

Dresden 3

3Q/2003 Plant Inspection Findings

Initiating Events

Significance:  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\(pdf\)](#)

Significance:  Mar 31, 2003

Identified By: NRC

Item Type: FIN Finding

Unit 3 Scram on Loss of Main Shaft Oil Pump

The inspectors identified one finding regarding a number of performance issues associated with the licensee's failure to properly implement vendor recommendations for the main turbine. The performance issues included improper implementation of vendor recommendations for monitoring shaft voltage, inadequate acceptance criteria for shaft voltage, and deferral of preventive maintenance.

This finding was more than minor because it resulted in an initiating event (scram) on Unit 3. The finding was of very low safety significance because all equipment operated as designed during the scram. No violation of NRC requirements occurred as a result of the licensee's failure to adequately implement vendor recommendations for non-safety related equipment.

Inspection Report# : [2003002\(pdf\)](#)

Significance:  Mar 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Unexpected Half Scram On Unit 3 During Fuse Inspection

The inspectors identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, due to the licensee's failure to update a drawing for the average power range monitors. As a result, a self-revealing event, a half-scram, occurred on Unit 3 during a fuse inspection activity.

This finding was more than minor because if left uncorrected, this issue could become a more significant safety

concern by resulting in an initiating event. However, because a scram did not occur, this finding was determined to be of very low safety significance.

Inspection Report# : [2003002\(pdf\)](#)

Significance:  Mar 29, 2003

Identified By: Self Disclosing

Item Type: FIN Finding

Ineffective Corrective Actions to Resolve Main Steam Isolation Valve Accumulator

A self-revealed finding was identified for a performance issue associated with the licensee's failure to implement effective corrective actions to resolve cracks on the main steam isolation valve (MSIV) accumulator nozzle welds.

The finding was considered more than minor because the issue affected the initiating events objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Also, the finding affected the mitigating systems objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. However, the issue was determined to be of low safety significance because the 1A MSIV was capable of performing its intended safety function of fast closing in 3 to 5 seconds, and the MSIV remained open at all times.

Inspection Report# : [2003006\(pdf\)](#)

Mitigating Systems

Significance:  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 exhaustor 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:  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:  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:  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:  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\(pdf\)](#)

G

Significance: 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\(pdf\)](#)

G

Significance: Jun 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Degraded Mechanical Penetration Fire Barriers

The inspectors identified a Non-Cited Violation of the Unit 2 and 3 operating licenses for 34 mechanical penetration seals not containing the required minimum of 8" of ceramic fire blanket to establish a 3-hour rated fire barrier.

The finding was more than minor because it affected the mitigating systems cornerstone objective. However, the finding was of low safety significance because for 33 of the 34 seals, no credible fire scenarios could be developed due to physical configuration of post-fire safe shutdown equipment on either side of the penetration seals or the deficient penetration seals were not used to protect safe shutdown capability. For the remaining penetration, the inspectors determined that the recovery actions in the isolation condenser room could be successfully implemented and ensure safe shutdown of the plant.

Inspection Report# : [2003006\(pdf\)](#)

G

Significance: Mar 31, 2003

Identified By: NRC

Item Type: FIN Finding

Inadequate Operability Evaluation Prepared for Generic Non-conforming Condition if 480 Volt Motor Control Center Auxiliary Contact Assemblies

The inspectors identified one finding regarding the licensee's preparation of an inadequate operability evaluation. The finding involved inadequacies in the licensee's documented operability evaluation for a generic non-conforming condition affecting a number of safety-related 480 volt motor control center cubicle (MCC) auxiliary contact assemblies.

This finding was more than minor because it could be reasonably viewed as a precursor to a significant event, and if left uncorrected, the finding could become a more significant safety concern because the station could have non-

conforming conditions which render safety-related equipment inoperable, even though the operability evaluations would conclude the equipment was operable. The finding was of very low safety significance because none of the safety related plant equipment was adversely affected by the non-conforming condition. Even though inadequacies were noted in the evaluation, the equipment was ultimately determined to be operable and no violations of NRC requirements were identified.

Inspection Report# : [2003002\(pdf\)](#)

G

Significance: Mar 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Station's Untimely Response to Generic Non-conforming Condition with 480 Volt Motor Control Center Auxiliary Contact Assemblies

The inspectors identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, due to the licensee's failure to promptly implement effective corrective actions upon the discovery of a generic non-conforming condition affecting a number of safety related 480 volt motor control center cubicle (MCC) auxiliary contact assemblies on both units.

This finding was determined to be more than minor because it could be reasonably viewed as a precursor to a significant event and if left uncorrected the finding could become a more significant safety concern because the station personnel could fail to evaluate non-conforming conditions which could render safety related equipment inoperable. The finding was of very low safety significance because safety related plant equipment was not rendered inoperable as a result of the degraded condition.

Inspection Report# : [2003002\(pdf\)](#)

G

Significance: Mar 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Violation of 10 CFR Part 50, Appendix B, Criterion III, Including Live Load in the Reactor Building Crane Calculation

A Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for failure to incorporate the rated live load of the RB crane into the original calculations for the reactor building (RB), a Seismic Category 1 structure. Significant NRC intervention was required over a two year period to ensure the licensee resolved the compliance and safety issues related to the qualification of the reactor building crane in a manner consistent with the Dresden licensing basis and NRC regulations.

The finding is of more than minor significance because it affects the cornerstone attribute of design control as it relates to both the Mitigating System and Barrier Integrity cornerstone objectives. Due to the low seismic initiating event frequency, the short duration of time that the heavy loads were suspended on the RB crane, the nature of the load path and load lift controls, and the recent licensee calculations which demonstrated that the RB superstructure will support the crane in a seismic event, the findings were determined to be of very low safety significance

Inspection Report# : [2003002\(pdf\)](#)

G

Significance: Mar 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Violation of 10 CFR Part 50, Appendix B, Criterion III, Overstressed Structural Steel

A Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for the

licensee's failure to ensure design stresses in roof truss members and interior building column members of the RB superstructure remained below allowable limits. Significant NRC intervention was required over a two year period to ensure the licensee resolved the compliance and safety issues related to the licensee's allowance of stress values above allowable design limits in a manner consistent with the Dresden licensing basis and NRC regulations.

The finding is of more than minor significance because it affects the cornerstone attribute of design control as it relates to both the Mitigating System and Barrier Integrity cornerstone objectives. Due to the low seismic initiating event frequency, the short duration of time that the heavy loads were suspended on the RB crane, the nature of the load path and load lift controls, and the recent licensee calculations which demonstrated that the RB superstructure will support the crane in a seismic event, the findings were determined to be of very low safety significance

Inspection Report# : [2003002\(pdf\)](#)



Significance: Dec 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Adequacy of the Plant-Referenced Simulator to Conform With Simulator Requirements Specified in 10 CFR 55.46

Green. The inspectors identified a Non-Cited Violation (NCV) of 10 CFR 55.46(d)(1), "Continued Assurance of Simulator Fidelity" due to the licensee's failure to adequately maintain simulator fidelity for two discrepancies, that had both an actual and potential plant impact. The deficiencies included an incorrect first stage pressure turbine trip reactor scram bypass setpoint and the incorrect operation of the reactor water cleanup (RWCU) room temperature instrument recorder.

This finding was more than minor because the incorrect first stage pressure turbine trip reactor scram bypass setpoint in the simulator had an actual impact on the plant. The incorrect simulator setpoint led to inaccurate training, that subsequently failed to adequately alert the licensed operators of the potential impact of first stage pressure conditions during an actual reactor startup following the Unit 2 power uprate. The lack of simulator fidelity combined with the operators' lack of awareness/attention to the plant effects from the turbine first stage pressure led to an actual reactor scram during the November 7, 2001, reactor startup (see Licensee Event Report 50-237/2001-005-00). Although an actual reactor scram occurred due to high turbine first stage pressure, the finding is of very low safety significance because the discrepancy was on the simulator and the actual plant responded as expected to the high turbine first stage pressure and all safety-related equipment functioned properly. The incorrect operation of the temperature instrument recorder led to an incorrect emergency classification by the Shift Manager during the recent licensed operator requalification annual operating examination. The finding is also of very low safety significance because the discrepancy was on the simulator and the real recorder in the plant functioned properly. Furthermore, no actual plant emergency occurred and there was no actual impact on equipment or personnel safety. (1R11.3)

Inspection Report# : [2002017\(pdf\)](#)



Significance: Dec 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform an Adequate Assessment of Risk When High Pressure Coolant Injection System was Unavailable

Green. The inspectors identified a Non-Cited Violation of 10 CFR Part 50.65 due to the licensee's failure to perform an adequate assessment of risk during maintenance on the high pressure coolant injection system.

The inspectors concluded that the issue was more than minor since the finding involved a change in risk level from

Green to Yellow and, if left uncorrected, could become a more significant safety concern. This conclusion was based on the fact that an adequate assessment of risk could have led to additional management strategies including establishment of protected pathways for redundant mitigating systems.(1R13)

Inspection Report# : [2002017\(pdf\)](#)



Significance: W Sep 27, 2001

Identified By: NRC

Item Type: VIO Violation

HPCI Inoperable for Longer than TS Allowable Time

As of September 30, 2001, the licensee had not promptly corrected damaged pipe support M1187D-80 on the Dresden Nuclear Station Unit 3 HPCI system, after it was identified on July 19, 2001. The licensee did not take corrective action to preclude repetition of the damage to support M1187D-80, a significant condition adverse to quality, until prompted by the NRC on September 30, 2001. As a result, while the plant was operating in Mode 1, the HPCI system was inoperable from July 5, 2001, to September 30, 2001, a period in excess of 14 days.

Inspection Report# : [2003009\(pdf\)](#)

Significance: SL-III Sep 27, 2001

Identified By: NRC

Item Type: VIO Violation

Licensee Provided Material Inaccurate Information

during a telephone conference call on September 27, 2001, Exelon Nuclear failed to provide complete and accurate information to the NRC Region III staff concerning the high pressure coolant injection (HPCI) system for Dresden Nuclear Station, Unit 3. Specifically, during the call, the NRC staff described various indications of a potential water hammer, including damaged, bent, or loose pipe supports and spalled concrete. In response during the call, Exelon Nuclear staff told the NRC that, had a water hammer occurred following a reactor scram on July 5, 2001, HPCI support M1187D-83 would have been damaged. They stated that they had conducted a walk down of the system on September 26, 2001, that HPCI support M1187D-83 was not observed to be damaged, and that no other signs of a water hammer existed. One employee of Exelon Nuclear found that HPCI support M-1187D-83 was loose during a visual examination on September 26, 2001, and did not provide that information to the NRC on September 27, 2001. The incomplete and inaccurate information provided to the NRC on September 27, 2001, was material to the NRC because the NRC staff was evaluating the licensee's operability determination for the Dresden Nuclear Station, Unit 3, HPCI system.

Inspection Report# : [2003009\(pdf\)](#)

Barrier Integrity



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\(pdf\)](#)



Significance: Mar 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Corrective Actions for Exceeding MELLLA Limit

The inspectors identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, due to the licensee's inadvertent entry into an unanalyzed region of the Unit 3 power-to-flow map on several occasions.

This finding was more than minor because the licensee demonstrated inadequate reactivity management control which resulted in exceeding the Maximum Extended Load Line Limit Analysis (MELLLA) flow control line (FCL) limits on a number of occasions. This could have challenged one of the physical design barriers (fuel cladding) that protect the public from radionuclide releases. This finding was determined to be of very low risk significance because the operators did not exceed any thermal limits on the unit. (Section 40A2)

Inspection Report# : [2003002\(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

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\(pdf\)](#)

Last modified : December 01, 2003