Dresden 2
3Q/2005 Plant Inspection Findings

Initiating Events

Significance: G Oct 08, 2004
Identified By: Self-Revealing
Item Type: FIN Finding
Performance Issues Which Resulted in the Initiation of a Manual Scram on Unit 2 Due to Failure of the 2A Recirculation Pump Motor
A self-revealed finding of very low safety significance was identified involving several performance issues which resulted in the initiation of a Unit 2 manual scram on April 24, 2004, due to failure of the 2A recirculation pump motor. The performance issues included an inadequate process for rewinding the 2A recirculation pump motor when it was installed in 1999, an inadequate evaluation of the testing of the motor before installation, and the failure to perform post maintenance testing of the reactor building closed cooling water system piping to identify leakage. This failure resulted in the deposit of a conductive substance inside the motor. The licensee identified a number of corrective actions including replacing the 2A recirculation pump motor and revising Exelon Nuclear Engineering Standard NES-EIC-40.01 to include enhanced testing requirements.

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 because all equipment and systems operated as designed during the scram.
Inspection Report# : 2004010*(pdf)*

Mitigating Systems

Significance: G Sep 28, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Unable to Remotely Trip the 2B Service Water Pump from Control Room from Safety Related 4160 Volts bus 24
A self-revealing finding involving a non-cited violation of Technical Specification 5.4, "Procedures," was identified on April 15, 2005, when control room operators were unable to remotely trip the 2B service water pump from the control room. The inability to trip the pump from safety related 4160 Volt bus 24 was due to the performance of poor maintenance on the pump's breaker and inadequate post-maintenance testing. The inability to trip the breaker had the potential to render all other loads on bus 24 inoperable, including one division of the containment cooling service water system, or add an additional unanalyzed load on the emergency diesel generator.

The finding was greater than minor because, if left uncorrected, it could become a more significant safety concern because inadequately performed breaker maintenance could render additional safety-related systems inoperable. The finding impacted the Mitigating Systems cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events. As a result of this event, the licensee replaced the trip coil, verified the installation of all the applicable trip coils on both units, revised the work order instructions, and evaluated post maintenance testing of 4 KV breakers. The finding was of very low safety significance because the other division of the containment cooling service water system was available and the licensee was able to trip the breaker locally at the bus. This finding was related to the cross-cutting issue of human performance because electricians failed to properly reinstall the trip coil for the 2B service water pump breaker per the work instructions and the work instructions failed to specify an adequate post maintenance test.
Inspection Report# : 2005010*(pdf)*

Significance: G Aug 12, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Technical Specification Requirements for Position Verification Not Met
The inspectors identified a Non-Cited Violation of Technical Specification Surveillance Requirement 3.7.2.1 regarding the failure to periodically verify the position of manual valves. Specifically, the licensee did not verify the correct position of 11 manual valves that were not locked, sealed, or otherwise secured in position in the diesel generator cooling water (DGCW) subsystem flow path associated with the DGCW pump motor coolers. The licensee's corrective actions included verifying and then locking the affected valves in the open position and revising operating procedures to reflect that the affected valves are locked in the open position.

This finding was more than minor because it was associated with the mitigating systems attribute of configuration control, which affected the mitigating systems cornerstone objective of ensuring the availability and reliability of the DGCW system to respond to initiating events to

prevent undesirable consequences. The finding was of very low safety significance based on the licensee verifying the valves were in their correct position and screened as Green using the SDP Phase 1 screening worksheet.
Inspection Report# : 2005009*(pdf)*

Significance: G Aug 12, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Unanalyzed Diesel Loading Sequence in Operating Procedures
The inspectors identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," due to the design basis emergency diesel generator (EDG) loading sequence during a loss of coolant accident/loss of offsite power not being correctly translated into procedures or instructions. Specifically, the loss of power procedure provided guidance to operate the plant outside the analyzed EDG loading sequence. The licensee's corrective actions included evaluating the effect of the procedure's unanalyzed load sequence and concluded that the EDG would have been capable of performing its safety function.

This finding was more than minor because it was associated with the attribute of procedure quality, which could have affected the mitigating systems cornerstone objective of ensuring the availability and reliability of the EDGs to respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet.
Inspection Report# : 2005009*(pdf)*

Significance: G Jul 25, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Lack of Prioritization for Performing TS 3.4.3.1 Surveillance Testing and Valve Inspections for Target Rock Valves and Corrective Action Assignments for the 4G Valve
A finding involving a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," was identified by the inspectors on July 25, 2005, for the licensee's lack of timely actions to promptly identify and correct out-of-tolerance lift setpoints for the main steam safety valves and the main steam safety/relief valves (Target Rock valves). The licensee's actions lacked prioritization in performing Technical Specification required surveillance testing on the Unit 2 and Unit 3 Target Rock safety/relief valves, in determining the cause of the surveillance test failures on the Target Rock valves, and in not assigning corrective actions to determine the cause of the 4G safety valve Technical Specification surveillance test failure. The licensee's lack of timely actions resulted in the delayed issuance of a Licensee Event Report following the discovery of degradation of the Unit 2 Target Rock valve during disassembly of the valve.

The finding was greater than minor because, if left uncorrected, the lack of prioritization of the licensee's actions could lead to the valves not meeting the safety function of preventing over-pressurization of the reactor coolant system. The finding could also lead to the licensee unknowingly operating the units with inoperable safety-related equipment. The finding impacted the Mitigating System cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events. The finding was of very low safety significance because the ability of the main steam Target Rock safety/relief valves and the 4G main steam safety valve to function to prevent over-pressurization of the reactor coolant system was not invalidated by the inability of the valves to lift at the prescribed setpoint. In addressing this issue, the licensee discontinued in-plant Technical Specification testing after obtaining approval from the NRC, submitted an analysis to the NRC for determining that the drift condition of the valves was still bounded by the analysis for over-pressurization events, and installed refurbished valves in December 2004. This finding was related to the cross-cutting issue of problem identification and resolution because the licensee's actions were untimely and unfocused.
Inspection Report# : 2005010*(pdf)*

Significance: G Apr 01, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Safe Shutdown Procedure Failed to Specify Correct Number of Turns for Opening Valve
Green. A finding of very low safety significance was identified by the inspectors for a violation of 10 CFR Part 50, Appendix B requirements. The licensee failed to specify the correct number of turns in a hot shutdown procedure for partially opening a valve relied upon to mitigate a fire. The incorrect number of turns specified in the procedure could have caused a significant delay in performance of safe shutdown actions in the event of a fire. Once identified, the licensee entered the finding into their corrective action program to revise the affected procedures.

This finding was more than minor because the procedural error could have caused a significant delay in the performance of safe shutdown actions in the event of a fire. The issue was of very low safety significance because the licensee's analysis showed that sufficient margin remained for the performance of the safe shutdown actions. The finding was a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, which required procedures affecting quality to be of a type appropriate to the circumstances. (Section 1R05.5b)

Inspection Report# : 2005002*(pdf)*

Significance: G Mar 03, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Corrective Actions for a Significant Condition Adverse to Quality Involving the Failure of the Unit 2 Emergency Diesel Generator Air Start Regulator
On March 3, 2005, a performance deficiency involving a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, was identified by the inspectors. The licensee had implemented inadequate corrective actions for a significant condition adverse to quality that occurred on January 19, 2001; and no corrective actions were assigned to prevent recurrence of a significant condition adverse to quality that occurred on November 29, 2004. Both events involved the failure of the Unit 2 emergency diesel generator air start regulating valve due to corrosion build up on the valve stem. The primary cause of this finding was related to the cross-cutting issue of Problem Identification and Resolution.

The finding was greater than minor because it impacted the Mitigating System Cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events and because it affected the reliability of a safety related component. After the inspectors questioned the lack of corrective actions for the November 29, 2004 event, the licensee created an action item to review the cause of the event and create corrective actions. In addition, the licensee wrote IR [Issue Report] 308526, "IR 277466 Significance Not Properly Identified." The purpose of this IR was to identify why this event was not entered into the corrective action system. This review had not been completed by the end of the inspection period. The finding was of very low safety significance because the emergency diesel generator started upon demand. (Section 1R19)
Inspection Report# : 2005003*(pdf)*

Significance: G Dec 15, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Take Prompt and Effective Actions Regarding the Validation of Surveillance Tests Performed after it Was Identified That the Some of the Maintenance and Test Equipment (M&te) Used to Perform
On December 15, 2004, the inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI. The licensee failed to take prompt and effective actions regarding the validation of completed surveillance tests after it was identified that maintenance and test equipment (M&TE) used to perform the tests was identified as lost on October 4, 2004. The accuracy of the instrumentation used during the performance of the tests could not be demonstrated. The licensee had knowledge of the problem and the opportunity to re-perform the surveillance tests during a maintenance outage between November 2, and December 10, 2004, and chose not to re-perform the surveillance tests. As corrective action, the licensee prepared an engineering evaluation that gave reasonable assurance that the functions used by the M&TE were within calibration when these tests were performed. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

The finding was greater than minor because if left uncorrected the failure to re-perform surveillance testing after M&TE is lost could become a more significant safety concern if it can not be adequately demonstrated that the equipment tested with the M&TE will perform within expected parameters. This finding was of very low safety significance because the inspector identified that portions other surveillance tests using different, calibrated M&TE, could be combined to show that the installed equipment was satisfactory. (Section 4OA2)
Inspection Report# : 2004013*(pdf)*

Significance: G Oct 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Source of Make-up Water
A finding of very low significance was identified by the inspectors on June 5, 2004, involving a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." The abnormal operating procedure instructions for response to external flooding, and surveillance test procedure for the diesel driven pump necessary to provide make-up to the isolation condenser for response to external flooding, were not adequate for the circumstances. The licensee planned to change the surveillance test procedure and perform a full flow test of the pump in the near future. The licensee planned to review the abnormal operating procedure and revise the procedure as appropriate.

This finding was more than minor because it affected the equipment performance and procedure quality attributes of the mitigating systems cornerstone, and affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The issue was of very low safety significance based on the low initiating event probability, and because of the slow onset of the flooding and the reduced decay heat in the reactor core at the time recovery actions would be necessary, the licensee would be able to reasonably perform recovery actions that would prevent core damage.
Inspection Report# : 2004010*(pdf)*

Significance: G Oct 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Operators Failed to Lock Valve in Unit 2 Drywell
A finding of very low safety significance was identified by the inspectors involving a Non-Cited Violation of Technical Specification 5.4.1.

Operators failed to lock manual feedwater isolation Valve 2-220-57B when returning the valve to service. This valve was downstream of where the high pressure core injection (HPCI) system taps into the feedwater line. The inspectors identified this issue during the drywell closeout after the maintenance outage on September 23, 2004. The operators were counseled and the licensee will require out-of-service checklists to be brought into the drywell in the future. The primary cause of this violation was related to the cross-cutting issue of Human Performance.

This issue was more than minor because it was repetitive. Other valves were found unlocked inside the drywell by the inspectors during the drywell close out after the last Unit 2 refueling outage in November 2003. The issue was of very low safety significance because the valve was in the correct position.
Inspection Report# : 2004010*(pdf)*

Significance: G Oct 08, 2004
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Improperly Set Open Torque Switch Bypass of the Isolation Condenser Outboard Condensate Return Valve
A self-revealed finding of very low safety significance involving a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified. Inadequate procedural guidance resulted in the failure of electricians to properly set the open torque switch bypass on Valve 2-1301-3, "Isolation Condenser Outboard Condensate Return Valve," on October 8, 1999. This resulted in the failure of the valve to open during an event that occurred on April 24, 2004. The licensee counseled the individuals and revised the maintenance procedure.

This finding was more than minor because it involved the equipment performance attributes of the mitigating systems cornerstone and affected the cornerstone objective of availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This issue was of very low safety significance in that the isolation condenser was only being used for pressure control at the time of the event and other methods of pressure control were available, and in addition, the licensee could have manually opened the valve if necessary.
Inspection Report# : 2004010*(pdf)*

Significance: G Oct 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Prevent Recurrence of Inoperable Condenser Low Vacuum Reactor Protection System Switches
A finding of very low significance was identified on July 1, 2004, by the inspectors involving a Non-Cited Violation of Technical Specification 3.3.1.1. The licensee failed to take adequate corrective actions to prevent recurrence of inoperable condenser low vacuum reactor protection system switches, failed to recognize the switches were inoperable, and failed to enter the appropriate Technical Specification Limiting Condition for Operation when the 3C and 2A turbine main condenser low vacuum reactor protection system scram channels were inoperable. The primary cause of the violation was related to the cross-cutting area of Problem Identification and Resolution.

The finding was more than minor because it affected the mitigating systems cornerstone objective by affecting the reliability of the reactor protection system. The finding was determined to be of very low safety significance (Green) because one inoperable channel would not prevent the reactor to scram on low condenser vacuum. Corrective actions by the licensee included installing temporary vent valves on the 3C and 2A sensing lines, enhancing operations training materials, revising the operations's procedure, and performing internal and external condenser walkdowns during the next outage on Unit 2 and Unit 3.
Inspection Report# : 2004010*(pdf)*

Barrier Integrity

Significance: G May 02, 2005
Identified By: NRC
Item Type: FIN Finding
Removal of the 2D Traversing Incore Probe (TIP) Drawer With Clearance Order Danger Tag Attached
On May 2, 2005, a performance deficiency was identified by the inspectors. The licensee failed to identify that corrective actions were ineffective from a previous 2004 event, involving the failure to follow the clearance order process. Also, an instrument maintenance technician failed to properly implement annual clearance order process training. As a result, the instrument maintenance technician removed the 2D traversing incore probe (TIP) drawer which had a clearance order danger tag attached to the control switch. The primary cause of this finding was related to the cross-cutting issues of human performance and problem identification and resolution.

The finding was more than minor because, if left uncorrected, the licensee's failure to ensure plant personnel adherence to the clearance order process would become a more significant safety concern by resulting in significant personnel safety consequences, and because it impacted the barrier integrity cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The removal and re-installation of the 2D traversing incore probe drawer did not adversely affect the

ability to ensure containment isolation using the ball check containment isolation valve. The licensee briefed all maintenance personnel on this event and added more detailed discussion on the clearance order process to the annual site training. Therefore, this finding screened as having very low safety significance.
Inspection Report# : 2005008*(pdf)*

Significance: G Feb 08, 2005
Identified By: NRC
Item Type: FIN Finding
Failure of the Refuel Floor Damper & Design Deficiency with the Standby Gas Treatment System
On February 8, 2005, a performance deficiency was identified by the inspectors. The licensee failed to identify the failure of the refuel floor damper in the reactor building ventilation system in a timely manner which resulted in the late discovery of a design deficiency with the standby gas treatment system. The standby gas treatment system used reactor building ventilation ductwork before directing air flow to the standby gas treatment filters. The refuel floor damper would throttle down, per design, to ensure a local negative differential pressure in the reactor water cleanup heat exchanger rooms with respect to the refuel floor. As a result, air flow to the standby gas treatment system was significantly restricted and affected the standby gas treatment recovery time for the entire secondary containment. The damper failed prior to 2003, masking the design deficiency, and was unnoticed until February 2005. Also, inadequate inspections of the dampers in the reactor building ventilation system during operation of the standby gas treatment system contributed to the late discovery of this design issue. The primary cause of this finding was related to the cross-cutting issue of problem identification and resolution.

The finding was greater than minor because, if left uncorrected, the failure to identify deficient plant equipment would become a more significant safety concern because important systems could be rendered inoperable and because it impacted the barrier integrity cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. In addressing this issue, the licensee gagged each unit's refuel floor damper open to 80 percent to ensure adequate air flow to the standby gas treatment system. The finding was of very low safety significance because the standby gas treatment system was always able to restore secondary containment differential pressure within the Technical Specifications allowed outage time of four hours.
Inspection Report# : 2005008*(pdf)*

Significance: G Oct 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
The Licensee Did Not Move the Reactor Building Ventilation System Into the Maintenance Rule (a)(1) Category
A finding of very low safety significance was identified by the inspectors involving a Non-Cited Violation of 10 CFR 50.65, "Maintenance Rule," requirements. The licensee failed to identify that the number of functional failures for the reactor building ventilation system had exceeded the established performance criteria and did not move the reactor building ventilation system into the a(1) category. Once identified, the reactor building ventilation system was moved into the a(1) category on October 8, 2004. The licensee had not yet determined system goals or established corrective actions by the close of the inspection period. The primary cause of the violation was related to the cross-cutting area of Problem Identification and Resolution in that functional failures of the system were not properly entered into the corrective action program.

This issue was more than minor because it involved the design control and barrier performance attributes of the barrier integrity cornerstone; and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The issue was of very low safety significance because the licensee was still able to maintain secondary containment.
Inspection Report# : 2004010*(pdf)*

Significance: G Oct 08, 2004
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
The Licensee Failed to Correctly Restore the Control Room Emergency Ventilation System to Operable Status Following Maintenance
A self-revealed finding of very low safety significance involving a Non-Cited Violation of Technical Specification 3.7.4 was identified on April 28, 2004. The licensee failed to correctly restore the control room emergency ventilation system to operable status following maintenance. This left the control room emergency ventilation system inoperable for greater than its Technical Specification allowed outage time. This finding was self-revealed when the system did not operate properly several days later during a routine system realignment. As corrective action, the licensee revised a procedure to give better guidance on how to remove the temporary modification.

The issue was more than minor because it affected the Barrier Integrity Cornerstone attributes of design and configuration control and the cornerstone objective of protecting persons in the control room from radionuclide releases caused by accidents or events. The issue was of very low safety significance due to the short duration of the condition of the system.
Inspection Report# : 2004010*(pdf)*

Significance: G Oct 08, 2004
Identified By: NRC

Item Type: FIN Finding
The Licensee Did Not Control Tools and Equipment Staged to Install a Temporary Modification to Keep the Control Room Emergency Ventilation System Dampers Open in the Event of an Accident
A finding of very low safety significance was identified on August 3, 2004, by the inspectors during the walkdown of a corrective action for a previous event. The licensee had an abnormal operating procedure requirement to have tools and equipment staged to install a temporary modification to keep the control room emergency ventilation system dampers open in the event of an accident. The equipment necessary to install the temporary modification was in various stages of disarray. Some equipment was not labeled and some necessary tools were missing. The licensee identified a number of corrective actions including properly packaging the necessary tools and equipment, revising procedures, and initiating a training request to ensure operations personnel are properly trained in the use of the tools and equipment.

The finding was more than minor because it affected the Barrier Integrity Cornerstone attributes of configuration control and the cornerstone objective of protecting persons in the control room from radionuclide releases caused by accidents or events. The issue was of very low safety significance due to it only impacting the radiological barrier function of the control room emergency ventilation system. This was not a violation of regulatory requirements.
Inspection Report# : 2004010*(pdf)*

Significance: G Oct 08, 2004
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Unit 2 Torus to Hotwell Isolation Valve Mispositioned
A self-revealing event, that operators mispositioned a valve in the flow path for draining the Unit 2 torus to the Unit 2 hotwell, was identified on October 8, 2004. Operators failed to return valve 2-1501-35, "U2 Torus to Hotwell Isolation Valve," to its correct position after completion of Clearance Order 30831 on September 17, 2004. This event was a Non-Cited Violation of TS 5.4.1 having very low safety significance. The primary cause of this violation was related to the cross-cutting area of Human Performance.

The finding was greater than minor, in that, the failure to follow procedures when returning valves to the correct position after being taken out-of-service, if left uncorrected, could become a more significant safety concern. This finding had very low safety significance because the mispositioned valve was identified, returned to the correct position, and the torus level was returned to Technical Specification requirements within the Technical Specification allowed outage time. The involved non-licensed operators were temporarily removed from shift duties. The licensee re-verified a sample of 10 safety related clearance orders; performed a valve lineup on the accessible portions of the high pressure coolant injection, low pressure coolant injection, and core spray systems; and re-verified a sample of the last five clearance orders performed by the individuals involved in this event. No additional issues were identified. (Section 1R04)
Inspection Report# : 2004013*(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Jun 08, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Ensure That a Gate to a Posted LHRA was Secured Following Work in the Area
On June 8, 2005, a self-revealing finding of very low safety significance and an associated violation of NRC requirements were identified for the failure to adequately secure/lock the gate to a posted locked high radiation area (LHRA) and physically challenge the access to verify closure and proper latching in accordance with radiation protection procedures. As a result, access to a posted LHRA was unsecured for a period of approximately 24-hours.

The issue was more than minor because it was associated with the Program/Process and Human Performance attributes of the Occupational Radiation Safety cornerstone in that the cornerstone objective to ensure adequate protection of worker health and safety from exposure to radiation was impacted. The issue represents a finding of very low safety significance because it did not involve ALARA planning or work controls, no unauthorized entry into the posted locked high radiation area occurred so there was no overexposure or substantial potential for an overexposure, nor was the licensee's ability to assess worker dose compromised. A non-cited violation of Technical Specification 5.4.1 was identified for the failure to comply with the radiation protection procedure that governs the control of access into high radiation areas. Corrective actions following the identification of the problem included tailgate training for radiation protection staff, development of enhanced pre-job briefing forms for high radiation area entry, performance of an additional physical verification to ensure barriers are secure following work in a locked high radiation area, and plans for additional training specific to high radiation area controls intended for all station radiation workers. Since the principal cause of the problem was a human performance deficiency, the finding also relates to the cross-cutting area of human performance.

Inspection Report# : 2005010*(pdf)*

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : November 30, 2005