

Limerick 1

4Q/2004 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate procedures to ensure proper venting of air from RCIC/HPCI systems following drain and fill operations.

A self-revealing event resulted in a non-cited violation of Technical Specification section 6.8.1, "Administrative Controls - Procedures," because Exelon did not maintain adequate procedures to ensure the HPCI and RCIC systems were filled with water. After an unexpected RCIC turbine trip during a HPCI valve test, it was determined that both systems contained air in the pump suction piping.

This finding was greater than minor because it affected the Mitigating Systems cornerstone objective of ensuring operability and reliability of both the HPCI and RCIC systems. In accordance with IMC 0609, App. A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors determined that the finding was of very low safety significance (Green) using a Phase 3 SDP evaluation.

The inspectors identified that a contributing cause of the finding was related to problem identification and resolution cross-cutting area, in that, station personnel had prior opportunities to resolve known adverse system interactions and potential air voiding in the HPCI and RCIC system piping. (Section 40A2)

Inspection Report# : [2004005\(pdf\)](#)

Significance:  Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Corrective Actions for Emergency Diesel Generator Jacket Water Leak (Section 1R04)

The inspectors identified a finding of very low safety significance that is also a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." Specifically, Exelon did not properly identify and correct a jacket water leak on the D24 emergency diesel generator.

This finding is more than minor because if left uncorrected, it would become a more significant safety concern. The leakage rate did not reach a level that made the D24 emergency diesel generator (EDG) inoperable or unavailable. However, the rapidly increasing rate of leakage, if left uncorrected, could have caused the EDG to be unavailable and inoperable. The issue affected the Mitigating Systems cornerstone. This finding was assessed using Phase 1 of the Significance Determination Process (SDP) for Reactor Inspection Findings for At-Power Situations. The finding was determined to be of very low safety significance (Green), because while the Mitigating System was degraded, there was not an actual loss of safety function, and the finding is not potentially risk significant due to seismic, flood, fire, or severe weather initiating events.

The inspectors identified that a contributing cause of the finding was related to the problem identification and resolution cross-cutting area, in that Operations personnel did not adequately resolve known problems with a D24 emergency diesel generator jacket water leak. (Section 1R04)

Inspection Report# : [2004003\(pdf\)](#)

Significance:  Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Did Not Follow Chemistry Procedure CY-LG-120-1102 (Section 1R15)

The inspectors identified a finding of very low safety significance that is also a non-cited violation of Technical Specification 6.8.1, "Procedures," because Exelon staff did not follow procedures. Specifically, when soluble manganese in the spray pond water was above 100 parts-per-billion (ppb), the actions specified in the procedure were not taken.

This finding is more than minor because if left uncorrected, it would adversely impact the reliability of the 2B residual heat removal (RHR) heat exchanger following an accident. By not following the chemistry procedures, the spray pond chemistry would be out of specification for extended periods, increasing the likelihood of operation of the 2B heat exchanger with poor quality cooling water which could cause accelerated corrosion of the heat exchanger tubes. The finding impacts the Mitigating System Integrity Cornerstone because it is associated

with the reliability of the 2B RHR subsystem, a mitigating system. This finding is determined to have very low safety significance (Green) by Phase 1 of the Reactor Inspection Findings for At-Power Situations Significance Determination Process because the performance deficiency does not result in a loss of safety function and is not potentially risk significant due to a seismic, flood, fire, or severe weather initiating event.

The inspectors identified that a contributing cause of this finding involved a human performance error because operators did not ensure actions were taken consistent with the 2B RHR heat exchanger operability evaluation and the applicable chemistry procedures. The inspectors also identified that a contributing cause to this finding was related to the cross cutting area of Problem Identification and Resolution. This is the third finding within the last year in which the station did not properly implement chemistry sampling and analysis procedures. (Section 1R15)
Inspection Report# : [2004003\(pdf\)](#)

G**Significance:** Jun 25, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Exelon did not promptly correct a condition adverse to quality associated with age-related degradation of the 'B' CREFAS system moisture element

The team identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," because Exelon did not implement prompt corrective actions for an age-related degradation of a moisture element in the 'B' train of the control room emergency fresh air supply (CREFAS) system.

This finding is greater than minor because it affected the Barrier Integrity Cornerstone objective of maintaining the availability and reliability of systems used to maintain control room habitability following a reactor accident. This finding is of very low safety significance because it represented a degradation in the radiological barrier function provided for the main control room. (Section 4OA2.b.2.1)

Inspection Report# : [2004006\(pdf\)](#)**G****Significance:** Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Corrective Actions for Faulty Breaker Charging Spring (Section 1R12)

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," because Exelon did not take adequate corrective actions for an undersized breaker charging spring found during post maintenance testing in October 2003. As a result, a similar spring in a residual heat removal pump breaker did not properly charge following breaker operation in February 2004.

This finding is more than minor because it affected the Mitigating System Cornerstone objective of maintaining equipment reliability, in that failure of the charging spring to function could inhibit equipment operation by preventing breakers from properly closing causing equipment unavailability. The finding is of very low safety significance, because while equipment reliability was degraded, there was no actual loss of safety function. (Section 1R12)

Inspection Report# : [2004002\(pdf\)](#)**G****Significance:** Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Corrective Actions for Emergency Diesel Generator Relay (Section 1R15)

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," because Exelon did not identify and correct a faulty emergency diesel generator (EDG) relay on the D12 and D23 EDGs.

This finding is more than minor because it affected the Mitigating System Cornerstone objective of maintaining equipment reliability, in that intermittent failure of the EDG relay inhibited the ability of the EDG to synchronize and share load with the offsite source as required by Technical Specifications. The finding is of very low safety significance, because while equipment reliability was degraded, there was no actual loss of safety function. (Section 1R15)

Inspection Report# : [2004002\(pdf\)](#)

Barrier Integrity

G**Significance:** Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Unit 1 in Excess of Licensed Thermal Power Limit

A self-revealing condition resulted in a non-cited violation of Operating License No. NPF-39, Section 2.C.(1), because Unit 1 exceeded the licensed thermal power limit of 3458 MWth by approximately 0.1 - 0.3% for a period of approximately four months. Limerick reduced power to 99% to account for the increase until the cause could be determined and corrected.

The finding is more than minor because if left uncorrected, the finding would become a more significant safety concern, in that, reactor core thermal power could have exceeded the accident analysis initial power condition of 102%. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors determined that the finding was of very low safety significance (Green) using a Phase 1 Significance Determination Process evaluation, because there were no plant events that could have resulted in a breach of the fuel barrier during the overpower condition.

A contributing cause of this finding is related to the problem identification and resolution cross-cutting area, in that Exelon performed multiple reviews that did not identify the overpower condition. These reviews included an apparent cause evaluation and an engineering technical evaluation.

Inspection Report# : [2004004\(pdf\)](#)

G

Significance: Jun 25, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Exelon NF did not identify and promptly correct a condition adverse to quality associated with control rods that were not tested for the effects of channel bow.

The team identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," because Exelon did not identify and promptly correct a condition adverse to quality associated with four Unit 2 control rods that were not properly surveillance tested when they were susceptible to friction caused by fuel channel bow.

This finding is more than minor because if left uncorrected, it would become a more significant safety concern. Specifically, there was a potential for the channel bow degradation to go undetected because the affected control rods were not being tested. The failure to enter this condition adverse to quality in the CAP, for several months, potentially affected the reactor shutdown function of the rod control mitigating system because the operability and reliability of four control rods were not demonstrated by the surveillance testing. The finding was determined to be of very low safety significance, because the control rods passed channel bow surveillance tests in April 2004. (Section 4OA2.a.2.2)

Inspection Report# : [2004006\(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : March 09, 2005