Peach Bottom 2
1Q/2015 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Mar 31, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Scope Flood Detection Level Switches into Maintenance Rule
The inspectors identified a non-cited violation (NCV) of very low safety significance (Green) of 10 CFR Part 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," because Exelon did not include certain flood indication functions into the scope of the maintenance rule (MR). Specifically, level switches used to indicate flood levels in the Unit 2 and Unit 3 emergency core cooling system (ECCS) rooms were not included in the scope of the MR as required by 10 CFR 50.65 (b)(2)(i) as non-safety related components that are used in plant emergency operating procedures (EOPs). PBAPS entered the issue into their corrective action program (CAP) as issue reports (IRs) 02433897 and 02437502 and scoped the level switches into the MR.

The finding is determined to be more than minor because it is associated with the protection against external factors attribute of the Mitigating Systems cornerstone and affected the cornerstone's objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). In the case of this finding, monitoring of components that provide alarm indication to operators during a flood hazard were not incorporated into the MR. The inspectors also reviewed IMC 0612, Appendix E, "Examples of Minor Issues," and determined the issue was similar to example 7.d; in that, flood detection was not within the scope of the MR and that one of the flood detectors had experienced performance problems during preventive maintenance (PM) testing . The inspectors conducted a Phase 1 screening in accordance with IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding was of very low safety significance (Green), because the finding was not a design or qualification deficiency, did not represent an actual loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its Technical Specification (TS) allowed outage time, and did not screen as risk significant due to external initiating events. The inspectors determined that the finding had a cross-cutting aspect in the area of Human Performance, Change Management because PBAPS did not use a systematic process for evaluating and implementing a change. Specifically, during PBAPS's MR database update and monitoring criteria development for new functions, PBAPS did not ensure that certain level switches that provide alarms for flooding used in plant EOPs were scoped into the MR despite identifying that it was required. [H.3] (Section 1R12)

Inspection Report# : 2015001 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Corrective Actions Not Timely for EOC of Appendix R Broken Wires

The inspectors identified a Green non-cited violation (NCV) of the PBAPS Units 2 and 3 operating licenses, Section 2.C.4, “Fire Protection,” because Exelon did not have the ability to implement all provisions of their approved Fire Protection Program as described in the Updated Final Safety Analysis Report (UFSAR). Specifically, UFSAR Section 5.2.2, Appendix R, “Shutdown Method D,” was found degraded due to the loss of the alternate 125 volts direct current (Vdc) control power to both E-2 and E-4 alternate shutdown panels. The alternate 125 Vdc power was found degraded during a planned inspection due to broken electrical wires located in the safety-related E-23 4.16 kilovolt (kV) breaker cubicle associated with the E-2 alternate shutdown panel. The extent-of-condition (EOC) corrective actions were not timely to identify and correct similar broken wires in the E-43 4.16 kV breaker cubicle associated with the E-4 alternate shutdown panel. PBAPS entered the following issue reports (IRs) into their corrective action program (CAP): IR 01629839, 01656255, 01662555, and 01662767. Exelon completed repairs of the broken wires in both electrical breaker cubicles.

The finding is more than minor because it is associated with the external events (fire) attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, following a postulated control room abandonment fire, the analyzed normal method was unavailable for closing three 4 kV circuit breakers locally with the switchgear mounted switch. Using IMC 0609, Appendix F, “Fire Protection SDP,” the Region I Senior Reactor Analyst (SRA) determined per Figure F.1, “Phase 1 Flow Chart,” and associated screening criteria that this finding is
of very low safety significance (Green). The inspectors determined that this finding had
a cross-cutting aspect in the area of Problem Identification and Resolution (PI&R), Evaluation, because Exelon did not complete the EOC action in a timely manner commensurate with its safety significance. Specifically, the decision to implement corrective actions to address the EOC two months after the identification of the first breaker cubicle broken wire was not timely and commensurate with its safety significance. Additionally, the condition potentially existed for a longer period of time, but was not identified by established maintenance procedures. Even though the E-43 4.16 kV breaker wires could be checked without affecting the operability or availability of the E-4 emergency diesel generator (EDG), Exelon decided to perform the E-43 4.16 kV EDG breaker cubicle inspection during a future scheduled overhaul. Exelon’s corrective action procedure defines an “immediate” EOC concern when, as in this case, a work group evaluation (WGE) is required. [P.2 PI&R, Evaluation]

Inspection Report# : 2014004 *(pdf)*

Significance: G Sep 30, 2014
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Scaffold Obstructs 'A' RHR Discharge Check Valve
A self-revealing finding was identified involving an NCV of very low safety significance (Green) for Technical Specification (TS) 5.4.1 “Procedures,” because Exelon did not correctly implement procedure MA-MA-796-024-1001, Revision 8, “Scaffold Criteria for the Mid-Atlantic Stations.” In addition, work order (WO) C0244158, “Open/Close CHK-2-10-48A for OPS Torus Support,” instructions were not implemented as written to remove a gag (i.e., eyebolt) on the Unit 2 ‘A’ residual heat removal (RHR) pump discharge check valve, CHK-2-10-48A, following restoration of the 2 ‘A’ RHR system after a September 16, 2012, maintenance and fill activity. By not implementing these procedures and instructions, the eyebolt prevented full closure of CHK-2-10-48A after the 2 ‘A’ RHR pump was secured. Exelon entered these issues into their CAP as IR 1680741, IR 1690648, and action request (AR) 02387793. Exelon removed the eyebolt and scaffold midrail to prevent any obstruction of movement on CHK-2-10-48A.

The finding is more than minor because it affected the Mitigating Systems cornerstone attribute of equipment performance in the area of reliability and availability of the 2 ‘A’ RHR train. Specifically, due to the stuck open check valve during a postulated loss of coolant accident (LOCA)/loss of offsite power (LOOP) scenario, voiding could occur

and create a potential water hammer resulting in pipe support damage. This finding was determined to be of very low safety significance (Green) using IMC 0609, Appendix A, Exhibit 2, because the finding did not represent a loss of system function, did not represent a loss of a single train for greater than its allowed TS outage time, and did not involve the loss or degradation of equipment or function specifically designed to mitigate a seismic, flooding, or severe weather initiating event. Additionally, the inspectors determined that the function of 2 'A' RHR remained available because RHR piping would remain intact and containment cooling would not have been lost during the postulated water hammer scenario. The finding has a cross-cutting aspect in Human Performance, Work Management, because in the case of the erected scaffold, Exelon did not plan, control, and execute work activities such that nuclear safety was the overriding priority. Specifically, the work process did not coordinate effectively with different groups (i.e., operations, engineering, scaffold builders, and maintenance) and job activities to identify and preclude the scaffold from obstructing an eyebolt attached to the swing arm of the 2 'A' RHR pump discharge check valve. [H.5 Human Performance, Work Management]

Inspection Report# : 2014004 *(pdf)*

Significance: G Apr 04, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Deficient E2 EDG Loading Calculation Design
The team identified a Green non-cited violation of Title 10 Code of Federal Regulations 50, Appendix B, Criterion III, Design Control, for failure to verify and ensure that the emergency diesel generators (EDGs) were capable of performing their design safety functions at the limits of voltage and frequency allowed by Technical Specifications (TS). Specifically, the existing EDG loading calculation permitted the E2 EDG and associated bus to be loaded up to 3100 KW at nominal frequency and voltage. At the maximum frequency and voltage values permitted by TS, the calculation-allowed maximum load would have exceeded the EDG 30-minute rating limit of 3250 KW and potentially damaged the EDG. Immediate corrective actions included evaluation of EDG loading for TS maximum voltage and frequency and changing design calculation PE-0166 to reduce the maximum permitted E2 EDG load from 3100 kW to 3052 kW at nominal voltage and frequency. Exelon entered the issue into their corrective action program (issue report 1638255) to evaluate the adequacy of the design and ensure that the allowed maximum diesel loading would not exceed the design capabilities of the diesels.

The finding was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of design control and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of the emergency diesels to respond to initiating events to prevent undesirable consequences. The team evaluated the finding in accordance with Inspection Manual Chapter (IMC) 0609, Significance Determination Process, Attachment 0609.04, Initial Characterization of Findings, dated June 19, 2012, for the Mitigating Systems Cornerstone, and IMC 0609, Appendix A, The Significance Determination Process (SDP) for Findings At-Power, dated June 19, 2012. The team determined the finding was of very low safety significance because it was a design deficiency confirmed not to result in a loss of EDG operability. This team assigned a cross-cutting aspect associated with this finding because the performance deficiency continued during the 2012 assessment of WCAP-17308-NP and was reflective of current performance. The team determined this finding had a crosscutting aspect in the area of Problem Identification and Resolution, Evaluation (PI.2), because engineers did not thoroughly evaluate the EDG loading issue and ensure the resolution addressed its cause commensurate with the safety significance. Specifically, Exelon relied on invalid assumptions to determine the issue was not applicable, and did not thoroughly evaluate

the technical issue addressed in the WCAP. (Section 1R21.2.1.1)
Inspection Report# : 2014007 *(pdf)*

Significance: G Apr 04, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Non-Conservative Voltage Assumption Used to Verify MOV Capability
The team identified a Green non-cited violation of Title 10 Code of Federal Regulations 50, Appendix B, Criterion III, Design Control. Specifically, Exelon did not correctly verify the capability of alternating current motor-operated valves (MOVs) at a degraded voltage corresponding to the lowest voltage allowed by plant Technical Specification setpoints for the degraded grid voltage relays. Exelon initiated issue report 1642720 to evaluate the adequacy of their design and determined that 9 out of the 130 alternating current MOV program valves required further evaluation. The licensee performed an operability evaluation of the affected MOVs, assuming the appropriate voltage, and determined that, although significant design margin was lost, all MOVs remained operable.

The finding was more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of design control and adversely affected the cornerstone objective of ensuring the capability of the 480 volt alternating current (AC) MOVs to respond to initiating events to prevent undesirable consequences. The team determined the finding was of very low safety significance because it was a design deficiency confirmed not to result in a loss of operability. The team assigned a cross-cutting aspect associated with this finding, because the deficient AC MOV operability evaluations were completed in November 2011 and were reflective of current performance. The finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Evaluation (PI.2), because Exelon did not thoroughly evaluate the issue addressed in a previous NCV contained in NRC Inspection Report 2010004, during 2011, for PBAPS such that, the resolution addressed causes and extent-of-condition commensurate with the safety significance. Specifically, the affected MOVs were not evaluated at the required voltage in operability evaluations performed following receipt of a non-cited violation. (Section 1R21.2.1.2)
Inspection Report# : 2014007 *(pdf)*

Barrier Integrity

Emergency Preparedness

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate Evacuation Time Estimate Submittals
The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50.54(q)(2), 10 CFR 50.47(b)(10), and 10 CFR Part 50, Appendix E, Section IV.4, for failing to maintain the effectiveness of the PBAPS, Units 2 and 3, Emergency Plan. The station did not provide the evacuation time estimate (ETE) to the responsible

offsite response organizations (OROs) by the required date. Exelon entered this issue into its CAP as IR 1525923 and IR 1578649. Additionally, Exelon re-submitted a new revision of the Peach Bottom ETE to the NRC on May 2, 2014.

The performance deficiency is more than minor because it is associated with the Emergency Preparedness cornerstone attribute of procedure quality and it adversely affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding was determined to be of very low safety significance (Green) because it was a failure to comply with a non-risk significant portion of 10 CFR 50.47(b)(10). The cause of the finding is related to the cross-cutting element of Human Performance, Documentation, because Exelon did not appropriately create and maintain complete, accurate and, up-to-date documentation [H.7 Human Performance, Documentation] (Section 1EP5)

Inspection Report# : 2014004 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : June 16, 2015