Limerick 1
3Q/2004 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G 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: G 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)*

Significance: G 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 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)*

Significance: G 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)*

Significance: G 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)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Did Not Adequately Assess and Manage Risk of Testing the D12 4kV Bus Under-Voltage Relay
The inspector identified a finding of very low safety significance, that is also a non-cited violation of 10 CFR 50.65 (a)(4), because on August 5, 2003, Exelon performed testing on the Unit 1 D12 4 kV bus under-voltage relay without having properly assessed and managed the increase in risk associated with the test. Specifically, the risk was higher than Exelon originally determined since the test made the D12 4 kV bus and D12 EDG unavailable. As a result, based on the higher risk, the test should not have been performed with the plant at power.

This issue is greater than minor because it is associated with the human performance attribute (incorrect assumption made in risk determination) and adversely affects the objective of the mitigating system cornerstone in that the EDG and associated bus were unavailable during the test and could not respond to certain initiating events. This finding is not suitable for analysis by a Significance Determination Process (SDP) because there is no current SDP to assess the significance of maintenance risk assessment findings. This finding was determined to be of very low safety significance (Green) and not greater than very low safety significance by management review because the performance deficiency did not result in a loss of the system safety function and the length of time that the D12 EDG and bus were unavailable was short (45 min). (Section 1R13)

Inspection Report# : 2003005*(pdf)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Did Not Follow Chemistry Procedure CH-1010
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 the chemistry staff did not follow procedures. Specifically, on several occasions since April 2003, Exelon staff did not perform the required daily sample and analysis of spray pond water and when pH in the spray pond water was outside of the specifications, did not take the actions described in the procedure within the specified time period.

The finding is greater than minor because it is similar to example 4.a " Insignificant Procedural Errors" in Appendix E of NRC Inspection Manual Chapter 0612, "Power Reactor Inspection Reports." By not following the chemistry sampling and analysis procedure, Exelon adversely affected the safety-related 2B RHR heat exchanger, in that, the reliability of the 2B RHR heat exchanger under post-accident conditions was reduced. The finding impacts the Mitigating System Integrity Cornerstone because it is associated with the reliability of the 2B RHR subsystem, a mitigating system.

The inspectors identified that a contributing cause of this finding involved a human performance error because neither a chemistry technician nor the technician's supervisor followed the steps prescribed by procedure CH-1010. (Section 1R15)
Inspection Report# : 2003005*(pdf)*

Significance: G Nov 21, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Develop s Station Blackout Procedure Consistent with 10CFR50.63 Coping Analysis
The team identified a non-cited violation of 10 CFR 50.63, "Loss of All Alternating Current Power," because the licensee's procedures used to cope with a station blackout may not have restored a source of alternating current power to the affected unit within one hour. The restoration of power within one hour is an assumption in the station blackout coping analysis used to demonstrate the plant would be able to manage a station blackout of a specified duration by taking credit for certain safe shutdown equipment such as residual heat removal pumps, air compressors, and battery chargers.

This finding is greater than minor because the finding affects the Mitigating System Cornerstone objective of ensuring equipment availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Systems used to mitigate the effects of a station blackout could be adversely effected if a source of alternating current power was not restored to the affected unit within one hour. The finding is of very low safety significance (Green) because the finding is not a design or qualification deficiency, does not represent an actual loss of safety function of a train or system, and does not screen as risk significant due to a seismic, fire, flooding, or severe weather initiating event.
Inspection Report# : 2003009*(pdf)*

Barrier Integrity

Significance: G 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)*

Significance: G 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 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)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : December 29, 2004