Dresden 3 3Q/2005 Plant Inspection Findings

Initiating Events

Significance: Nov 12, 2004 Identified By: Self-Revealing Item Type: NCV NonCited Violation

Unexpected Control Rod Motion During Surveillance Testing

On November 12, 2004, a performance deficiency was self-revealed when operators were performing surveillance procedure DOS 500-07, "Reactor Mode Switch in Shutdown Functional and Scram Auxiliary Functions Valve Operability Test," Revision 21. The operators manually scrammed the plant with the expectation of no rod movement with the reactor in Mode 5. Ten control rods moved after the mode switch was taken to shutdown. The surveillance test procedure had a prerequisite, Step E.2.a, that stated, "If fuel is in the reactor vessel, then verify all control rods are fully inserted or control rods are removed per DOP 300-18." Not all the control rods were fully inserted because some had been replaced and were in the process of being vented. The venting procedure opened the 3-0305-101 and 3-0305-102 valves. These were the control rod piston inlet and outlet valves. The open position of these valves allowed a flow path that caused the rods to insert when the scram signal was inserted. The crew knew that the valves were open but did not understand that the equipment lineup would cause the control rods to insert. The operating crew did not understand and therefore did not meet the procedure prerequisite. The primary cause of this violation was related to the cross-cutting area of Human Performance.

The finding was greater than minor because if left uncorrected the failure to adhere to surveillance test prerequisites could become a more significant safety concern. The inspectors completed a Phase 1 significance determination of this issue using IMC 0609, "Significance Determination Process," Appendix G, Check List 7, dated May 25, 2004. The three areas listed in the checklist that would require a Phase 2 or 3 analysis, and therefore indicate a more significant issue, were not applicable to this finding. Therefore, the inspectors concluded that the finding was of very low safety significance. Operations personnel were temporarily removed from duties, all control rod drive blades involved and adjacent fuel were inspected using cameras, hydraulic control units for the control rod drives were walked down to verify valve positions, and all operations personnel were briefed on this event. This issue was a Non-Cited Violation of Technical Specification 5.4.1, which required the implementation of written surveillance procedures for the control rod drive system. (Section 1R22)

Inspection Report# : 2004013(pdf)

Mitigating Systems

Significance: 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: 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)



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 overpressurization 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)



Jun 29, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Isolation Condenser Time Delay Relays Exceed TS Value

On September 29, 2004, 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 deficient condition quality that occurred on September 6, 1996, to prevent recurrence of a similar deficient condition that occurred on September 29, 2004. Both events involved the failure of safety related time delay relays to meet acceptance criteria due to the use of a stopwatch as a tool for calibration of safety related equipment. 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. As a result of the 2004 event, the licensee initiated issue report 258172, created an action item to review the root cause of the event, revised the isolation condenser initiation time delay relay calibration procedure to require the use of a strip chart recorder, and created an action item to evaluate the extent of condition. The finding was of very low safety significance because the isolation condenser system did not lose the ability to perform its safety function and all other mitigating systems were available.

Inspection Report# : 2005008(pdf)

Significance:

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:

Apr 01, 2005

Identified By: Self-Revealing Item Type: NCV NonCited Violation

Failure to Perform Post-Maintenance Test on the 3B Reactor Recirculation Pump Seals

A self-revealing finding involving a non-cited violation of Technical Specification 5.4 "Procedures," was identified on April 1, 2005, due to the licensee's failure to ensure the post-maintenance test procedure contained proper instructions from the Vendor Equipment Technical Information Program Manual regarding actions to take on a reverse pressurization event of the reactor recirculation pump seals. The lack of procedural guidance in the maintenance procedure resulted in returning the 3B reactor recirculation pump to service with a seal which had a displaced O-ring and a cocked rotating face. This condition caused degradation of the pump seal after approximately four months of operation. The degradation of the seal challenged plant operators and increased the risk of a loss of coolant accident.

This finding was considered more than minor because it affected the Initiating Event cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to be of very low safety significance because the 3B reactor recirculation pump #2 seal continued to perform its intended function of maintaining the reactor pressure boundary and controlling leakage to within the Technical Specification limits. Corrective actions by the licensee included revising the maintenance procedure to incorporate the Vendor Equipment Technical Information Program (VETIP) Manual guidance on proper actions to take for a reverse pressurization on the reactor recirculation pump seals, and installing a new reactor recirculation pump seal. This finding was related to the cross-cutting issue of human performance because the licensee failed to have pertinent information from the VETIP Manual in the post-maintenance procedure.

Inspection Report# : 2005010(pdf)

Significance:

Jan 05, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Performance Deficiency While Performing Surveillance Procedure DIS 700-02, "APRM/RBM [average power range monitor/rod block monitor] Flow Instrumentation Total Drive Flow Adjustment," Revision 16

On January 5, 2005, a performance deficiency involving a Non-Cited Violation of Technical Specification 5.4.1 was self revealed when instrument maintenance technicians were performing Dresden Instrument Surveillance 700-02, "APRM/RBM [average power range monitor/rod block monitor] Flow Instrumentation Total Drive Flow Adjustment," Revision 16. The technicians misadjusted the recirculation flow signal to the reactor protection system which required entry into Technical Specification 3.3.1.1 Limiting Condition for Operation A.1 and C.1 for Average Power Range Monitor Channels 1, 2, and 3 Flow Bias Trips. The instrument maintenance technicians were using the averaging function of a Fluke 189 digital multi-meter. The technicians had not been trained on how to use the function and the procedure did not provide instructions on how to use the multi-meter. The mis-use of the averaging function resulted in adjusting the recirculation flow converter signal too high.

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 procedure quality of a surveillance test procedure. The finding was of very low safety significance because it impacted the reactor protection system for a time period of less than 1 minute. The surveillance test procedure was changed to include instructions on how to use the averaging function of a digital multi-meter and the instrument maintenance technicians were briefed on this event and trained on how to use the averaging function of the digital multi-meter. (Section 1R22) Inspection Report#: $\frac{2005003(pdf)}{2005003(pdf)}$

Significance:

G Dec

Dec 11, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Modification to the Unit 3 Core Spray Piping

On December 11, 2004, a performance deficiency involving a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XI and Criterion III was identified by the inspectors. The licensee failed to perform post-modification testing and to assure critical aspects of the core spray modification installation, which included obtaining gap measurement for mechanical joints, verifying the capability of the tooling to produce the required surface finishes on pre-fabricated components, and verifying that the pre-fabricated components were properly machined, met the leakage analysis specifications.

The finding was greater than minor because it affected the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, specifically the design control attribute. The finding was of very low safety significance because the licensee was able to demonstrate, with the assistance of General Electric, that there was reasonable assurance that the modification was installed properly. The licensee planned to revise CC-AA-107, "Configuration Change Acceptance Testing Criteria," and/or CC-AA-107-1001, "Post Modification Acceptance Testing." The procedure change would provide that the substitution for post modification testing would ensure quality at least equivalent to that specified in the original design bases. In addition, the

licensee planned to confirm that the installed core spray modification had been installed with a level of quality equivalent to the original design

Inspection Report#: 2005008(pdf)

Significance:

Nov 13, 2004

Identified By: Self-Revealing Item Type: NCV NonCited Violation

Failure to Adequately Ensure That a Contract Worker Followed Station Standards While Working in an Area Flagged with a **Protected Pathway Sign**

A self revealed finding of very low safety significance was identified involving a Non-Cited Violation of Technical Specification 5.4.1. On November 13, 2004, a licensee contracted worker failed to follow station procedures and standards and ignored protected pathway equipment signs. This error resulted in the temporary loss of power to station safety related systems. The worker was performing electrical work, when he inadvertently operated the bus 39 to bus 38 crosstie breaker, causing it to trip. Work was stopped, power was restored back to station loads in less than 1 hour, and the worker was counseled. By the end of the report period the licensee had not completed their Apparent Cause Evaluation to further discuss corrective actions. The primary cause of this violation was related to the cross-cutting area of Human Performance.

This finding was greater than minor because if maintenance personnel continued to perform unrestrained work within protected pathway boundaries it would become a more significant safety concern. The finding was of very low safety significance because the operators rapidly restored power to station loads, other mitigating systems were available, and the total exposure time was short. (Section 1R20.1.(2)) Inspection Report# : 2004013(pdf)

Significance: 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:

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

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:

Nov 05, 2004

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Electricians Removed the 3d Drywell Cooler Breaker While it Was Tagged Out-of-service in the Racked-to-test Position

On November 5, 2004, a performance deficiency was self-revealed when electrical maintenance personnel removed the 3 B drywell cooler breaker, that was tagged out-of-service in the racked to test position, to perform a preventive maintenance task. During the performance of Unit 3 Division 1 undervoltage testing, alarm E-4, "DW [drywell] Cooler Blower Trip," on panel 923-5, was received in the control room. A nonlicensed operator was dispatched to the breaker cubicle and found the cubicle empty. Electrical maintenance personnel had removed the breaker to perform a preventive maintenance task that was scheduled to be performed after the completion of undervoltage testing. The primary cause of this violation was related to the cross-cutting area of Human Performance.

The finding was greater than minor because if left uncorrected the failure to adhere to clearance order tag requirements and the failure to be aware of plant equipment status prior to re-alignment or removal could become a more significant safety concern. The inspectors completed a Phase 1 significance determination of this issue using IMC 0609, "Significance Determination Process," Appendix G, Check List 7, dated May 25, 2004. The three areas listed in the checklist that would require a Phase 2 or 3 analysis were not applicable to this finding, therefore, the inspectors concluded that the finding was of very low safety significance. The electricians were temporarily removed from duties and counseled, and all electrical maintenance department personnel were briefed on this event. This issue was a Non-Cited Violation of Technical Specification 5.4.1 which required the implementation of written procedures for the control of locking and tagging of plant equipment. (Section 1R20.1.(1))

Inspection Report# : 2004013(pdf)

Significance:

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: Identified By: Self-Revealing

Oct 08, 2004

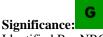
Item Type: NCV NonCited Violation

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)



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)

Emergency Preparedness

Occupational Radiation Safety

Significance: 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