Braidwood 2

Initiating Events

Significance: G Jun 16, 2001
Identified By: Self Disclosing
Item Type: FIN Finding
INADVERTENT DELUGE OF THE UNIT 2 EAST MAIN POWER TRANSFORMER
Operator Error Resulted in the Inadvertent Deluge of the Unit 2 East main power transformer on June 16, 2001. This event was more than minor, because it could be reasonably viewed as a precursor to a significant event. The finding was of very low safety significance because the transformer deluge did not result in a plant transient. This was not a violation as the Unit 2 east main power transformer was non-safety-related equipment.
Inspection Report# : 2001007*(pdf)*

Significance: G May 21, 2001
Identified By: Self Disclosing
Item Type: FIN Finding
FOREIGN MATERIAL IN THE 2A MOTOR DRIVEN FEEDWATER PUMP LUBRICATING OIL SYSTEM
The Unit 2A motor driven feedwater pump tripped on March 30, 2001, due to low lubricating oil pressure. The feedwater pump's shaft driven lubricating oil pump was damaged by foreign material which had been left inside the pump's lubricating oil system during maintenance activities in August 1999. This event was considered more than minor, because if left uncorrected, the same issue (foreign material in a lube oil system) under the same conditions, could have become a more significant safety concern. The finding was of very low safety significance because the motor driven startup feedwater pump was available (i.e., not affected by this event). This resulted in full mitigating credit in the Phase II analysis using the NRC SDP analysis. This was not a violation as the feedwater pump was nonsafety-related equipment.
Inspection Report# : 2001006*(pdf)*

Significance: G May 19, 2001
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURES LED TO UNIT 2 REACTOR TRIP
Operator error resulted in an inadvertent automatic reactor trip of Unit 2 on May 19, 2001. This finding was considered more than minor, as it had an actual impact on safety, in that, non-licensed operators failed to follow procedural requirements which resulted in an initiating event; a Unit 2 reactor trip. The finding was of very low safety significance because all safety systems were capable of performing their safety functions after the unit trip. The inspectors identified this as an NCV for failing to follow procedural requirements (TS 5.4.1)
Inspection Report# : 2001009*(pdf)*

Significance: N/A Nov 30, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Instrumentation Not Available for Determining RCP Seal Temperature
Due to the potential loss of RCP seal cooling and CCW flow to the thermal barriers, the licensee stated that the RCP seals could withstand a complete loss of seal cooling if the RCPs were tripped prior to seal temperature reaching 235°F. However, analyzed instrumentation for the RCP seal leak-off temperature indication was not available to the operators outside of the MCR. This temperature indication was not on the remote shutdown panel (RSP) or the fire hazard panel and was necessary for the plant operators to determine when to trip the RCPs. If the RCPs were not secured prior to reaching the temperature limit, the seals could fail resulting in a small LOCA and adversely impact reactor coolant makeup capability.
Inspection Report# : 2000006*(pdf)*

Significance: N/A Nov 30, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Molded Case Circuit Breakers Not Periodically Inspected and Tested
During the inspection, the licensee could not provide any objective evidence (e.g., procedures) that the molded case circuit breakers at the 120Vac and 125Vdc voltage levels had been periodically manually exercised, inspected, and tested. Periodic maintenance and testing of molded case circuit breakers is necessary to ensure ease of operation and to assure that set-point drift remains within that allowed by the circuit breaker

coordination design calculations.
Inspection Report# : 2000006*(pdf)*

Significance: G Aug 21, 2000
Identified By: NRC
Item Type: FIN Finding
Emergent Work Associated with the Failure of 2HD046A Heater Drain Pump Disharge Valve
The inspectors identified that operations management personnel were not aware of the impact on risk from the realignment of the Unit 2 heater drain pump flow control valves due to emergent work, which could have impacted the risk associated with planned maintenance. The actual risk to the plant of having the Unit 2 heater drain pump flow control valves realigned did not change the plant risk status and therefore this issue was determined to be of very low safety significance.
Inspection Report# : 2000011*(pdf)*

Significance: G Feb 18, 2002
Identified By: NRC
Item Type: FIN Finding
CONFIGURATION CONTROL ERROR THAT RESULTED IN PLANT TRANSIENT
A finding of very low safety significance was identified when a plant transient resulted from a configuration control error on the January 23, 2002. An instrument maintenance technician assigned to perform a calibration of the 2A condensate booster pump flow loop connected a digital voltmeter to the Unit 2 heater drain tank level control loop card. This resulted in an erroneous control signal indicating the heater drain tank was empty. The heater drain pump discharge flow control valves went shut. This finding was determined to be of very low safety significance no actual initiating event occurred. The inspectors determined that this failure was a not a violation of NRC requirements because the equipment was non-safety related. However, the transient nearly resulted in an initiating event. An alert control room operator manually re-opened the heater drain pump discharge flow control valves and prevented a loss of feedwater and/or a loss of condenser vacuum.
Inspection Report# : 2002002*(pdf)*

Significance: G Feb 18, 2002
Identified By: Licensee
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW FLOOD WATCH PROCEDURE
Technical Specification 5.4.1.a states in part, "Written procedures shall be established, implemented, and maintained covering the following activities: a. The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978." Regulatory Guide 1.33, Revision 2, Appendix A, February 1978, Section 1c references administrative procedures for equipment control. Procedure BwAP 1110-3, "Plant Barrier Impairment Program," Revision 10 implemented, steps for equipment control. Condition Report 00093840 cited one example of the failure to follow BwAP1110-3 when a security guard failed to conduct a flood watch as required by procedure.
Inspection Report# : 2002002*(pdf)*

Significance: G Nov 19, 2001
Identified By: Licensee
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW FIRE PROTECTION PROCEDURES
Green. Technical Specification 5.4.1.c. requires written procedures shall be established, implemented, and maintained for Fire Protection Program Implementation. The Fire Protection Program was implemented, in part, by procedure OP-AA-201-004, "Fire Prevention for Hot Work." Condition Report 00079302 cited 13 examples of the failure to follow OP-AA-201-004 during the licensee's Unit 1 Spring 2001 refueling outage.
Inspection Report# : 2001011*(pdf)*

Significance: G Nov 19, 2001
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURE DURING STARTUP
The 1A reactor coolant pump first stage seal failed due to operators failing to follow procedural guidance during pump startup. This finding was determined to be of very low safety significance because the seal failure did not result in an actual loss of reactor coolant. A Non-Cited Violation of Technical Specification 5.4.1.a. was identified.
Inspection Report# : 2001011*(pdf)*

Significance: G May 15, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Adverse Weather Requirements
The inspectors identified two examples of a non-cited violation for the failure to ensure that the area surrounding the Unit 1 transformer yard was free from loose debris in accordance with procedural requirements on two occasions. On April 20, 2000, and on May 8, 2000, the licensee implemented adverse weather preparation procedures 0BwOA ENV-1, 1BwOA ENV-1, and 2BwOA ENV-1 due to the issuance of a tornado watch for an area that included Braidwood Station. One of the required protective actions performed by the licensee was an inspection of the switchyard and the Unit 1 and 2 transformer yards and loose materials were to be secured or removed. The inspectors identified loose material in the Unit 1 transformer yaerd on both occasions that had not been removed and was not secured. Since no loss of off-site power occurred because of the failure to secure loose materials, this finding is considered to be of very low risk significance.
Inspection Report# : 2000005*(pdf)*

Mitigating Systems

Significance: G Jun 30, 2001
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE PROCEDURE FOR PERFORMING MAINTENANCE ON THE 1AOV-SX178 VALVE
The Unit 1B diesel driven auxiliary feedwater pump room cooler discharge isolation valve failed to open during a routine surveillance due to foreign material in the valve operator control air solenoid. The inspectors identified this as a non-cited violation owing to inadequate procedures governing the valve maintenance (Technical Specification 5.4.1). This finding was considered more than minor, as it had a credible impact on safety that affected the availability of one train (i.e., the Unit 1B AF Pump) of a safety related, mitigating system.
Inspection Report# : 2001007*(pdf)*

Significance: G Feb 09, 2001
Identified By: NRC
Item Type: NCV NonCited Violation
VIOLATION OF CRITERION III DUE TO FAILURE TO CORRECTLY TRANSLATE TANK WEIGHT INTO A SEISMIC CALCULATION
The inspectors identified a non-cited violation for failure to verify that the correct carbon dioxide tank weight was used in a seismic calculation. The finding was of very low safety significance because of the overall low probability of an earthquake occurring and the presence of the motor-driven auxiliary feedwater pump. The licensee entered the issue into the corrective action program and performed a qualitative operability assessment to demonstrate that the tank would not fail during a seismic event.
Inspection Report# : 2001002*(pdf)*

Significance: N/A Nov 30, 2000
Identified By: Licensee
Item Type: NCV NonCited Violation
ESW Suction Valves Not Protected from Fire Induced Spurious Actuations
During the licensee's self-assessment activities in May 2000, prior to the NRC inspection, the licensee identified that the circuit breakers supplying power to ESW suction valves (1SX001A, 1SX001B, 2SX001A and 2SX001B) were not de-energized during normal plant operations in accordance with the response to FSAR Question 10.65. These valves supplied ESW to both units. The power removal commitment was to ensure that the valves would not close due to fire-induced spurious operations.
Inspection Report# : 2000006*(pdf)*

Significance: G Aug 21, 2000
Identified By: NRC
Item Type: FIN Finding
Risk Assessment of Planned Maintenance Associate with the 2A SI Train Work Window
The inspectors identified that the operations management personnel took the 1B Essential Service Water Pump OOS for planned maintenance and were not aware of the risk impact due to having the !A Motor Driven Feed Pump OOS for emergent work at the same time. The actual risk to the plant of having the 1B Essential Service Water Pump OOS in combination with the 1 A Motor Driven Feed Pump did not change the plant risk status and therefore this issue was determined to be of very low safety significance.
Inspection Report# : 2000011*(pdf)*

Significance: G Feb 18, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW EQUIPMENT CONTROL PROCEDURE
A finding of very low safety significance was identified when the inspectors identified that the flood door to the 2B essential service water (SX) pump room was left open and with no station personnel in attendance. This finding was determined to be of very low safety significance because the door was open and unattended for a short period of time and there was no actual flooding in progress. The inspectors determined that this failure was a violation of Technical Specification 5.4.1.
Inspection Report# : 2002002*(pdf)*

Significance: G Dec 29, 2001
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM RH PUMP MAINTENANCE IN ACCORDANCE WITH PROCEDURE
When placing shutdown cooling in service at the start of a forced outage on November 7, 2001, the 2B residual heat removal pump seized and was inoperable. The licensee determined that the failure of the 2B residual heat removal pump was due to a combination of a maintenance error which left the clearance between the pump impeller and the stuffing box extension wear ring less than that required and temperature transients when placing the RH pump in the shutdown cooling mode at a high temperature. This finding was determined to be of very low safety significance because the B train of residual heat removal was inoperable for less than the Technical Specification allow outage time. A Non-Cited Violation of Technical Specification 5.4.1 was identified.
Inspection Report# : 2001013*(pdf)*

Significance: SL-IV Dec 29, 2001
Identified By: Licensee
Item Type: NCV NonCited Violation
FAILURE TO PROPERLY RECORD M&TE
Technical Specification 5.4.1 requires, in part, that written procedures be established, implemented, and maintained covering those activities listed in Regulatory Guide 1.33, Appendix A, Revision 2, February 1978. Section 8 of Appendix A to this Regulatory Guide requires, in part, that procedures of a type appropriate to the circumstances be provided to ensure that measuring and testing devices are properly controlled, calibrated and adjusted. On November 28, 2001, the licensee identified that measurement and test equipment were not being properly recorded as required by Step 4.7.3 of station procedure MA-AA-716, "Control of Portable Measurement and Test Equipment Program," Revision 1. Reference condition report No. 84419.
Inspection Report# : 2001013*(pdf)*

Significance: G Sep 30, 2001
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO HAVE PROCEDURE APPROPRIATE TO CIRCUMSTANCES
The Unit 1 motor operated valve 1MOV-SI8804B, failed to open during a routine surveillance rendering the B train of the emergency core cooling systems inoperable. This event was more than minor, in that it had an actual impact on safety as it resulted in the inoperability of one train (i.e., the 1B train of the emergency core cooling systems) of a safety-related, mitigating system. The finding was of very low safety significance, because the 1A emergency core cooling system remained operable and the licensee could manually restore the 1B train. A Non-Cited Violation was identified for the failure to adequately set the instantaneous current trip setpoint for the 1MOV-SI8804B valve motor operator breaker.
Inspection Report# : 2001010*(pdf)*

Significance: G May 15, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Technical Specification Outage Limit
Between March 26 and April 1, 2000, the 2A essential service water pump was inoperable for longer than the allowed outage time for TS 3.7.8. The licensee performed maintenance on the A train of essential service water that required draining of the suction piping. The design of the piping did not allow for adequate fill and vent upon return to service and the licensee's fill and vent procedure was not adequate to overcome the design deficiency. Since it was shown that the design basis accident criteria could be met and that the TS LCO was not met, this event was of very low risk significance.
Inspection Report# : 2000005*(pdf)*

Barrier Integrity

Significance: G Nov 19, 2001
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN AN ADEQUATE TEST CONTROL PROGRAM
Green. The licensee did not consider instrument inaccuracies when establishing the acceptance criteria for Technical Specification Surveillance Requirement 3.7.9.2, ultimate heat sink average temperature. This instrument tolerance band was not accounted for in design analyses. This finding was determined to be of very low safety significance because with the most conservative instrument inaccuracies applied to the actual maximum ultimate heat sink temperature recorded, the Technical Specification limit was not exceeded. The inspectors determined this failure to properly control test procedures was a violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control." The licensee disagreed with the inspectors' conclusions and did not place this issue into the corrective action program. Therefore, a Notice of Violation was issued.
Inspection Report# : 2001011*(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Nov 19, 2001
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW TS 5.7.2(d)
Green. The licensee failed to barricade, conspicuously post, and install a flashing light activated as a warning device to control access to a high radiation area (greater than 1000 mrem/hour) located in the 1B Reactor Containment Fan Coolers plenum. This finding was determined to be of very low safety significance because unauthorized entry into the inadequately controlled high radiation areas did not appear to occur and a substantial potential for an overexposure did not exist. A Non-Cited Violation of Technical Specification 5.7.2(d) was identified.
Inspection Report# : 2001011*(pdf)*

Significance: SL-IV Sep 25, 2001
Identified By: Licensee
Item Type: VIO Violation
DELIBERATE FAILURE TO FOLLOW PROCEDURES
On September 25, 2001, in a letter to Mr. O. Kingsley from Mr. J. Grobe, the NRC issued Enforcement Action (EA) No. 01-131 concerning a deliberate violation of licensee procedure, BwRP 5822-3, Revision 1, "Operation and Calibration of the Eberline PM-7 Portal Monitors," that occurred on October 23, 2000, at the licensee's facility. Specifically, the NRC concluded that a contractor boilermaker deliberately violated the procedure when he exited the protected area after twice activating the alarms on two separate portal monitors at the gatehouse and deliberately failed to contact the radiation protection department, as required by station procedure. Since the violation was determined to be willful, the NRC did not assign a significance to the violation using the NRC's Significance Determination Process. In accordance with the NRC Enforcement Policy, the NRC determined that the incident constituted a Severity Level IV violation of the Braidwood Station Facility Operating License. The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance was achieved was adequately addressed on the docket in our June 11, 2001 letter, and in Exelon's response dated July 13, 2001.
Inspection Report# : 2001010*(pdf)*

Public Radiation Safety

Physical Protection

Significance: G Oct 20, 2000
Identified By: NRC
Item Type: FIN Finding
Access Control (Identification, Authorization, and Search of Personnel, Packages, and Vehicles)
The NRC Determined that the licensee did not have a drill and exercise program to test certain personnel to provide a high probability of detecting contraband items during searches from being introduced into the protected area via a specific point. The licensee's Appendix B security drill and exercise program applied only to other personnel. The inspector reviewed the risk significance of this finding and found the risk to be very low since there were no actual intrusions and there have not been greater than two similar findings in four quarters.
Inspection Report# : 2000016*(pdf)*

Miscellaneous

Significance: N/A Dec 31, 2000
Identified By: Licensee
Item Type: NCV NonCited Violation
Failure to Meet Tech Spec Requirements
TS 5.4.1c. requires written procedures shall be established, implemented, and maintained for Fire Protection Program Implementation. The FPP was implemented, in part, by OP-AA-201-004, "Fire Prevention for Hot Work." CR A2000-04494 cited 45 examples of failure to follow procedure during licensee's U2 fall 2000 refueling outage.
Inspection Report# : 2000018*(pdf)*

Significance: N/A Sep 22, 2000
Identified By: NRC
Item Type: FIN Finding
PROBLEM IDENTIFICATION AND RESOLUTION
The team identified that the licensee was effective at identifying problems and placing them in the corrective action system. Also, the inspectors concluded that the licensee personnel communicated an acceptable level of responsibility in identifying and entering safety issues into the corrective action program. However, the inspectors identified several examples of minor problems that did not result in any adverse consequences which were similar to problems identified by licensee personnel during recent self-assessments.
Inspection Report# : 2000013*(pdf)*

Significance: N/A Feb 22, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
INSPECTORS NOTED SEVERAL EXAMPLES WHERE APPARENT CAUSE EVALUATIONS (ACEs) WERE OF POOR QUALITY.
The inspectors concluded that the licensee adequately identified, evaluated, and resolved problems within the requirements of the corrective action program (CAP). In general, the significance threshold for entering issues into the corrective action program appeared appropriate. However, the inspectors noted several examples where apparent cause evaluations (ACEs) were of poor quality. These deficiencies were not identified by line management during the licensee's review and approval process. The types of deficiencies varied but included the following: • New information that could impact the original operability and reportability evaluations was not re-evaluated by shift management. • Other apparent problems were mentioned but were not fully addressed in the evaluation. For example, potential common cause failure mechanisms were included as possible apparent causes; however, the impact on like-equipment was not resolved or evaluated. • The extent of the evaluations and corrective actions were not always well documented. In addition, the inspectors noted that equipment problems identified during outages were not always evaluated for operability or reportability. In addition, causes for significant equipment problems were not always addressed prior to plant startup. The licensee was effective in correcting broke/fix type issues such as equipment problems, procedure deficiencies, and calculational errors. However, the licensee was less effective in correcting recurring human performance problems. This was evidenced by recurring problems associated with configuration control, contractor control, foreign material exclusion control, fire protection control, and rework issues. Through interviews and observations, the inspectors concluded that Braidwood established a safety-conscious work environment where people were not reluctant to raise issues. However, the inspectors noted that recent changes to the CAP made it somewhat burdensome to enter items into the corrective action program computerized process. Additionally, the inspectors ascertained that the recent changes to the CAP also made the trending condition report-related data burdensome by making the manipulation of the data difficult.
Inspection Report# : 2002003*(pdf)*

Last modified : March 27, 2002