Dresden 3
2Q/2004 Plant Inspection Findings

Initiating Events

Significance: G May 14, 2004
Identified By: NRC
Item Type: FIN Finding
Failure to perform preventive and corrective maintenance on Switchyard Breaker 8-15 which resulted in the failure of Breaker 8-15 to open and Unit 3 automatic scram and Loss of Offsite Power
A self-revealed finding was identified for the failure to perform the appropriate preventive and corrective maintenance on Switchyard Breaker 8-15 which resulted in the failure of Breaker 8-15 to open fully when manipulated by operations personnel on May 5, 2004. The failure of the 'C' Phase of Breaker 8-15 to fully open when the 'A' and 'B' phases opened caused significant current imbalances in the Unit 2 and Unit 3 switchyards. These imbalances caused the automatic reactor scram of Unit 3 from full power and the subsequent loss of offsite power to both Unit 3 Emergency Core Cooling System Busses. The finding was not considered a violation of regulatory requirements.

The inspection team determined that this finding was more than minor because the finding was associated with an increase in the likelihood of an initiating event, Loss of Offsite Power. The initial Phase 1 and Phase 2 SDP risk assessment characterized this finding as potentially risk significant using the benchmarked site specific Risk-Informed Inspection Notebook. However, a Phase 3 analysis performed by the Senior Reactor Analyst determined the issue was of very low safety significance, after evaluating the actual increase in initiating event frequency. The Senior Reactor Analyst concluded the safety significance of the inspection finding based on the change in core damage frequency and large early release frequency was of very low safety significance (Green). As a remedial corrective action, the licensee and Exelon Energy Delivery personnel performed the appropriate corrective maintenance on Breaker 8-15 to preclude repetition. The licensee and Exelon Energy Delivery personnel continued to evaluate the root and contributing causes of the event, as well as long-term corrective actions, at the end of the inspection period. (Section 4OA3.2)
Inspection Report# : 2004009*(pdf)*

Significance: G Apr 04, 2004
Identified By: NRC
Item Type: FIN Finding
Several Performance Issues Which Resulted in an Automatic Scram Due to Malfunction of the Main Turbine Master Trip Solenoid Valves During Turbine Weekly Testing
A self-revealed finding was identified involving a performance issue which resulted in the initiation of an automatic scram on Unit 3 on January 24, 2004, due to malfunction of the main turbine master trip solenoid valves. The performance issue was the licensee's failure to adequately evaluate newly designed master trip solenoid valves.

The finding was more than minor because it affected the initiating events cornerstone objective to limit the likelihood of an initiating event. The finding was determined to be of very low safety significance (Green) because all equipment and systems operated as designed during the scram. The licensee identified a number of corrective actions including immediately replacing the Unit 3 master trip solenoid valves with the original design, scheduling the replacement of the Unit 2 master trip solenoid valves during an upcoming maintenance outage, and training engineering staff on the importance of evaluating critical parameters of newly designed and procured items.
Inspection Report# : 2004002*(pdf)*

Significance: G Jan 30, 2004
Identified By: NRC
Item Type: FIN Finding
Failure to Ensure Operations Procedures Contained Proper Operating Instructions From the Vendor Manual
A self-revealed finding was identified involving the licensee's failure to ensure operations procedures contained proper operating instructions from the vendor manual. The failure to have the proper sequencing order of valves in the operations procedure for swapping between the inservice and standby main turbine lube oil coolers resulted in the automatic scram of Unit 3 on January 30, 2004.

The finding was more than minor because it affected the initiating events cornerstone objective to limit the likelihood of an initiating event. The finding was determined to be of very low safety significance (Green) because all equipment and systems operated as designed during the scram. The licensee identified a number of corrective actions including revising the procedure to incorporate the vendor manual instructions on the proper valve manipulation sequencing, reviewing other applicable system procedures to ensure the appropriate incorporation of vendor manual information, preparing a consistent briefing sheet for all Exelon plants' use to reinforce the expectations for watch standing and rounds practices.
Inspection Report# : 2004002*(pdf)*

Significance: G Sep 30, 2003

Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Meet Technical Specification 5.4.1, Fire Protection Program Implementation for Hot Work Activities
A self-revealing finding involving a Non-Cited Violation of Technical Specification 5.4.1 was identified for the failure of an instrument maintenance supervisor to obtain permission from the fire marshal prior to performing hot work. This human performance deficiency resulted in the automatic initiation of the halon system in the auxiliary electric equipment room.

The finding was greater than minor because it affects the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. The issue was determined to be of low safety significance (Green) because the halon system was still operable to extinguish the fire in its incipient stage.
Inspection Report# : 2003007*(pdf)*

Mitigating Systems

Significance: G Jun 14, 2004
Identified By: NRC
Item Type: FIN Finding
Crew Performance on the Dynamic Scenario Portion of the 2004 Facility-Administered Annual Requalification Examination Operating Test
A finding of very low safety significance was identified. The finding was associated with unsatisfactory operating crew performance on the simulator during facility-administered licensed operator requalification examinations. Of the 12 crews evaluated, three did not pass their annual operating tests. The finding is of very low safety significance because the failures occurred during annual testing of the operators on the simulator, because there were no actual consequences to the failures, and because the crews were removed from watch-standing duties, retrained, and re-evaluated before they were authorized to return to control room watches.
Inspection Report# : 2004006*(pdf)*

Significance: G Jun 14, 2004
Identified By: NRC
Item Type: FIN Finding
Individual Operator Performance on the Job Performance Measure or Dynamic Scenario Portion of the 2004 Facility-Administered Annual Requalification Examination Operating Test
A finding of very low safety significance was identified. The finding was associated with unsatisfactory performance of individual operators on the annual licensed operator requalification operating test. Of the 62 licensed operators examined, unsatisfactory performance was identified for two operators during job performance measures (JPMs) and 14 operators in the dynamic scenario portion. The finding is of very low safety significance because the failures occurred during annual testing of the operators on the simulator and simulated performance of tasks in the plant, because there were no actual consequences to the failures, and because the individuals were removed from watch-standing duties, re-trained, and re-evaluated before they were authorized to return to control room watches.
Inspection Report# : 2004006*(pdf)*

Significance: G May 14, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to incorporate procedure steps to prevent the inadvertent automatic closure of the alternate feeder breaker to Bus 33, upon restoration of offsite power
A self-revealed finding was identified for the failure to incorporate appropriate procedure steps to prevent the inadvertent automatic closure of the alternate feeder breaker to Bus 33, during the restoration of offsite power. This finding was a Non-Cited Violation of 10 CFR 50 Appendix B, Criterion V.

The inspection team determined that this finding was more than minor because the mitigating systems cornerstone objective was affected. Specifically, inadvertent tripping of an Emergency Diesel Generator output breaker could affect the potential availability of an Emergency Diesel Generator for mitigating the effects of a Loss of Offsite Power. The inspection team concluded that this finding was of very low safety significance (Green), since the reverse power trip of the Emergency Diesel Generator output breaker did not adversely affect the functional capability of the 2/3 Emergency Diesel Generator during the actual Loss of Offsite Power event. As an immediate corrective action, the licensee revised the offsite power restoration procedure to correct the deficiency. (Section 4OA3.4)
Inspection Report# : 2004009*(pdf)*

Significance: G Apr 04, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Instruction and Accomplish Those Instructions to Properly Align the Unit 3 Emergency Diesel Generator Pump and Discharge Piping of the Fuel Oil Pump in January 2004 Failure to Im

A self-revealed finding involving a Non-Cited Violation of 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified due to the failure of maintenance workers to properly implement work instructions to reassemble the Unit 3 emergency diesel generator fuel oil pump and discharge piping in January 2004. This human performance deficiency resulted in cracks and leaks on the Unit 3 emergency diesel generator fuel oil pump discharge line and its subsequent failure of the 24 hour endurance test on two occasions in March 2004.

This finding was more than minor because it affected the mitigating systems cornerstone objectives and affected the availability and reliability of the Unit 3 emergency diesel generator which is a backup emergency power source. The finding was determined to be of very low safety significance (Green) because the Unit 3 emergency diesel generator passed the monthly operability test in January and February 2004, and ran approximately 25.5 hours in a degraded condition on March 3, 2004. Corrective actions by the licensee included the repair of the Unit 3 emergency diesel generator fuel oil pump piping, long term plans to modify the Unit 3 emergency diesel generator fuel oil pump piping, and the review of this event with mechanical maintenance personnel with emphasis on proper maintenance practices.
Inspection Report# : 2004002*(pdf)*

Significance: G Apr 04, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Adequate Corrective Action
A finding of very low safety significance was identified by the inspectors involving a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, for the failure to implement adequate corrective action following the issuance of a previous Non-Cited Violation dated February 6, 2001, in that on May 28, 2002, the licensee again failed to correctly evaluate the test data from performance testing of the Unit 3 isolation condenser. Corrective actions by the licensee included conducting testing of the isolation condenser with a revised methodology and two revisions to the design analysis.

This finding was more than minor because if left uncorrected this issue could become a more significant safety concern. Specifically, the testing deficiencies could allow the acceptance of an isolation condenser that actually had degraded below its design requirements. The issue was of very low safety significance because based on additional testing with a revised methodology as well as the revised analysis, it was concluded that the isolation condenser was capable to perform its design function.
Inspection Report# : 2004002*(pdf)*

Significance: G Sep 30, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Re-analyze to Assure Operation of the HPCI Gland Seal Leak Off (GSLO) System at Undervoltage Conditions When the System Was Upgraded to Safety-Related Status
A finding of very low safety significance was identified by the inspectors for a violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control" requirements. The licensee had not updated the controlling calculation to assure that the motors would operate with the undervoltage conditions after the HPCI gland seal leak off turbine gland steam condenser exhauster and its hotwell drain pump motors were upgraded to safety-related equipment.

This issue was more than minor because the design process allowed upgrading the motors to safety-related without assuring fulfillment of known design requirements that affected the mitigating system cornerstone objective of ensuring the availability, the reliability, and the capability of HPCI to respond to initiating events to prevent undesirable consequences. Continuous operation of the GSLO system was required to support HPCI operation because of room temperature concerns.
Inspection Report# : 2003007*(pdf)*

Significance: G Sep 30, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure of Mechanical Maintenance Personnel to Generate a Condition Report after Identifying Loose Bolts on the Standby Liquid Control Relief Valve
The inspectors identified a finding involving a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, for the failure of mechanical maintenance personnel to generate a condition report after identifying loose bolts on the standby liquid control relief valve. This human performance deficiency resulted in the licensee having to perform a historical operability evaluation on the condition of the system.

The finding was more than minor because it affected the mitigating system cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.
Inspection Report# : 2003007*(pdf)*

Significance: G Aug 29, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Translate Motor Operated Valve (MOV) Duty Cycle Limitations into Specifications, Drawings, Procedures, or Instructions.
A finding was identified by the inspectors for a violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." The licensee failed to translate Motor Operated Valve (MOV) duty cycle limitations into specifications, drawings, procedures, or instructions. The High Pressure Coolant Injection (HPCI) turbine trip set point was set such that the turbine would experience repetitive starts and stops in certain types of small or medium loss of coolant

accidents. This cycling could potentially challenge the reliability of the 2301-8 HPCI injection motor operated valves, which have a design limit of five strokes followed by 30 minutes of cooldown time.

The issue was more than minor because this vulnerability affected the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of the HPCI system.
Inspection Report# : 2003008*(pdf)*

Significance: G Aug 29, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Protect Equipment From the Effects of a Postulated High Energy Line Break
The inspectors identified a violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Although previously identified by the licensee, the licensee failed to protect equipment required to shut down the reactor and maintain it in a safe shutdown condition from the environmental effects of a postulated high energy steam line break. A High Energy Line Break (HELB) in the HPCI system could make the swing diesel, required by both Units 2 and 3, inoperable.

This issue was more than minor because the Unit 2/3 swing diesel generator and associated engineered safety features systems could be degraded by the HELB conditions.
Inspection Report# : 2003008*(pdf)*

Significance: G Aug 29, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct a Malfunction Within the High Pressure Coolant Injection (HPCI) System Motor Gear Unit (MGU).
A finding was identified by the inspectors for a violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions." The licensee failed to promptly identify and correct a malfunction within the High Pressure Coolant Injection (HPCI) system Motor Gear Unit (MGU). Operators identified that the MGU did not operate as designed on May 25, 2001. After two unsuccessful attempts to correct the problem, troubleshooting was accomplished on November 6, 2002, which identified degradation within the MGU motor. The motor was replaced, returning the system to full functionality, on March 12, 2003.

This issue was more than minor because the lack of timeliness associated with resolution of this issue impacted the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of the HPCI system.
Inspection Report# : 2003008*(pdf)*

Significance: G Aug 29, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Take Appropriate Corrective Action for Multiple Failures of Safety Related 4160V Circuit Breakers.
A finding was identified by the inspectors for a violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions." The licensee failed to take appropriate corrective action for multiple failures of safety related 4160V circuit breakers.

This issue is more than minor because it affected the mitigating system cornerstone objective of equipment reliability, in that failure of circuit breakers to operate on demand could cause loss of function of safety related loads needed to mitigate an accident.
Inspection Report# : 2003008*(pdf)*

Barrier Integrity

Significance: G May 14, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate secondary containment leak rate test procedure which resulted in a NCV of Technical Specification 3.6.4.1 for an inoperable secondary containment when the drywell purge fans were operating
A self-revealed finding was identified involving an inadequate secondary containment leak rate test procedure which resulted in a Non-Cited Violation of Technical Specification 3.6.4.1 for an inoperable secondary containment when the drywell purge fans were operating. For example, secondary containment was inoperable on May 5, 2004, while Unit 3 was in Mode 1 and the Unit 2 drywell purge fans were operating.

The finding was more than minor because if left uncorrected it would become a more significant safety concern, and was associated with the Barrier Integrity cornerstone objective to provide reasonable assurance that containment protects the public from radionuclide releases caused by accidents or events. The finding was determined to be of very low safety significance (Green) because the finding only represented a degradation of the radiological barrier function of secondary containment. As an immediate corrective action, licensee personnel revised the applicable alarm response procedures to

secure the running drywell purge fans on either unit, if reactor building ventilation trips and isolates. In addition, a work request was initiated to repair the in-leakage to the drywell purge filter housings discovered by the licensee. (Section 4OA3.5)
Inspection Report# : 2004009*(pdf)*

Significance: G Sep 30, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Operate Unit 3 without Pressure Boundary Leakage as Required by Technical Specification 3.4.4.
A self-revealing finding involving a Non-Cited Violation of Technical Specification 3.4.4 was identified for the licensee's failure to ensure that Unit 3 was not operated with reactor coolant pressure boundary leakage. As a result of this human performance deficiency, the licensee was not in compliance with Technical Specifications on two occasions for Unit 3 while operating with pressure boundary leakage.

The finding was considered more than minor because the issue affected the barrier integrity cornerstone. This finding was evaluated using phase one of the significance determination process (SDP) which screened Phase 2 because the finding affected the reactor coolant system barrier. In reviewing the Phase 2 assessment performed by the resident inspectors, the senior reactor analyst (SRA) identified that the dominant sequence small loss of coolant accident in the Dresden SDP Worksheet were potentially risk significant. Further review by the SRA identified that this sequence was an overly conservative sequence. Therefore, determined that this finding was of low safety significance.
Inspection Report# : 2003007*(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Jun 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Work crew was exposed to high radiation levels from the accumulation of contaminants in a vacuum cleaner used to clean debris in the Unit 2 condenser
A self-revealed finding of very low safety significance and an associated Non-Cited Violation (NCV) were identified because a work crew was exposed to high radiation levels from the accumulation of contaminants in a vacuum cleaner used to clean debris in the Unit 2 condenser false bottom.

The finding was more than minor because deficiencies with radiological work planning coupled with radiation protection technician work coverage were associated with the "Program and Process" and "Human Performance" attributes of the Occupational Radiation Safety Cornerstone. The finding affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. The finding was of very low safety significance because work crew radiation exposures were low relative to regulatory limits, there was not a substantial potential for a worker overexposure, and because the licensee's ability to assess worker dose was not compromised. To address this issue, the licensee developed guidance for the use of vacuums in highly contaminated areas, workers were counseled, and the work planning problems were captured in the outage lessons learned database.
Inspection Report# : 2004006*(pdf)*

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: SL-III Aug 29, 2003

Identified By: NRC
Item Type: VIO Violation
OPERATOR LICENSE RENEWAL REQUEST CONTAINED INACCURATE INFORMATION
To Be Determined. One apparent violation of USNRC requirements was identified by the licensee. The licensee provided inaccurate information to the USNRC in an operator license renewal request. The USNRC approved the license renewal request based on the inaccurate information that was provided. The license renewal request would not have been granted with the correct information provided. This issue will be tracked as an unresolved item pending USNRC review of the circumstances surrounding it.

A Severity Level III violation was issued by letter dated August 29, 2003.
Inspection Report# : 2002015*(pdf)*
Inspection Report# : 2004003*(pdf)*

Last modified : September 08, 2004