

Perry 1 2Q/2014 Plant Inspection Findings

Initiating Events

Significance: N/A Jul 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Title 10 CFR 50.59 Evaluation Did Not Consider the Freeze Seal Effect to the RCPB (Section 1R17.1.b(1))

The inspectors identified a finding of very low safety significance and associated Severity Level IV Non-Cited Violation of Title 10 Code of Federal Regulations (CFR) 50.59, "Changes, Test, and Experiments," for the failure to perform a written evaluation, which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee failed to provide a basis for not applying for a license amendment associated with the use of a freeze seal in the reactor coolant pressure boundary when its integrity was required to protect irradiated fuel. The finding was entered into the licensee's Corrective Action Program with recommended actions to, in part, revise the associated 10 CFR 50.59 documents.

The inspectors determined that the violation was more than minor because they could not reasonably determine the changes would not have ultimately required NRC prior approval. The finding affected the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations. The inspectors determined that the underlying technical issue was of very low safety significance (Green) using a Phase II evaluation. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency

Inspection Report# : [2013008](#) (*pdf*)

Significance:  Jul 28, 2013

Identified By: NRC

Item Type: FIN Finding

Title 10 CFR 50.59 Evaluation Did Not Consider the Freeze Seal Effect to the RCPB (Section 1R17.1.b(1))

The inspectors identified a finding of very low safety significance and associated Severity Level IV Non-Cited Violation of Title 10 Code of Federal Regulations (CFR) 50.59, "Changes, Test, and Experiments," for the failure to perform a written evaluation, which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee failed to provide a basis for not applying for a license amendment associated with the use of a freeze seal in the reactor coolant pressure boundary when its integrity was required to protect irradiated fuel. The finding was entered into the licensee's Corrective Action Program with recommended actions to, in part, revise the associated 10 CFR 50.59 documents.

The inspectors determined that the violation was more than minor because they could not reasonably determine the changes would not have ultimately required NRC prior approval. The finding affected the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown, as well as power operations. The inspectors determined that the underlying technical issue was of very low safety significance (Green) using a Phase II evaluation. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency.

Inspection Report# : [2013008](#) (pdf)

Mitigating Systems

Significance: G Jun 30, 2014

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Promptly Correct a Condition Adverse to Quality on Division 2 EDG

A self-revealed finding of very low safety significance and associated non-cited violation (NCV) of 10 CFR, Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified on May 7, 2014, for the failure to correct a condition adverse to quality. Specifically, the licensee failed to correct a lube oil leak, identified by operations personnel on April 12, 2014, during the monthly run of the Division 2 Emergency Diesel Generator (EDG). As discussed in Condition Report (CR) 2014-06755, the leak was from a Swagelok fitting on the turbocharger supply line and at a rate of less than an ounce per hour. The CR was closed to a work order to complete repairs. On May 7, the next scheduled surveillance run of the Division 2 EDG occurred. The leak had not been repaired and, during the run, became progressively worse resulting in an unplanned (emergency) shutdown of the diesel and the diesel being declared inoperable. The leak was quantified as approximately a gallon per hour at the time of the shutdown (CR 2014-08487). The line was repaired and the diesel was returned to operable status on May 8. The licensee promptly evaluated the other EDGs and determined that a common cause condition did not exist. The failure was caused by fatigue cracking of the Swagelok fitting due to misalignment during installation. A root cause evaluation was conducted by the licensee.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because there was no design deficiency, no actual loss of safety function, and no single train loss of safety function for greater than the Technical Specification (TS)-allowed outage time. This finding has a cross-cutting aspect in the area of problem identification and resolution evaluation, for the failure to thoroughly evaluate the issue and ensure that the resolution addressed the cause and extent of condition when identified in April 2014.

Inspection Report# : [2014003](#) (pdf)

Significance: G Mar 31, 2014

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Procedure for Extreme Cold Weather

A self-revealed finding of very low safety significance (Green) and associated non-cited violation of Technical Specification 5.4.1.a was identified for the licensee's failure to maintain adequate procedures to respond to acts of nature as required by Regulatory Guide 1.33, "Quality Assurance Program Requirements." Specifically, the cold weather procedure did not adequately direct equipment walkdowns and subsequent actions to protect equipment important to safety from severe weather risks, directly resulting in freezing and breaking of fire protection piping in Unit 2 turbine power complex, elevation 593' level. The piping provides fire protection for Unit 2 startup transformer's deluge system and the three Unit 2 inter-bus transformer deluge systems. The Unit 2 startup transformer is an integral part of one of the two qualified circuits specified in Technical Specification 3.8.1 between the offsite electrical transmission network and the onsite 4160-volt safety-related electrical system. Corrective actions included

immediate posting of compensatory actions and warming of the space to prevent further damage to the system until repairs were completed.

The finding was determined to be more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the procedure did not direct the licensee to take proactive steps to limit the likelihood of extreme cold weather freezing and breaking the fire protection piping located on the Unit 2 turbine power complex elevation 593' level. In Step 1.2 of Inspection Manual Chapter 0609, Appendix F, Attachment 1, "Category of Fire Inspection Finding," the inspectors assigned Category 1.4.2, "Fixed Fire Protection Systems," to the finding and by answering "yes" in Step 1.3 A, "Is the reactor able to reach and maintain safe shutdown (either hot or cold) condition?" the inspectors determined that the finding was of very low safety significance. The finding was determined to have a cross-cutting aspect in the area of human performance, avoid complacency, where individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Specifically, the licensee did not identify that the fire protection deluge valves and piping in the Unit 2 turbine power complex were subject to freezing, even though extreme cold conditions had existed in prior weeks, allowing the licensee ample time for additional walkdowns to ensure that the plant was ready for the extreme cold weather event the first week of January 2014 (H.12).

Inspection Report# : [2014002](#) (pdf)

Significance:  Mar 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Required 3-Hour Fire Barriers (Seals) Were In-Place

The inspectors identified a finding of very low safety significance (Green) and associated non-cited violation of Perry Operating License Condition 2.C(6) for failure to establish a required 3-hour fire barrier as required by design. Specifically, on March 13, 2014, the inspectors identified four incomplete fire barrier seals in ceiling-level penetrations between the Division 1 and Division 2 battery rooms and the adjoining direct current (DC) switchgear rooms, and on March 14 identified the lack of a fire barrier seal in a ceiling-level penetration between the remote shutdown panel room and an adjoining alternating current (AC) switchgear room. The licensee implemented compensatory measures that included hourly fire watches and entered the issues into the corrective action program.

The finding was determined to be more than minor because it was associated with the protection against external factors attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the lack of a barrier caused the required 3-hour barrier required by design to be non-functional. In Step 1.2 of Inspection Manual Chapter 0609, Appendix F, Attachment 1, "Category of Fire Inspection Finding," the inspectors assigned Category 1.4.3, "Fire Confinement," to the finding, which was determined to be of very low safety significance. For the battery room seals, the inspectors identified a cross-cutting aspect in the area of human performance, work management, where the organization implements a process for planning and controlling, and executing work activities such that nuclear safety is the overriding priority (H.5). Specifically, the licensee did not follow its procedures when the fire seal material was formed in the workshop and then installed in the openings instead of being formed in situ as required by the licensee's procedures (H.5). The inspectors determined there was no cross-cutting aspect associated with the lack of a fire seal in the remote shutdown panel room because it did not reflect current performance.

Inspection Report# : [2014002](#) (pdf)

Significance:  Sep 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MEET FIRE BRIGADE DRILL TRAINING REQUIREMENTS

The inspectors identified a finding of very low safety significance and associated non-cited violation (NCV) of License Condition 2.C(6) for failure to ensure that an individual met the fire drill participation requirements for fire brigade members and fire brigade leaders. Specifically, certified fire brigade members and fire brigade leaders are required to participate in at least two drills per year and in one case the licensee failed to conduct proper drills as required by the license condition. The issue was entered into the licensee's corrective action program as Condition Report 2013-12964, and the licensee initiated immediate action to ensure that all current fire brigade members/leaders met drill participation requirements prior to fulfilling those roles.

The inspectors determined that the failure to conduct proper drills was a performance deficiency and was more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, because the finding was associated with the Mitigating Systems Cornerstone attribute of Protection Against External Factors for Fire and adversely affected the associated cornerstone objective of ensuring the reliability and capability of the fire brigade to respond to initiating events to prevent undesirable consequences. Because the licensee failed to ensure that fire brigade members and fire brigade leaders met the licensee's qualification requirements of participating in at least two fire drills per year, the mitigating systems cornerstone attribute to ensure the availability and reliability of the fire brigade to respond to initiating events was impacted. The finding was evaluated using IMC 0609, Significance Determination Process (SDP), Attachment 0609.04, "Initial Characterization of Findings," dated June 19, 2012. Because the finding involved the Fire Brigade, Table 3, SDP Appendix Router, Section E.1, "Fire Protection," directed NRC staff to use IMC 0609, Appendix A, "The SDP for Findings At-Power," dated June 19, 2012. Exhibit 2 of IMC 0609, the Mitigating Systems Screening Questions, Section D.1.a., Fire Brigade, was checked "yes" because the finding involved the Fire Brigade training and qualification requirements. The first condition under D.1.a., "The fire brigade demonstrated the ability to meet the required times for fire extinguishment for drill scenarios," was applicable and the finding did not significantly affect the ability of the fire brigade to respond to a fire, so the finding was determined to be of very low safety significance. This finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component, in that the licensee did not take corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee failed to identify that all drill requirements for fire brigade personnel as required in Branch Technical Position APCSB 9.5-1, Appendix A, which requires specific factors that qualify a drill for training purposes, was not used to plan and execute drills for personnel re-qualifying for this watch position during 2012 and 2013 (P.1(d)).

Inspection Report# : [2013004](#) (pdf)

Significance:  Jul 28, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Insufficient Controls to Prevent Common Mode Flooding of ECCS Rooms (Section 40A2.1.b(1))

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to control drainage of the emergency core cooling system room sumps in a manner that prevents common mode flooding of these rooms. Specifically, procedures did not ensure appropriate controls to prevent backflow from the floor drain system. The licensee entered the issue into their Corrective Action Program and revised procedures to prevent opening more than one emergency core cooling system room sump isolation valve at the same time.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems cornerstone attribute of protection against external factors and affected the cornerstone objective of ensuring the availability, reliability, and capability of the emergency core cooling system to respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance (Green) because

it did not result in either the loss of operability or an actual loss or degradation of a function designed to mitigate flooding. Specifically, a review of recent plant history did not find an instance where the configuration of the floor drain system allowed common mode flooding of the emergency core cooling system rooms when operability of this system was required. The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution because the licensee did not conduct a self-assessment of sufficient depth. Specifically, the licensee evaluated a flooding incident during a self-assessment conducted in 2013 and failed to thoroughly evaluate the cause that resulted in common mode flooding of the rooms.

Inspection Report# : [2013008](#) (*pdf*)

Barrier Integrity

Significance:  Nov 22, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION 3.4.11

. The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of Technical Specification 3.4.11, “RCS Pressure and Temperature (P/T) Limits,” for failure to comply with reactor pressure vessel pressure/temperature limits. Specifically, in 2011 the inspectors identified the pressure/temperature limits in Technical Specification 3.4.11 only contained values for reactor pressure vessel pressures greater than 0 pounds per square inch gauge. However, between June 2011 and July 2013, the licensee operated the plant with a vacuum in the reactor pressure vessel during 5 cold startups and 1 cooldown. The licensee entered the finding into its corrective action program as Condition Report CR 2013-18689.

The performance deficiency was determined to be more than minor because the finding was associated with the area of Routine Operations Performance within the Human Performance attribute of the Barrier Integrity Cornerstone and had the potential to adversely affect the associated cornerstone objective of providing reasonable assurance that a physical design barrier (reactor coolant system) protects the public from radionuclide releases caused by accidents or events. The finding screened as very low safety significance because it was determined that there was no change in risk due to the performance deficiency. This finding has a cross-cutting aspect in the area of human performance, resources. Specifically, complete, accurate, and up-to-date procedures were not available to operators to ensure operations within the requirements of Technical Specification 3.4.11, (H.2(c)).

Inspection Report# : [2013007](#) (*pdf*)

Significance:  Nov 22, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT A NON-CONSERVATIVE TECHNICAL SPECIFICATION

The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for failure to promptly correct a non-conservative Technical Specification. Specifically, the inspectors identified on November 14, 2013, that the licensee failed to promptly correct the non-conservative Technical Specification 3.4.11 by not submitting a license amendment request in accordance with NRC Administrative Letter 98-10, which required submittal within 1 year or 1 operating cycle. The licensee had determined Technical Specification 3.4.11, “RCS Pressure and Temperature (P/T) Limits,” to be non-conservative on October 16, 2009, and implemented administrative controls as allowed by the Administrative Letter. As of November 14, 2013, the licensee had not submitted the license amendment request,

over 4 years and 2 operating cycles after determining the Technical Specification was non-conservative. The licensee entered the finding into the corrective action program as Condition Report CR 2013-18983.

The performance deficiency was determined to be more than minor because the finding was associated with the area of Routine Operations Procedures within the Procedure Quality attribute of the Barrier Integrity Cornerstone and had the potential to adversely affect the associated cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. The finding was screened as very low safety significance because it was determined that operators followed the appropriate reactor coolant system P/T curves even though the Technical Specification was non-conservative.

The finding has a cross-cutting aspect in the area of human performance, decision-making, where licensee decisions demonstrate that nuclear safety is an overriding priority. Specifically, from the time of discovery of the non-conservative technical specification until now, various decisions had been made by the licensee that have delayed the timely submittal of the license amendment request (H.1(c)).

Inspection Report# : [2013007](#) (*pdf*)

Emergency Preparedness

Occupational Radiation Safety

Significance:  Sep 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

WORKER ACCESS INTO A HIGH RADIATION AREA CONTRARY TO THE REQUIREMENTS OF THE RADIATION WORK PERMIT

A finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification 5.4.1 was self-revealed through an electronic dosimeter alarm when, on August 6, 2013, a licensee worker inappropriately entered a high radiation area in the overhead of Auxiliary Building 574'. The inspectors concluded that the worker failed to comply with the requirements of his radiation work permit that prohibited work 6 feet above floor level until a radiological survey is performed and radiation protection verifies that the area met the requirements of the radiation work permit. This issue was entered into the licensee's corrective action program as Condition Report 2013 12077. Corrective actions focused on performance management of the individual involved.

The inspectors reviewed Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009, and determined that the issue was more than minor because it was similar to Example 6(h). The inspectors also determined that the finding was of very low safety significance in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008. The inspectors identified no cross-cutting issues associated with this finding.

Inspection Report# : [2013004](#) (*pdf*)

Significance:  Sep 30, 2013

Identified By: Self-Revealing

Item Type: FIN Finding

FAILURE TO FOLLOW PROCEDURE IN MINIMIZING DOSE INSIDE A LOCKED HIGH RADIATION AREA IN THE TURBINE BUILDING 620' AUXILIARY STEAM TUNNEL

The inspectors reviewed a self-revealed finding (FIN) of very low safety significance involving an unauthorized activity inside a radiologically contaminated locked high radiation area. Specifically, on April 30, 2013, licensee contract personnel inappropriately placed a plastic container of goldfish inside the Turbine Building 620' auxiliary steam tunnel. This issue was entered into the licensee's corrective action program as Condition Report 2013-06758. Corrective actions included performance management of the individuals involved.

The inspectors determined that the finding was more than minor, in accordance with Inspection Manual Chapter (IMC) 0612 because it was associated with the Occupational Radiation Safety Cornerstone attribute of program and process of radiological exposure and contamination control and adversely affected the associated cornerstone objective to ensure adequate protection of worker health and safety from exposure to radioactive materials during routine civilian nuclear reactor operation. The inspectors also determined that the finding was of very low safety significance in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated November 28, 2011. Additionally, the inspectors determined that the primary cause of this finding was related to the cross-cutting aspect in the area of human performance in work practices. Specifically, the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported (H.4(c)).

Inspection Report# : [2013004](#) (*pdf*)

Public Radiation Safety

Significance:  Sep 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PERFORM REPRESENTATIVE SAMPLING OF FISH IN ORDER TO ACCURATELY ASSESS INGESTION RADIATION AS REQUIRED BY THE OFF-SITE DOSE CALCULATION MANUAL

The inspectors identified a finding of very low safety significance and an associated non-cited violation (NCV) of Technical Specification 5.5.1, "Offsite Dose Calculation Manual (ODCM)." Specifically, the licensee failed to follow the "Fish and Invertebrates" sampling requirements specified in the ODCM. Corrective actions were being developed in the corrective action program (Condition Report 2013 14987) and senior plant management expressed the understanding that sampling was important and the condition would be corrected.

The finding was more than minor because it was associated with the Public Radiation Safety Cornerstone attribute of program and process of projected offsite dose and adversely affected the associated cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain. The finding was assessed using Inspection Manual Chapter (IMC) 0609, Attachment D, dated February 12, 2008, for the Public Radiation Safety Significance Determination Process and determined to be of very low safety significance because it involved the Environmental Monitoring Program. Additionally, the inspectors determined that the primary cause of this finding was related to the cross cutting aspect in the area of human performance in work practices. Specifically, the licensee did not effectively communicate expectations regarding procedural compliance and personnel following procedures (H.4(b)).

Inspection Report# : [2013004](#) (*pdf*)

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 : August 29, 2014