a Phase 1 significance determination of this issue using IMC 0609, "Significance Determination Process," Appendix A, Attachment 0609.04, dated January 10, 2008. The inspectors determined that the finding affected fire protection defense-in-depth strategies and therefore, per Table 3b, referred to IMC 0609, Appendix F, dated February 28, 2005. The inspectors determined that the Finding Category was Fixed Fire Protection Systems and the inspectors determined that there was a low degree of degradation since the non-functional detectors only detected smoke from a single source and there were no combustibles of concern located near the detectors. Since the degree of degradation was low the issue screened as green. The inspectors determined that this finding has a cross-cutting aspect in the area of Work Control because the licensee did not appropriately plan work activities by incorporating the need for planned contingencies.

Inspection Report# : [2011002](#) (pdf)

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Undocumented Technical Basis for change to EOP ATWS Mitigation Strategy

The inspectors identified a finding of very low safety significance and associated NCV of Dresden Technical Specification 5.4.1, for failing to maintain adequate procedures for implementing the emergency operating procedures (EOP). Specifically, the licensee developed and implemented procedures that altered an EOP mitigation strategy, without establishing and documenting the technical basis for the deviation from the Boiling Water Reactor Owners Group (BWROG) Emergency Procedure Guidelines (EPG). The licensee entered the issue into their corrective action program. Licensee corrective actions included revising three procedures to bring their mitigation strategy into alignment with the BWROG EPG.

This issue was associated with the Procedure Quality attribute of the Mitigating Systems Cornerstone, and is more than minor, in that the licensee implemented an Emergency Operating Procedure mitigation strategy that deviated from the BWROG EPG, without providing adequate technical justification for the deviation, thereby affecting the cornerstone objective of ensuring that the licensee is capable of mitigating the undesirable consequences associated with an Anticipated Transient Without SCRAM (ATWS). The finding was determined to be of very low safety significance because no actual event requiring the use of deficient procedures occurred while the deficient procedures were in effect. The inspectors determined that the finding was not associated with a cross-cutting aspect because the implementation of the non conservative ATWS mitigating actions occurred more than three years ago, and, therefore, was not reflective of current performance.

Inspection Report# : [2011002](#) (pdf)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide Robust Indication of Adequate Oil Level in High Pressure Coolant Injection Booster Pump Sight Glasses

The inspectors identified a Non-Cited Violation of Technical Specification 5.4.1 for the licensee's failure to implement the section of the high pressure coolant injection (HPCI) booster pump maintenance procedure that prescribes how to robustly mark the HPCI booster pump sight glasses to indicate the acceptable oil levels for the bearings of the Unit 2 and 3 HPCI booster pumps. Upon being informed of the condition, the licensee verified, using measurements, that the oil level for the bearings was adequate and entered the condition in their corrective action program to provide a more robust indication of the acceptable oil level.

This finding is of greater than minor safety significance because if left uncorrected, it has the potential to lead to a more significant safety concern. Specifically, if a more robust minimum level indication is not used, the wires could slide down the sight glass to the point that they do not prevent operators from allowing the oil level to drop below the minimum acceptable level for the pump to perform its safety function. The finding impacted the Mitigating Systems Cornerstone because it involved degradation of HPCI. It is not greater than Green because it did not result in the loss of operability of the HPCI system. The inspectors determined that this finding has a cross cutting aspect in the area of Problem Identification and Resolution under the component Corrective Action Program because the licensee did not take appropriate corrective actions to address safety issues in a timely manner, commensurate with their safety significance and complexity. P.1(d)

Inspection Report# : [2010005](#) (pdf)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform Magnetic Particle Examination on the 3/2/1501-20/20-10 U3 LPCI Support in Accordance with Procedures

A finding of very low safety significance (Green) and associated Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure to accomplish activities affecting quality in accordance with procedures. Specifically, the licensee's vendor non-destructive examination (NDE) examiner failed to perform a magnetic particle (MT) examination in accordance with procedures on the 3/2/1501-20/20-10 Unit 3 low pressure coolant injection support. The licensee initiated corrective action document IR 01135770 to address the issue.

The finding was determined to be more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. The failure to perform an adequate MT examination could have allowed undetected flaws to remain in service. This finding is of very low safety significance (Green) because the inspectors answered no

to all of the characterizations worksheet questions in Table 4a of MC 0609.04. Specifically, no indications were identified when the examination was re-performed. This finding has a cross-cutting aspect in the area of Human Performance for the Work Practices component because the licensee proceeded in the face of uncertainty and unexpected circumstances by continuing to perform the examination after the equipment became damaged. The licensee's examiner also elected to continue after identifying there was material present on the pipe in a location that could interfere with the exam. In addition, due to different circumstances surrounding the exam such as: component location, equipment weight, and environmental conditions, the examiner became tired. Nonetheless, the examiner elected to continue to perform the examination in this condition. H.4(a)

Inspection Report# : [2010005](#) (pdf)

Significance:  Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Identify and Correct Test Procedures to Assess the As-Found Trip Setpoint for Pressure Switches that Satisfy Technical Specification Functions

The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to assure that conditions adverse to quality associated with pre-conditioning were promptly identified and corrected. The licensee's corrective actions included actions for Engineering to evaluate all the Technical Specification functions that do not have test valves installed on their pressure switches and justify the potential unacceptable preconditioning as acceptable or take other actions as appropriate. The licensee entered this finding into the corrective action program as issue report (IR) 1120159.

The finding was determined to be more than minor because it impacted the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors did not identify any cross-cutting aspect associated with this finding. The inspectors evaluated the finding using IMC 0609, "Significance Determination Process," Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The inspectors answered "No" to all questions in the Mitigation System Cornerstone column of Table 4a, "Characterization Worksheet for IE, MS, and BI Cornerstones," therefore, the finding screened as Green (very low safety significance).

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

Significance:  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

LPCI Room Heat up Calculation Deficiencies

The inspectors identified a NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) related to whether the equipment in the low pressure coolant injection (LPCI) corner rooms would remain within environmental qualification limits during a design basis loss of coolant accident. Specifically, the licensee's heat up calculation contained discrepancies and failed to evaluate the worst case effects post-extended power uprate when determining the heat up in the LPCI corner rooms. This finding was entered into the licensee's corrective action program as AR00763663, AR00742158, AR00883207, AR01055863, and AR01060243, and an operability call performed by the licensee concluded that there are sufficient conservatisms in the calculation that equipment in the corner rooms remained operable.

The finding was more than minor because it was associated with the attribute of design control, which affected the Mitigating Systems Cornerstone objective of ensuring the availability and reliability of safety related systems. This finding is of very low safety significance (Green) because the design deficiency was confirmed not to result in loss of operability or functionality. The inspectors did not identify a cross cutting aspect associated with this finding because this was a legacy design issue and, therefore, was not reflective of current performance.

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

Significance:  Jun 30, 2010

Identified By: NRC

Item Type: FIN Finding

Failure to Monitor Unit 3 Drywell Temperature

A finding of very low safety significance was identified by the inspectors on May 3, 2010, for the failure to monitor Unit 3 (U3) drywell temperature per commitments made to the NRC within LER 88 22, Supplement 2 to ensure that equipment in the drywell was operating within environmental qualification limits. No violation of regulatory requirements occurred. The licensee's corrective actions were to reinstate the temperature monitoring of both drywells, perform walkdowns of both drywells for correct placement and to verify functionality of drywell thermocouples, improve administrative requirements on plant engineering turnover from one engineer to another, and train engineers to focus on identifying and validating assumptions when performing or reviewing technical products. This finding was placed in the licensee's corrective action program as IR 1064681.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of Equipment Performance and affected the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to monitor drywell temperatures and evaluate those temperatures against environmental qualification limits would have resulted in the motor operator for valve 3 1301 1 to exceed its qualified life without the licensee's knowledge after D3R21. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone. The inspectors were able to answer the first question, is the finding a design or qualification deficiency confirmed not to result in loss of operability or functionality, "yes" and, therefore, the finding screened as Green. The inspectors did not identify a cross cutting aspect associated with this finding because the age of the finding did not reflect current performance.

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

Significance:  Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

2/3 Emergency Diesel Generator (EDG) Overvoltage during Division I Undervoltage

A finding of very low safety significance (Green) and associated NCV of Title 10 of the Code of Federal Regulations, Part 50, Appendix B, Criterion XI, "Test Control," was self revealed on November 16, 2009, for the failure to perform adequate post modification testing which allowed an improper wiring condition to exist for years before an inappropriate action by a nuclear station operator exposed the problem. The licensee generated issue report 994101 to address this issue. Corrective actions implemented by the licensee to address this issue included correcting the improper wiring configuration and creating a training request to have enhanced post maintenance testing requirement training given to all plant engineers, design engineers and maintenance work planners.

Using IMC 0612, Appendix B, "Issue Screening," the inspectors determined that the finding was more than minor because it impacted the Mitigating Systems Cornerstone attribute of procedure quality to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors completed a Phase 1 significance determination of this issue using IMC 0609, Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings." The inspectors answered "no" to all questions in the Mitigating Systems Cornerstone column of Table 4a, "Characterization Worksheet for IE, MS, and BI Cornerstones." Therefore, the finding screened as Green (very low safety significance). Because the behavior leading to this event occurred in 1986, the inspectors determined that this event was not indicative of current performance and, therefore, no cross cutting area was affected.

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

Significance:  May 21, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Establish Heat Exchanger Inspection Procedures Appropriate for the Circumstances

The inspectors identified a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," having very low safety significance for the failure to establish inspection procedures that were appropriate for the circumstances for the NRC Generic Letter (GL) 89-13 program heat exchangers. Specifically, procedures did not contain adequate guidance for partially blocked heat exchanger tubes found to be completely blocked. As a result, the licensee did not evaluate the as-found conditions of the 2/3 Emergency Diesel Generator (EDG) jacket water heat exchangers; therefore, did not determine the heat exchangers were not bounded by applicable design documents. The licensee entered this issue into its corrective action program.

The performance deficiency was determined to be more than minor because it was associated with the mitigating system cornerstone attribute of procedure quality and affected the cornerstone objective. This finding was of very low safety significance because it was a qualification deficiency confirmed not to result in loss of operability or functionality. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance because the licensee did not use a conservative assumption in decision making. Specifically, the licensee did not use a conservative assumption when establishing the acceptance criteria for the inspection of heat exchangers. H.1(b)
Inspection Report# : [2010007](#) (*pdf*)

Significance:  May 21, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Improper Reclassification of LPCI Pump Mechanical Seals

The inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion II, “Quality Assurance Program,” for improperly classifying Low Pressure Coolant Injection (LPCI) pump mechanical seals as non-safety-related. The licensee subsequently concluded that the seals should be classified as safety-related based upon Exelon procedure SM-AA-300 and parts classification Guide M-1994-300, and reclassified them as safety-related.

The performance deficiency was determined to be more than minor because if left uncorrected, it would become a more significant safety concern. This finding was of very low safety significance because it was a qualification deficiency confirmed not to result in loss of operability or functionality. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance because the licensee did not adopt a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action. H.1(b)

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

Significance:  May 21, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform Adequate Testing to Confirm Acceptable Fast Bus Transfer Time

The inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion XI, ATest Control,@ for the failure to have an adequate post-maintenance test for circuit breakers to confirm fast bus transfer capability. Specifically, the licensee failed to ensure that either vendor overhaul procedures or the station procedure for receipt inspection confirmed that breaker timing tests were performed after the circuit breakers were overhauled at a vendor facility. The licensee entered this issue into its corrective action program.

The finding was more than minor because if left uncorrected, the finding could have the potential to lead to a more significant safety concern. This finding was of very low safety significance (Green) because the test deficiency was confirmed not to result in loss of operability or functionality. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not reflective of current performance.

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

Barrier Integrity

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow TS 5.5.2 Implementing Procedures

The inspectors identified a non-cited violation of Technical Specification (TS) Section 5.5.2, “Primary Coolant Sources Outside Containment,” because the licensee was not following procedures which implemented TS 5.5.2. The licensee's corrective actions included: performing Operability Evaluation 11-001; quantifying the leakage from check valve 3-1201-306 three times per week, and repairing the leak on March 10, 2011.

The inspectors determined the finding was more than minor because it was similar to IMC 0612, Appendix E,

example 2.h, in that multiple examples were identified where non-licensed operators failed to identify that the leakage was increasing. This resulted in the failure to implement the TS 5.5.2 program. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a for the Barrier Integrity Cornerstone, because portions of the barriers between the primary and secondary containment were degraded. The inspectors were able to answer "No" to all four questions on Table 4a under the Barrier Integrity Cornerstone. Therefore, the finding was determined to be of very low safety significance. This finding has a cross-cutting aspect in the area of Human Performance, Work Practices because the licensee did not ensure supervisory and management oversight of work activities such that nuclear safety was supported. Specifically, non-licensed operators were expected to identify an increase in system leakage without adequate oversight to do so.

Inspection Report# : [2011002](#) (*pdf*)

Significance:  Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Installation of Nonconforming Material into a Safety Related System

The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion XV, "Nonconforming Materials, Parts, or Components" for the installation of a commercially dedicated part for use in a safety-related system which failed testing acceptance criteria on October 6, 2008. The licensee's corrective actions included replacing the nonconforming material on November 11, 2009. The licensee made procedure changes to clarify the requirements for documentation of the technical justification of accepting discrepancies. The licensee entered this finding into the corrective action program as issue report (IR) 1068559.

The finding was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example 5c (dated August 11, 2009). The inspectors determined the finding could be evaluated using IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a for the Barrier Integrity Cornerstone. The inspectors answered all four questions in Table 4a, "No," therefore, the inspection finding screened as having very low safety significance. This finding has a cross-cutting aspect in the area of Human Performance - Decision Making. Specifically, there was a systematic process to ensure that discrepancies identified in the commercial grade dedication process were properly resolved, which was not followed. H.1(a)

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

Emergency Preparedness

Occupational Radiation Safety

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 : June 07, 2011