Peach Bottom 3
3Q/2009 Plant Inspection Findings

Initiating Events

Significance: G Mar 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inoperable 'A' Wide-Range Neutron Monitoring (WRNM) Results in a Condition Prohibited by Technical Specifications
A self-revealing, Green NCV of Unit 3 TS 3.0.4 was identified by the inspectors on January 26, 2009, when a half-scram occurred on Unit 3, shortly after Unit 3 entered Mode 2 for plant startup. Specifically, the 'A' Wide-Range Neutron Monitoring (WRNM) was inoperable as a result of inadequate procedural guidance regarding adjustments made to the mean square voltage (MSV) offset during the outage (prior to the January 26, 2009, startup). The inadequate procedural guidance allowed adjustments to be made which resulted in the WRNM not making a smooth transition from the counting region to the MSV region of operation, causing the 'A' WRNM to be inoperable and resulting in an unexpected half-scram when the WRNM transitioned from the counting region to the MSV region of operation. As a result, TS 3.3.1.1 requirements for the number of available channels of WRNM short period RPS trip in Mode 2 had not been met. TS 3.0.4 requires that when a LCO is not met, entry into a mode or other specified condition shall only be made when the associated actions to be entered permit continued operation in the mode or other condition specified for an unlimited period of time. Corrective actions included entering the issue into the CAP, conducting an event review, and submitting a License Event Report (LER) to the NRC, and revising the WRNM adjustment procedure.

The finding is more than minor because it is associated with the procedure quality attribute and adversely affected the Initiating Events Cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions. The finding was of very low safety significance because it did not contribute to the likelihood that both a reactor trip would occur and that mitigation equipment would not be available. This finding has a cross-cutting aspect in the area of human performance (resources) because the licensee's procedure did not provide adequate guidance to prevent adjusting the MSV offset to an unacceptable value. [IMC 0305 aspect: H.2(c)] (Section 1R15)

Inspection Report# : 2009002 *(pdf)*

Mitigating Systems

Significance: SL-IV Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform a 50.59 Review Prior to Installing Jumpers on 'E' Wide Range Neutron Monitoring (WRNM)
An inspector-identified, Severity Level IV NCV of 10 CFR 50.59 was identified when PBAPS made temporary alterations to their facility to address a degraded condition without performing a 50.59 review. Specifically, PBAPS installed a jumper that bypassed the trip feature of the Unit 3 'E' wide-range neutron monitoring (WRNM) instead of using the WRNM bypass switch as is described in their plant's Final Safety Analysis Report (FSAR). (Section 1R18.2)
Inspection Report# : 2009004 *(pdf)*

Significance: G Aug 07, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Take Adequate CAs for Grease Applied to DC Contactors
The inspectors identified a non-cited violation (NCV) of 10 CFR 50 Appendix B, Criterion XVI, "Corrective Action," for failure to identify and correct a condition adverse to quality. Specifically, in March 2009, Exelon did not take adequate corrective action to address a procedure deficiency and to ensure that grease inappropriately applied to Cutler Hammer direct current (DC) contactor pivot pins, in an unknown number of DC breakers in the high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) systems at Unit 2 and 3, would be identified and removed in a timely manner. Because the grease could harden over time and cause inadequate DC breaker performance, the inspectors determined that this condition, if left uncorrected, could prevent certain Units 2 and 3 HPCI and RCIC system valves from performing their safety-related function. Exelon entered this issue into their corrective action program as issue report (IR) 950438 and IR 950439
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The finding affected the Mitigating Systems cornerstone and was determined to be more than minor because the condition, if left uncorrected, could have become a more significant safety concern. By not requiring, by procedure, the removal of all grease from the affected Cutler Hammer DC contactor pivot pins, Exelon did not ensure that all of the potentially affected DC motor-operated valves in the Unit 2 and Unit 3 HPCI and RCIC systems would be available to perform their design functions if called upon. The inspectors evaluated this finding using Phase I of Manual Chapter 0609 and determined the finding to be of very low safety significance (Green) because it was not a design or qualification deficiency confirmed not to result in loss of operability or functionality, did not represent a loss of system or train safety function, and was not potentially risk significant due to external events. This finding has a cross-cutting aspect in the area of problem identification and resolution, corrective action program, because Exelon failed to take appropriate corrective actions to address a safety issue in a timely manner, commensurate with the safety-significance and complexity [P.1(d)]. Specifically, Exelon did not take appropriate corrective actions to ensure that grease inappropriately applied to Cutler Hammer DC contactor pivot pins would be, by procedure, identified and removed in a timely manner. (Section 4OA2.1.c)

Inspection Report# : 2009008 *(pdf)*

Significance: G Jun 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
MOV Program Procedures Were Inadequate with Regard to periodicity of preventive Maintenance Activities for Stem Lubrication.
A self-revealing NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified. Specifically, Exelon's Motor Operated Valve (MOV) Program procedures lacked specific instructions to prescribe an acceptable frequency for performing valve stem lubrication, which resulted in test failures of safety-related MOVs and affected the reliability of the MOVs' safety functions.

On Unit 2, the inspectors determined that the finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). In accordance with IMC 0609, Attachment 4, the inspectors determined that the finding was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of system safety function, and was not associated with any external events. On Unit 3, the inspectors determined that the finding was more than minor because it was associated with the configuration control attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers (e.g., containment) protect the public from radionuclide releases caused by accidents or events. In accordance with IMC 0609, Attachment 4, the inspectors determined that the finding was of very low safety significance (Green) because it did not represent an actual open pathway in the physical integrity of reactor containment. For both units, this finding has a cross-cutting aspect in the area of Problem Identification and Resolution (PI&R), Corrective Action Program, because PBAPS did not thoroughly evaluate problems such that the resolutions addressed the causes and extent of condition [P.1(c)]. Specifically, PBAPS failed to thoroughly evaluate previous conditions of degraded and hardened grease on safety-related valves, such that the extent of the condition

was considered and the cause was resolved. (Section 4OA2)

This item was discussed in Inspection Report 2009-004 (Section 4OA5.2).
Inspection Report# : 2009003 *(pdf)*

Significance: G Dec 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Incorrect Performance of Procedure Step Resulted in Inoperability of a DC Bus for Longer than the TS Allowed Outage Time
A self-revealing (Green) NCV of Technical Specification (TS) 5.4.1 was identified when operators inadequately implemented an abnormal operating (AO) procedure on two occasions. Specifically, an event where the Unit 2 Division II direct current (DC) electrical power subsystem was inoperable for longer than the allowed outage time specified in Unit 3 TS 3.8.4, resulted from PBAPS personnel not recognizing the existence of conflicting procedure guidance and the improper removal of a configuration control tool.

This finding is more than minor because it was associated with the human performance attribute of the Mitigating Systems Cornerstone, and impacted the cornerstone objective of ensuring the reliability of the Unit 2, Division II, DC electrical power subsystem to respond to initiating events, in that, one of its associated battery chargers was being supplied from a non-qualified alternating current (AC) power source. The inspectors concluded that this finding affected the Mitigating Systems Cornerstone and answered "No" to all relevant questions. Specifically, the supply of a non qualified AC power source to the Unit 2, Division II DC electrical power system was a qualification issue confirmed not to result in a loss of functionality. Although the Unit 2, Division II DC electrical power system was inoperable for longer than its 12 hour TS allowed outage time, this qualification issue did not result in an actual loss of safety function. Therefore, this finding was considered to be of very low safety significance (Green).

The inspectors determined that this finding had a cross-cutting aspect in the area of human performance (work control component) because PBAPS personnel did not adequately coordinate work activities by incorporating actions to address: the impact of changes to the work scope or activity on the plant and human performance; nor the need to keep personnel apprised of the operational impact of work activities; and plant conditions that may affect work when conflicting procedures led to inadequate procedure adherence and the unplanned inoperability of the Unit 2 Division II DC electrical subsystem. [IMC 0305 aspect: H.3(b)]. (Section 4OA3.1)

Inspection Report# : 2008005 *(pdf)*

Significance: G Jun 08, 2000
Identified By: NRC
Item Type: AV Apparent Violation
Assoc Circuit - Reliance on signal spurious assumption of one per system per fire.
PECO's specification for performing circuit analyses of post-fire safe shutdown equipment stipulates that only one spurious actuation for each system affected by any one fire be analyzed. For the areas inspected, the team determined that PECO adequately protected against fire-induced spurious actuations. The team did not identify any additional spurious actuations which would have prevented achieving safe shutdown conditions in the post-fire operating environment.

The assumption that only a single spurious actuation need be considered for any one system for any one fire is an apparent violation of the requirements of Section III.G. and III.L. of Appendix R to 10 CFR 50. PECO entered this issue into their corrective action program and have implemented reasonable compensatory measures. However, the issue of multiple spurious actuations of equipment in a post-fire environment is in contention between the NRC and the nuclear industry. As such, any further enforcement action will be deferred pending final resolution of this issue by the Nuclear Energy Institute and the NRC staff, in accordance with Enforcement Guidance Memorandum 98-02, Revision 2, issued February 2, 2000.
Inspection Report# : 2000003 *(pdf)*
Inspection Report# : 2007002 *(pdf)*

Significance: N/A Jun 08, 2000
Identified By: NRC
Item Type: AV Apparent Violation
Assoc Circuit - Mechanical Damage from Fire Induced Cable Faults not evaluated.
PECO adopted a licensing position that mechanical damage to alternative shutdown equipment resulting from fire-induced cable faults, as described in Information Notice 92-18, was outside the scope of the licensing and design bases of the facility. As a result, PECO did not evaluate the control circuits of the alternative shutdown equipment to determine if it was susceptible to this problem. Since a detailed review of the alternative shutdown capability at PBAPS was not performed as part of the scope of this inspection, the risk associated with this issue was not established.

This issue is being treated as an apparent violation of Condition 2.C.4 of the operating licenses for both Unit 2 and Unit 3, which requires PECO to implement and maintain the fire protection program described in the NRC Safety Evaluation Reports. PECO has entered this issue into their corrective action program and has implemented reasonable compensatory measures pending final resolution of the issue. However, the issue of mechanical damage to safe shutdown equipment due to fire-induced cable faults is in contention between the NRC and the nuclear industry. As such, any further enforcement action will be deferred pending final resolution of this issue by the Nuclear Energy Institute and the NRC staff, in accordance with Enforcement Guidance Memorandum 98-02, Revision 2, issued February 2, 2000.
Inspection Report# : 2000003 *(pdf)*
Inspection Report# : 2007002 *(pdf)*

Barrier Integrity

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
PBAPS Failed to Maintain the Capability to Ensure at Least 500 gpm SFP External Make-up flow Was Achievable Within Two Hours.
This finding, affecting the Barrier Integrity Cornerstone, is related to mitigative measures developed to cope with losses of large areas of the plant; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has a cross-cutting aspect in the area of Human Performance (Resources). [H.2(d)]. See inspection report for more details.

Inspection Report# : 2009010 *(pdf)*

Significance: G Sep 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Procedure Adherence Results in the Loss of Safety Function of Systems Supplied by the SGIG System
A self-revealing Green NCV was identified for failure to comply with Technical Specification (TS) 5.4.1, "Procedures," which required that procedures be established, implemented, and maintained for the safety grade instrument gas (SGIG) system. Specifically, the SGIG Pressure Building Circuit Outlet Block Valve (HV 0 7C 10) was manipulated without procedure guidance, was out of its normal position, and resulted in the inoperability of certain valves associated with the primary containment and containment atmosphere dilution (CAD) systems for both units.
Inspection Report# : 2009004 *(pdf)*

Significance: G Mar 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Work Instructions Result in Inadvertent ESF Actuation
A self-revealing NCV of 10 CFR 50 Appendix B, Criteria V, "Instructions, Procedures and Drawings" was identified when inadequate work instructions resulted in a momentary shorting of a terminal lead during maintenance, which caused an inadvertent Unit 3, primary containment isolation valve (PCIV) signal and entry into a one-hour shutdown Technical Specification (TS) Action Statement on March 3, 2009. Specifically, the work instructions allowed the technicians to lift and manipulate energized leads on a safety-related pressure switch without providing any guidance as to the risk and consequences that inadvertent grounding of those energized leads could cause. Because the risk and consequences were not considered and an inadvertent grounding occurred, a PCIV signal resulted that closed normally open valves on both the containment atmosphere control (CAC) system and the instrument nitrogen system containment penetrations. In addition, both PCIV valves on containment atmosphere dilution (CAD) system were rendered inoperable which required the operators to enter an unplanned one-hour TS Action Statement (3.6.1.3.B) and would have required a plant shutdown within the following 12 hours. Corrective actions included replacing the blown fuse, entering the issue into the CAP, and making a required 60 day verbal report to the NRC.

The finding is more than minor because it could reasonably be viewed as a precursor to a significant event. Specifically, the failure to assess the risk of inadvertent grounding of energized leads on safety equipment could pose a credible hazard as an initiating event during plant operation. The finding was of very low safety significance because the valves in question failed closed and did not represent an actual open pathway in the physical integrity of reactor containment. This finding has a cross-cutting aspect in the area of human performance (work control) because the licensee's work instructions did not provide appropriate risk insights regarding the risks associated with potential grounding of the energized leads. [H.3(a)]
(Section 1R13)

Inspection Report# : 2009002 *(pdf)*

Significance: SL-IV Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Departure from a Method of Evaluation Without Prior NRC Approval
Severity Level IV. An inspector identified Severity Level IV NCV of 10 CFR 50.59 was identified when PBAPS made a safety analyses change that departed from a method of evaluation described in the UFSAR without obtaining prior NRC approval and a license amendment. Specifically, PBAPS used a spent fuel pool criticality analysis methodology that was not previously approved by the NRC, and did not adopt an NRC approved methodology en toto and apply it consistent with applicable terms, conditions, and limitations. Corrective actions for this problem included entering the issue into the CAP and making plans to develop a technical evaluation that would demonstrate, using methodologies approved for PBAPS, that adequate margin to criticality exists for the nonconforming condition presented by the degraded Boraflex in the SFP storage racks. Additionally, PBAPS has submitted a LAR, to use alternative SFP criticality analyses, to the NRC on June 25, 2008.

This deficiency was evaluated using the traditional enforcement process since it potentially adversely impacts or impedes the NRC's ability to carry out its regulatory mission, in that, PBAPS did not request and receive prior NRC approval for changes in licensed activities. The finding is more than minor and a Severity Level IV violation because it is similar to example D.5 of Supplement I, "Reactor Operations," to the NRC's Enforcement Policy. Specifically, the finding involved a violation of 10 CFR 50.59 that resulted in conditions evaluated as having very low safety significance (i.e., Green) by the SDP. Using the Phase 1 SDP, the inspectors determined that the condition resulting from the violation of 10 CFR 50.59 screened to Green because it could affect the functionality of the fuel barrier (cladding). (Section 1R18.1)

Inspection Report# : 2009002 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: SL-IV Jul 16, 2007
Identified By: NRC
Item Type: VIO Violation
Operator willfully reading unauthorize material in the Main Control Room
A Primary Reactor operator (PRO) was identified by your staff to be reading the novel on a computer while on watch in the Peach Bottom MCR on July 16, 2007. Your procedure, referenced in the Notice, states that non-job-related reading materials, including novels, are not permitted in the Operations
Department areas and that the use of the computers must be limited to company-related work.
The NRC became aware of this issue during a Safety Conscious Work Environment (SCWE) inspection conducted in March 2008, as part of the follow-up to the finding of inattentive security officers (Inspection Report 2008-405, ML081490058).
Since this finding involved deliberate misconduct by a licensee employee, it was characterized using the NRC Traditional Enforcement Process. Comparing this issue to the examples in Inspection Manual Chapter (IMC) 0612, Appendix E, “Examples of Minor Issues,” this violation is similar to example 2(f) in that a licensee procedural requirement was not met. In this example, the issue is minor because it represents a failure to implement a procedural requirement that had no safety impact under the given situation. Given that the PRO was able to respond to plant conditions while reading the novel, for approximately ten minutes, and was not the primary plant reactor operator (a watchstation relied upon to detect safety significant abnormal plant conditions), there was minimal safety impact due to the PRO’s actions. Although this violation would normally be minor, since the PRO’s actions were determined to be deliberate by the NRC, the Severity Level (SL) of the violation has been increased to SL IV, in accordance with Section 2.10.f, of the NRC Enforcement Manual. Further, because the violation involves deliberate actions and the PRO is considered to be a licensee official as defined in the NRC Enforcement Policy, this violation is being cited.
Inspection Report# : 2009009 *(pdf)*

Last modified : December 10, 2009