Limerick 1

Initiating Events

Significance: G Jun 29, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to follow station procedures for analyzing degraded main control room indications.
The inspector identified a finding of very low safety significance (Green) that is also a non-cited violation of Technical Specification 6.8.1, "Procedures." Exelon did not assess the operational impact of a degraded '1A' recirculation loop temperature instrument. Consequently, when operators used this degraded temperature instrument to monitor coolant temperature while in a Cold Shutdown condition, the operators did not recognize, due to erroneous temperature indication by the degraded instrument, that the actual reactor coolant temperature had exceeded 200 degrees and resulted in an inadvertent operational condition change to a Hot Shutdown condition. This finding was determined to be of very low safety significance (Green) by the Reactor Inspection Findings for At-Power Situations because it did not increase the likelihood of a primary system LOCA, did not contribute to the likelihood of a reactor trip, and did not increase the likelihood of a fire or internal/external flood.
Inspection Report# : 2002004*(pdf)*

Mitigating Systems

Significance: G Jun 29, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to fully implement station procedure requirements for post-scram reviews.
The inspector identified a non-cited violation of Technical Specification 6.8.1, "Procedures," because Exelon did not follow post scram station procedures during the investigation of the cause of an unexpected high reactor water level condition that led to the trip of all three reactor feedwater pumps following a Unit 1 scram on May 19, 2002. Exelon's post scram review did not identify that the level control setpoint setdown function of the feedwater control system did not actuate which caused the unexpected high reactor water level condition. Exelon's failure to properly investigate the cause of the reactor high water level condition was determined to have very low safety significance (Green) using a Phase 3 analysis.
Inspection Report# : 2002004*(pdf)*

Significance: G May 19, 2002
Identified By: NRC
Item Type: FIN Finding
Post Maintenance Testing
The inspectors identified a finding of very low safety significance, because Exelon maintenance personnel did not follow the work order for conducting preventive maintenance on the feedwater control system. Consequently, a wire that was disconnected during the activity was improperly restored, which disabled the setpoint setdown function of the feedwater control system. The wiring error led to a post-scram high reactor level and a trip of the reactor feed pumps, which caused the loss of the power conversion system function following the scram. This finding involved a human performance error by the maintenance technician because he did not restore the setpoint setdown function to service in a manner specified by the maintenance work order. This finding was determined to have very low safety significance

using a Phase 3 analysis. (Section 1R19)
Inspection Report# : 2002005*(pdf)*

Significance: G May 19, 2002
Identified By: NRC
Item Type: FIN Finding
Unit 1 "A" Reactor Feed Pump Discharge Valve Breaker
The inspectors identified a finding of very low safety significance, because Exelon maintenance technicians did not follow maintenance procedures and improperly assembled the Unit 1 "A" reactor feed pump discharge valve breaker during preventive maintenance activities. Consequently, the breaker did not properly respond and its associated feed pump discharge valve could not be closed when demanded by control room operators during post-scram feedwater system manipulations. This complicated the operators' ability to control the reactor level while performing post-scram emergency operating procedures. This finding involved a human performance error because maintenance technicians did not assemble the breaker in the manner specified by the maintenance procedure. This finding was determined to be of very low safety significance by the Reactor Inspection Findings for At-Power Situations Significance Determination Process because it did not result in an actual loss of safety function of a non-Technical Specification Train of equipment for greater than 24 hours, and it did not screen as risk significant due to a seismic, fire, flooding, or severe weather initiating event. (Section 1R12)
Inspection Report# : 2002005*(pdf)*

Significance: G Mar 30, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to meet TS 3.0.4 due to change in Operational Conditions with unsatisfactory results on a Unit 1 Division II battery charger surveillance test.
Technical Specification 3.0.4 states that entry into an Operational Condition shall not be made when the conditions for the Limiting Condition for Operation are not met and the associated Action requires a shutdown if they are not met within a specified time interval. Contrary to the above, on or about March 19, 2002, Unit 1 entered Operational Condition 2 (startup), with the Division II DC Battery Charger 1B1D103 inoperable due to an unsatisfactory surveillance test, a condition that requires a shutdown. This item is documented in the licensee corrective action program as CR 100013. This is being treated as a Non-Cited Violation.
Inspection Report# : 2002002*(pdf)*

Significance: G Mar 30, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to meet TS 3.8.2.2 due to unsatisfactory results on a Unit 1 Division II battery charger surveillance test, with two other DC Power Divisions inoperable during a refueling outage
Technical Specification 3.8.2.2 requires that two of the four divisions of DC power be operable in Operational Conditions 4, 5, and *. Contrary to the above, during the period March 14 through March 17, 2002, while in refueling outage 1R09, the Unit 1 DC Power Divisions I, II and III were inoperable concurrently. This condition occurred due to an unsatisfactory surveillance test and lack of supervisory review. This item is documented in the licensee corrective action program as CR 100013. This is being treated as a Non-Cited Violation.
Inspection Report# : 2002002*(pdf)*

Significance: G Dec 29, 2001
Identified By: Licensee
Item Type: NCV NonCited Violation
Missed Technical Specification Surveillance Requirement 4.8.1.1.2.b.2 for diesel generator fuel oil storage tanks.

Technical Specification 4.8.1.1.2.b.2 requires that water in the emergency diesel generator fuel oil storage tank be removed every 31 days. On July 11, 2001, the licensee identified water in the D11 and D12 fuel oil storage tanks. The subsequent investigation revealed that during previous surveillance testing, an accumulation of water in the fuel oil storage tanks was not identified and therefore not removed as required. This issue was entered in the licensee's corrective action process as condition report (CR) 61233. (Section 4OA7)
Inspection Report# : 2001012*(pdf)*

Significance: G Sep 28, 2001
Identified By: NRC
Item Type: NCV NonCited Violation
Lack of 10 CFR 50, Appendix B, Criterion III, Design Control Measures for ESW Pump Wetwell Screen
The team identified a Non-cited violation (NCV) of 10 CFR 50, Appendix B Criterion III, for failure to implement adequate design control measures for the emergency service water wetwell screens to verify the adequacy of the design regarding clogging or damage to the screens. This finding was determined to be of very low safety significance (Green) by the Significance Determination Process, Phase 1, because calculations and quarterly pump test results indicated that the screens were not clogged and the emergency service water system was capable of performing its safety function. (Section 1R21)
Inspection Report# : 2001007*(pdf)*

Significance: G Mar 31, 2001
Identified By: NRC
Item Type: FIN Finding
Heat Sink Performance
The inspector identified that the 2A, 2B, and 1A residual heat removal system heat exchangers were not performance tested consistent with commitments to GL 89-13 in that specified testing intervals were exceeded. The finding was of very low significance because although the required performance tests of the RHR heat exchangers were not conducted within the required testing intervals, no actual loss of safety function occurred. (Section 1R07)
Inspection Report# : 2001003*(pdf)*

Significance: G Dec 31, 2000
Identified By: Licensee
Item Type: NCV NonCited Violation
Safeguards Battery Parameters
Technical Specifications Surveillance Requirement Table 4.8.2.1-1, Note 1, requires that safeguards battery parameters be restored to within limits within 7 days of the discovery of a condition outside the limits. This 7-day action period was exceeded in October, 2000, as described in LER 1-00-004. This issue was addressed in PECO's corrective action program as PEP I0011892. (Section 4OA7)
Inspection Report# : 2000009*(pdf)*

Significance: G Dec 31, 2000
Identified By: Licensee
Item Type: NCV NonCited Violation
Surveillance Requirements
Technical Specifications Surveillance Requirement 4.5.1.b.3 requires that the high pressure coolant injection (HPCI) pump develop 5600 gpm against a test line pressure of 1040 psig plus head and line losses. There were three occasions in which HPCI had not been tested consistent with these parameters, as reported in LER 1-00-004. This issue was addressed in PECO's corrective action program as PEP I0011914. (Section 4OA7)
Inspection Report# : 2000009*(pdf)*

Significance: G Sep 30, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Suppression Pool Cleanup System was not in the Limerick Maintenance Rule Program
The inspector identified that the Unit 1 suppression pool cleanup system, a non-safety related system explicitly used in Limerick's emergency operating procedures, was experiencing performance problems and was not included in the scope of Limerick's Maintenance Rule program as required. This finding affects the Mitigating Systems Cornerstone and is considered to have a very low safety significance as there were other methods to remove excess water inventory from the suppression pool. This issue was a violation of 10 CFR 50.65, paragraph (b)(2) and is being treated as a Non-Cited Violation. (Section 1R12)
Inspection Report# : 2000007*(pdf)*

Significance: G Sep 30, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
PECO Technicians Did Not Follow Procedures and Made All APRMs Inoperable
PECO technicians failed to use appropriate procedural controls during troubleshooting and made all Unit 1 average power range monitors (APRMs) inoperable. Specifically, required post maintenance tests were not performed, to confirm the accuracy of the APRMs was within required tolerances, when local power range monitors (LPRMs) were returned to service following the troubleshooting activities. The LPRMs had not been calibrated and adversely affected accuracy of the APRMs. This finding affects the Mitigating Systems Cornerstone and is considered to have very low safety significance because the application of inaccurate LPRMs inputs to the APRMs resulted in more conservative reactor protection trips. This issue was a violation of Technical Specification 6.8.1.d. and is being treated as a Non-Cited Violation. (Section 1R19)
Inspection Report# : 2000007*(pdf)*

Significance: G Sep 30, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Operators Did Not Document an Aux Equipment Room Fan Failure
PECO operators did not follow procedures for identification and resolution of problems and properly document an equipment failure in the "A" auxiliary equipment room ventilation system. As a result, a deficiency in the system was not detected for about six weeks until a subsequent failure occurred. This finding affects the Mitigating Systems Cornerstone and the safety significance of this issue was very low because the auxiliary equipment room ventilation system's redundant fan remained functional thereby maintaining the system available but degraded. This issue was a violation of 10 CFR 50 Appendix B, Criterion V and is being treated as a Non-Cited Violation. (Section 1R12)
Inspection Report# : 2000007*(pdf)*

Barrier Integrity

Significance: G Jun 30, 2001
Identified By: NRC
Item Type: FIN Finding
Operability Evaluations - Agastat Relays - operability determinations for relay failures
The inspectors identified a finding of very low safety significance (Green) because station personnel did not properly address the operability of an apparent adverse trend of premature relay failures. Operators did not perform a timely re-evaluation of operability when testing information identified a potential common failure mechanism. The subsequent

operability review also did not consider several important aspects such as the impact on the containment isolation safety function and the need to shorten some system test intervals. This finding was of very low safety significance because there was no actual open pathway in the physical integrity of the reactor containment. (Section 1R15)
Inspection Report# : 2001005*(pdf)*

Significance: SL-IV Dec 31, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Temporary Plant Modifications
The inspectors identified a Severity Level IV Non-Cited Violation for the failure to properly evaluate facility changes as required by 10 CFR 50.59 for installation of temporary ventilation in the Unit 1A reactor water cleanup (RCWU) pump room and the adjacent primary containment isolation valve room. PECO did not evaluate the impact of the modification on the RCWU isolation logic and on the combustible loading in the area. The results of the violation were assessed as a very low safety significance (green) because the impact of the RWCU isolation function would be minimal and because there was no significant increase in fire severity levels in the area. (Section 1R23)
Inspection Report# : 2000009*(pdf)*

Significance: G Nov 11, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Licensed Operator Requalification
PECO did not properly evaluate the change made to Operational Transient (OT) procedure OT-114, "Inadvertent Opening of a Relief Valve," in May 1996, in accordance with requirements of 10 CFR 50.59. Specifically, PECO did not evaluate whether the delay caused by performing actions to reconfigure electrical busses and reduce recirculation pump flow prior to placing the reactor mode switch to shutdown was consistent with the technical specifications and Updated Final Safety Analysis Report. The issue was considered to be of very low significance because: 1) there was conservatism associated in the design bases analysis and the assumptions for suppression pool heat capacity during this event; 2) the probability of a stuck open SRV with a second event that would challenge containment mitigation capacity is low. Failure to perform a safety evaluation for the changes to OT-114 was a violation of 10 CFR 50.59 and is being treated as a non-cited violation. (Section 1R11)
Inspection Report# : 2000008*(pdf)*

Emergency Preparedness

Significance: SL-III Nov 10, 2001
Identified By: NRC
Item Type: VIO Violation
Inoperable off-site sirens not identified due to falsified maintenance and testing records and installation of jumpers that bypassed siren failure detection circuitry
In NRC letter dated October 23, 2001, we issued a Severity Level III - Notice of Violation, (EA-01-189). (VIO 50-352;353/01-11-03) because inoperable off-site sirens were not identified due to falsified maintenance and testing records and installation of jumpers that bypassed siren failure detection circuitry. This violation is considered closed because the NRC has sufficient information on the docket concerning this issue and has documented inspection results directly related to the violation in combined inspection report 50-352/01-013 and 50-353/01-013. (4OA5.2)
Inspection Report# : 2001011*(pdf)*

Significance: W Sep 24, 2001
Identified By: NRC
Item Type: FIN Finding
Emergency Preparedness - Inadequate Drill Critique

WHITE. The inspectors determined that the licensee's critique of the February 9, 2001, operator crew drill to be inadequate due to the untimely identification of an emergency classification problem. The crew had inappropriately declared a General Emergency based upon incorrect criteria when a legitimate criterion was available. (Section 1EP6.b) The failure to identify a risk significant planning standard during a drill was more than minor and significant because it had a credible impact on safety, in that inadequate critiques could result in classification errors which, in an actual event, could impact offsite agencies' abilities to implement protective actions for the public. EA-01-246 The NRC issued the final results of the significance determination in a letter dated November 19, 2001.
Inspection Report# : 2002011*(pdf)*
Inspection Report# : 2001016*(pdf)*

Significance: G Aug 02, 2001
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Resolution 10CFR50.54(t) Audit Finding Related to the Interface Between the Licenses and the Local Government/Agencies
The inspector determined that the 2000 EP quality assurance audit failed to evaluate and document the EP staffs' interface problems with State and local governments in accordance with 10 CFR 50.54(t) requirements even though deficiencies were identified. The finding was considered more than minor because there was a potential impact on public safety in that the offsite agencies are an integral part of the response to a radiological emergency. However, the inspector determined the licensee failed to implement a regulatory requirement which is not considered a failure to meet a planning standard as defined in Appendix B, Manual Chapter 0609. Also, there was no evidence of an actual interface problem affecting response capabilities. Therefore, this finding was determined to be of very low safety significance (Green). The inspector identified this as a non-cited violation for failing to properly document and assess offsite agency concerns as required by 10 CFR 50.54(t). (1EP5) (71114.05)
Inspection Report# : 2001013*(pdf)*

Significance: G Aug 02, 2001
Identified By: NRC
Item Type: NCV NonCited Violation
Annual Media Training Not Conducted
The inspector identified that the licensee had not conducted the annual media training for the year 2000 as required per Section 6.1.4 of the licensee's Emergency Response Plan (ERP). This finding was more than minor because there was a potential impact on public safety in that the information to the general public via the media needs to be disseminated accurately to avoid confusion. However, it was of very low safety significance because, during this time period, the issue was limited in scope, the licensee had conducted the 2000 training in March of 2001, and the issue is viewed as an implementation problem. The inspector identified this as a non-cited violation for the licensee failing to conduct training according to the ERP and as required per 10 CFR 50.54(q) and 10 CFR Part 50, Appendix E.IV.F.1. (1EP5) (71114.05)
Inspection Report# : 2001013*(pdf)*

Significance: G Aug 02, 2001
Identified By: NRC
Item Type: NCV NonCited Violation
Annual Radiological Monitoring Training Not Conducted
The inspector identified that the licensee had not conducted the annual radiological monitoring drill for the year 2000 which would include the actual collection and analyses of environmental samples as described in the ERP Section 6.2.7. This finding was more than minor because there was a potential impact on public safety in that the licensee conducts drills or training in order to maintain proficiency in case an actual radiological emergency occurs. However, it was of very low safety significance because there was no evidence of a loss of proficiency for the group of responders and the issue is viewed as an implementation problem. The inspector identified this as a non-cited violation for the licensee not conducting drills according to the ERP and as required per 10 CFR 50.54(q) and 10 CFR Part 50,

Appendix E. IV.F.1. (1EP5) (71114.05)
Inspection Report# : 2001013*(pdf)*

Significance: G Mar 31, 2001
Identified By: NRC
Item Type: NCV NonCited Violation
Drill Evaluation
The inspector identified a Non-Cited Violation associated with the failure to correct a previously identified emergency preparedness exercise deficiency associated with the accuracy of the average reactor water level indication value displayed in the Technical Support Center and Emergency Operations Facility. The finding was of very low significance because although the emergency preparedness deficiency was not corrected, it did not result in a failure to meet an emergency preparedness planning standard. (Section 1EP6)
Inspection Report# : 2001003*(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Significance: G May 11, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to secure five bags of trash, marked as containing radioactive material and stored in an unrestricted area, from unauthorized removal in accordance with 10 CFR 20.1801
The inspector identified a non-cited violation of 10 CFR 20.1801 having very low safety significance. On March 11, 2002, Exelon failed to prevent five bags of trash, marked as containing radioactive material and stored in an unrestricted area within the protected area, from being transported to the Pottstown Landfill for disposal. The Pottstown Landfill was not licensed under 10 CFR 61, "Licensing Requirements for Land Disposal of Radioactive Waste," to dispose of radioactive materials. Exelon's failure to prevent the removal of five bags of radioactive material from the protected area to the Pottstown Landfill for disposal was determined to have very low safety significance using the Public Radiation Significance Determination Process. The finding involved radiation material control but not transportation. Public exposure was not greater than 0.005 rem, and there have not been more than 5 instances of such occurrences in the current inspection period. (Section 2PS2)
Inspection Report# : 2002003*(pdf)*

Physical Protection

Miscellaneous

Significance: N/A Jun 26, 2002
Identified By: NRC
Item Type: FIN Finding
Biennial baseline inspection of Problem Identification and Resolution

The team concluded that the implementation of the corrective action program at Limerick Generating Station (LGS) was adequate. The licensee was effective at identifying problems and putting them in the corrective action process. Issues were prioritized and evaluated appropriately and in a timely fashion. The evaluations of significant problems were of sufficient depth to identify likely root or apparent causes, and to address the potential extent of the circumstances contributing to the problem. Corrective actions that addressed the causes of problems were generally identified and implemented. However, the team identified that some elements of the corrective action program had not been fully effective in resolving component mis-positioning events and errors associated with equipment clearance and tagging. The team also noted that the licensee's oversight committees identified similar findings and that increased management attention has been directed to this area.
Inspection Report# : 2002010*(pdf)*

Significance: G May 11, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Transfer of byproduct material to an Agreement State licensee without verifying license authorized receipt of the type, form, and quantity of byproduct material to transferred (10 CFR 30.41(c)).
The inspector identified a non-cited violation of 10 CFR 30.41 having very low safety significance. On December 21, 2001, Exelon transferred byproduct material to General Electric (GE),Wilmington, North Carolina, an Agreement State licensee, without verifying that GE-Wilmington's license authorized receipt of the type, form, and quantity of byproduct material prior to transfer, in accordance with 10 CFR 30.41, "Transfer of byproduct material," section (c). Exelon transferred 1.28 curies of Kr-85 byproduct material in the form of sealed sources to GE-Wilmington licensee that was only authorized to receive sealed sources in the amount of 0.2 curies. The nature of this particular finding is not encompassed by any existing cornerstone or Safety Significance Determination Process, but has been reviewed by NRC management and was determined to be a finding having very low safety significance. The inspector determined that there was no actual safety consequence associated with this condition in that the GE-Wilmington facility was able to appropriately receive, control, repackage, and ship the sealed sources to a licensee authorized to receive such material. (Section 4OA2)
Inspection Report# : 2002003*(pdf)*

Significance: N/A Jun 27, 2001
Identified By: NRC
Item Type: FIN Finding
Summary Conclusion regarding the effectiveness of the Problem Identification and Resolution (PI&R) program from the annual PI&R inspection.
The team concluded that the overall implementation of the corrective action program was adequate. Exelon was, with a few exceptions, effective at identifying problems. In general, problems were properly captured and characterized in the Performance Enhancement Program (PEP). Based upon the sample reviewed, items entered into PEPs were properly classified and prioritized for resolution. Evaluations and root cause analyses were of good depth and quality. Exelon's resolution of problems was adequate. The prescribed corrective actions appeared appropriate to correct the problems and were generally completed in a timely manner. However, the team noted that prior corrective actions were not fully effective in addressing weaknesses in operability determinations.
Inspection Report# : 2001006*(pdf)*

Significance: N/A Jun 30, 2000
Identified By: NRC
Item Type: FIN Finding
Problem Identification and Resolution
Overall, the LGS was found to have an adequate PI&R program. Observations showed a well used multi-tier problem reporting system that included a daily multi-departmental panel review of each newly issued corrective action item to assess its significance, to assign responsibility, and to assign priority for resolution through the action item tracking process. Problem cause analysis was adequate for individual items including operability and reportability evaluations. Corrective actions were generally effective and found to be timely and commensurate with the safety significance of the issue. Based on numerous interviews conducted during this inspection, workers at the station felt free to input safety issues into the station's PI&R programs. The team identified areas for improvement in the PI&R program. For

example, some elements of the PI&R program have not been fully effective in resolving common causes, particularly human performance issues. Human performance is a cross-cutting issue that had been identified as a contributor to various problems occurring at the station including automatic reactor shutdowns, component mis-positionings, and procedure violations. PECO identified similar areas for improvement and has initiated specific documented plans and actions to address this matter and improve performance in PI&R. (Section 4OA2)
Inspection Report# : 2000005*(pdf)*

Significance: SL-IV Jun 16, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Problem/Issue Cause Analysis
NO COLOR. A Non-cited Violation of 10 CFR 50, Appendix B, Criterion V, was identified, associated with five examples of failure to implement the written procedures of the corrective action program, an activity affecting quality. Four examples involved failure to properly classify adverse trend corrective action items as required by the corrective action program procedure LR-CG-10. The adverse trend items were associated with various topics including component mispositioning, procedure adherence, and reactor downpower events. The fifth example of failure to implement LR-CG-10 involved failure to conduct an operability evaluation of emergency diesel generators (EDGs) in April 2000, when PECO determined that 70 of 88 flex-coupling clamps on the cooling water systems of its EDGs were over-tightened. The failure to implement the procedures of the corrective action program is considered more than a minor violation in that it suggests a programmatic problem that has a credible potential to impact safety and involved more than an isolated occurrence.
Inspection Report# : 2000005*(pdf)*

Last modified : December 02, 2002