Dresden 2
1Q/2009 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2008
Identified By: Self-Revealing
Item Type: FIN Finding
Repetitive Contaminated Water Spills in the Unit 2 Reactor Building
A performance deficiency for the spill of contaminated water and the unexpected spread of contamination on multiple occasions was self revealed by additional spills in August 2008. The failure to clear a blockage in the floor drain system in a timely manner caused the Unit 2 reactor building floor drains to overflow at least four times in nine months. No violation of regulatory requirements occurred. As part of the corrective actions, the licensee created WO 1160517, "Operations Venting Core Spray Leads to Contaminated Area," to hydrolaze the floor drains in the Unit 2 reactor building in order to clear the blockage.
Using the guidance contained in IMC 0612, "Power Reactor Inspection Reports." Appendix B, "Issue Disposition Screening," dated September 20, 2007, the inspectors determined that the finding could be reasonably viewed as a precursor to a significant event. The inspectors evaluated the finding using IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," dated December 22, 2006. The inspectors used a worst-case bounding evaluation that assumed the loss of various pieces of equipment in the plant. As a result, the risk significance of the inspection finding was determined to be of very low safety significance (Green). The inspectors determined that this issue affected the cross cutting area of Problem Identification and Resolution because the licensee failed to take corrective actions to address an adverse trend in a timely manner.

Inspection Report# : 2008004 *(pdf)*

Significance: G Jun 30, 2008
Identified By: NRC
Item Type: FIN Finding
Failure to Control Loose Materials in the Protected Area
The inspectors identified a finding of very low safety significance with no associated violation of regulatory requirements for the licensee's failure to control loose materials in the protected area. Specifically, on the morning of May 30, 2008, the inspectors identified loose materials that were tornado hazards in direct line of site to the Unit 2 and 3 main transformers and the Unit 3 reserve auxiliary transformer. High winds were forecast for that afternoon. Once notified, the licensee entered the issue into its corrective action program and removed the materials.
The inspectors concluded that the finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," issued on September 20, 2007, because, if left uncorrected, the finding would become a more significant safety concern. The finding is of very low safety significance because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available.

Inspection Report# : 2008003 *(pdf)*

Significance: G Jan 28, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Ensure the Control of the Design Basis Was Correctly Translated Into Station Procedures
The inspectors identified a NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control", of very low safety significance, for the failure to ensure that the control of the design basis was correctly translated into station procedures. The procedures used to control the temporary placement of 480V heaters in safety-related areas did not

meet the station procedural requirements for a temporary configuration change. The violation was placed into the licensee's corrective action program (CAP) in Issue Report (IR) 876126. The licensee's corrective actions included planning to change all the station procedures that control the installation and removal of temporary heaters.

Using the guidance contained in IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening," dated December 4, 2008, the inspectors determined that the finding was more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. The inspectors evaluated the finding using IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," dated December 22, 2006. Per IMC 0609, Appendix M, a bounding quantitative and/or qualitative (i.e., worst case analysis) was performed. The resultant risk significance of the inspection finding was determined to be of very low safety significance and is determined to be Green. The inspectors determined that this issue also affected the cross cutting area of Problem Identification and Resolution because the licensee failed to take corrective actions to address a safety issue in a timely manner.
Inspection Report# : 2009002 *(pdf)*

Mitigating Systems

Significance: G Jan 28, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Develop a Pre Fire Plan for Fire Zone 18.6
The inspectors identified an NCV of the Dresden Nuclear Power Station Renewed Facility Operating License having very low safety significance for the licensee's failure to develop a pre fire plan for Fire Zone 18.6. This issue was entered into the licensee's CAP as issue reports 873977 and 875688. The licensee's corrective actions included the development of a pre fire plan for Fire Zone 18.6.

The finding was more than minor because it involved the Mitigating Systems attribute of protection against external factors (i.e., fire), where the failure to develop a pre fire plan for Fire Zone 18.6 could have adversely impacted the fire brigade's ability to fight a fire. The inspectors completed a Phase 1 significance determination of this issue using IMC 0609, "Significance Determination Process," Appendix A, Attachment 0609.04. However, as discussed by Attachment 0609.04, issues related to performance of the fire brigade are not included in IMC 0609, Appendix F, "Fire Protection SDP," and require management review. The finding was reviewed by NRC management, and was determined to be a finding of very low safety significance because no safe shutdown equipment was located in this fire zone. The inspectors determined that this issue also affected the cross cutting area of Problem Identification and Resolution (e.g., corrective action program) because the licensee failed to thoroughly evaluate the problem addressed in NCV 05000237/2008008 02; 05000249/2008008 02, "Failure to Develop a Pre fire Plan for Fire Zone 18.6," such that appropriate corrective actions to address safety issues and adverse trends were not taken in a timely manner, commensurate with their safety significance and complexity.
Inspection Report# : 2009002 *(pdf)*

Significance: G Jan 16, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Implement and Maintain in Effect All Provision of the Approved Fire Protection Program as described in the UFSAR
A self revealed NCV of the Dresden Nuclear Power Station Renewed Facility Operating License having very low safety significance was identified for the licensee's failure to implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Updated Final Safety Analysis Report (UFSAR). Specifically, the licensee failed to ensure that the floor penetrations to Fire Zone 2.0 were sealed as described in the Fire Hazards Analysis. Licensee corrective actions included revising the Fire Hazard Analysis and sealing the floor penetrations.

The finding was more than minor because it involved the Mitigating Systems attribute of protection against external

factors (i.e., flood hazard, fire) and impacted the Mitigating Systems objective to ensure availability, reliability, and capability of systems that respond to initiating events (i.e., flood hazard, fire) to prevent undesirable consequences. The inspectors performed a Phase 1 qualitative screening and the finding screened to very low safety significance. The inspectors determined that because the modifications took place in the 1985 to 1986 timeframe, the performance deficiency is not reflective of current licensee performance and therefore no cross cutting area was affected.
Inspection Report# : 2009002 *(pdf)*

Significance: SL-IV Jan 15, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Provide Complete and Accurate Information to the NRC Associated with Verifying No Operating Test Item Duplication with the Audit Test
The inspectors identified a Severity Level IV Non-Cited Violation (NCV) of 10 CFR 55.40, “Implementation,” 10 CFR 50.9, “Completeness and accuracy of information,” and 10 CFR 55.49, “Integrity of examinations and tests.” For the Dresden Station March 2009 NRC Initial Operator License Examination, the inspectors identified that the examination author and the facility reviewer had initialed Step 2.b and Step 3.a.(3) of Form ES-201-2, “Examination Outline Quality Checklist,” on August 15, 2008, and August 19, 2008, respectively, and Step 1.c of Form ES-301-3 “Operating Test Quality Checklist,” on January 15, 2009, and January 20, 2009, respectively, which indicated that the operating test did not duplicate items from the applicants’ audit test, when, upon NRC review, it was determined that six of the 23 dynamic simulator scenario events, and one of the 15 Job Performance Measures (JPMs) for the Reactor Operator (RO) candidates were duplicated from the applicants’ audit test.

The finding was determined to be more than minor, because the integrity of the NRC initial operator licensing examination could have been compromised if, but for detection by the NRC examiners, the NRC examination had been administered with the duplication of the operating test items from the applicants’ audit test. The finding was determined to be of very low safety significance because the duplication of operating test items was discovered by the NRC examiners prior to administration of the NRC examination, the duplicate test items were either removed from the audit test or the NRC exam changed to remove the duplication, and the facility implemented examination security requirements for the audit test similar to that which was required for the NRC examination. The inspectors concluded that this finding had a cross-cutting aspect in the area of Human Performance, Work Practices, because the licensee did not define and effectively communicate expectations regarding procedural compliance and for personnel to follow procedures (i.e., in the development of the NRC initial operator license examination).
Inspection Report# : 2009301 *(pdf)*

Significance: G Dec 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
LPCI Heat Exchangers’ Design Calculation Deficiencies and Discrepancies
The inspectors identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” having very low safety significance involving the low pressure coolant injection (LPCI) heat exchangers cooling capability during a design basis loss of coolant accident (LOCA). Specifically, the licensee failed to evaluate the effects of higher containment pressure post power up-rate on the LPCI heat exchangers’ differential pressure set-point calculation. In response to the issue, the licensee implemented compensatory actions including updating various calculations and performing several operability evaluations.
This finding was more than minor because there was reasonable doubt on the operability of the LPCI heat exchangers and if left uncorrected, these heat exchangers had the potential to be inoperable during the summer months. This finding was of very low safety significance because the inspectors determined that the LPCI heat exchangers were in a non-conforming but operable condition and the issue screened as Green using the SDP Phase 1 screening worksheet.

Inspection Report# : 2008005 *(pdf)*

Significance: G Sep 30, 2008
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 instrument maintenance surveillance tests in June and August 2008. As part of the corrective actions, the licensee included a task to identify affected instrument surveillance procedures and generate a work down curve for revising the affected procedures.
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 September 20, 2007. The inspectors determined that the finding was more than minor based on Section 3, (2), "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. The inspectors did not identify a cross cutting issue for this finding that was separate from the finding itself for inadequate procedures.
Inspection Report# : 2008004 *(pdf)*

Significance: G Jun 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Fire Doors Failed Their Periodic Functional Test
The inspectors identified a finding of very low safety significance that involved a Non-cited Violation of the Dresden Nuclear Power Station Renewed Facility Operating License of the Dresden Nuclear Power Station Renewed Operating License Conditions 2.E and 3.G. Two fire doors failed their periodic functional test to demonstrate that the doors could automatically close and were not declared inoperable and appropriate corrective actions were not taken in a timely manner. The door between auxiliary electric equipment room and the Unit 3 cable tunnel (Door 168) failed its functional test on June 9, 2007, and was not repaired until June 18, 2007. The fire door separating the Isolation condenser make-up pumps (Door 2001) failed its functional test on May 9, 2007, and was not repaired until May 23, 2007. The licensee changed the surveillance test procedure to ensure that the doors would be declared inoperable if the test failed in the future.
The inspectors concluded, using Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Violations," issued on September 20, 2007, that this finding was more than minor by reviewing example 5.b, in that the equipment was found in an inoperable condition but was returned to service. The inspectors determined that this issue was of very low safety significance because the doors were in very low traffic areas and the probability of the doors being open if a fire were to occur or that someone would pass through either door during a fire scenario was low. The inspectors determined that this issue affected the cross-cutting area of Human Performance because the licensee failed to provide a complete and accurate surveillance test procedure that reflected actual design and license requirements H.2.(c).

Inspection Report# : 2008003 *(pdf)*

Barrier Integrity

Significance: G Jan 13, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Take Corrective Actions to Replace a Degraded Valve in a Timely Manner
The inspectors identified an NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action", for the failure to correct degraded safety related equipment in a timely manner. A degraded 4 way solenoid valve for the reactor building ventilation damper 2 5741B actuator was not replaced during the work window that started on January 5, 2009. The solenoid valve failed on January 13, 2009, when it was called upon during a reactor building ventilation isolation. The violation was placed into the licensee's corrective action program in IR 877591. The licensee's corrective action included replacing all the 4 way solenoid valves in the actuators for all the Unit 2 and Unit 3 reactor

building ventilation secondary containment isolation boundary dampers.

Using the guidance contained in IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Disposition Screening,” dated December 4, 2008, the inspectors determined that the finding was more than minor because it was associated with the Reactor Safety Barrier Integrity Cornerstone objective of maintaining the functionality of the secondary containment. The inspectors evaluated the finding using IMC 0609, Attachment 0609.04, dated January 10, 2008. Per Table 4a, under Containment Barrier, question 1, “Does the finding only represent a degradation of the radiological barrier function provided for the … Standby Gas Treatment System,” the inspectors answered, YES. The secondary containment isolation valves isolate the secondary containment to ensure the effectiveness of the Standby Gas Treatment System. Therefore the finding was determined to be Green. The inspectors determined that this issue also affected the cross cutting area of Problem Identification and Resolution
Inspection Report# : 2009002 *(pdf)*

Significance: G Jan 13, 2009
Identified By: Self-Revealing
Item Type: FIN Finding
Operator Performed an Incorrect Response to an Unexpected Alarm in the Control Room
On January 13, 2009, a Finding with no violation of regulatory requirements was self revealed when an operator performed an incorrect response to an unexpected alarm in the control room that resulted in a reactor building ventilation isolation and a standby gas treatment system actuation. This action required entry into TS 3.6.4.1 Limiting Condition of Operation, Action A for reactor building low differential pressure.

The finding was more than minor because it impacted the structures, systems, and components attribute of the Barrier Integrity Cornerstone objective. The finding was of very low safety significance because it impacted the reactor building differential pressure for a time period of less than one hour. The finding was placed into the licensee’s CAP as IR 866445. As an immediate corrective action, the individual was temporarily removed from licensed shift duties and no manipulation of any equipment in the plant or the control room was allowed without a peer check until January 18, 2009. The inspectors also concluded that this finding affected the cross cutting issue of Human Performance (Personnel) because the operator failed to utilize human performance error prevention techniques

Inspection Report# : 2009002 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Verify the Adequacy of Design Information Provided By a Vendor
A self-revealed finding of very low significance was identified involving a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the failure to completely verify the adequacy of design information provided by a vendor. The deficiency existed between August 23, 2006 and December 22, 2006. The corrective actions for this finding involved requiring the Exelon Nuclear Fuel division to perform the design analysis reviews for core reloads on the future.
The inspectors concluded that the finding was more than minor in accordance with IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” issued on September 20, 2007, because, if left uncorrected, the finding would become a more significant safety concern; the finding is considered to be of very low safety significance because it was based on a design deficiency that was confirmed by the inspectors not to result in loss of operability. The primary cause of this finding was related to the cross-cutting issue of Human Performance, “Work Practices,” because the licensee did not ensure supervisory and management oversight of contractor work activities, such that nuclear safety was supported. (H.4.(c))

Inspection Report# : 2008003 *(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 : May 28, 2009