

## Palisades

# 1Q/2016 Plant Inspection Findings

---

### Initiating Events

**Significance:**  Aug 19, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Operability Evaluation Not Performed in Accordance with Station Procedure (Section 1R15)**

Green. An NRC identified finding of very low safety significance and an associated NCV of Title 10 of the Code of Federal Regulations (CFR), Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," was identified for the licensee's failure to adhere to the site procedure for performing operability determinations during the evaluation of a nonconforming condition associated with nine primary coolant system (PCS) welds susceptible to primary water stress corrosion cracking (PWSCC). The licensee's corrective actions for this finding included completion of an operability determination in accordance with the site operability procedure to include a new analysis which demonstrated the AMSE Code acceptance criteria would continue to be met for the affected welds during the remainder of the operating cycle. The licensee entered the failure to comply with the operability procedure into the CAP (CR PLP-2015-03434).

This finding was determined to be more than minor because it was similar to the "not minor if" aspect of Example 3j in IMC 0612, Appendix E, "Example of Minor Issues," because the errors in operability evaluation CA-1 of CR-PLP-2015-01239 resulted in a condition in which there was a reasonable doubt on the operability of the systems and components that were the subject of the evaluation and dissimilar from the "minor because" aspect of this example since the impact of the errors on the operability evaluation was not minimal. In addition, the performance deficiency was determined to be more than minor because it was associated with the Initiating Event Cornerstone attribute of Equipment Performance and adversely affected the Cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions. The inspectors evaluated the finding in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Table 3, for the Initiating Events Cornerstone and IMC 0609, Appendix A, "The SDP for Findings At-Power." Because the licensee was able to demonstrate operability of the nine PCS welds susceptible to PWSCC, the inspectors answered "No" to questions A.1 and A.2, of Exhibit 1, "Initiating Events Screening Questions," identified in Appendix A of IMC 609 and, as a result, the finding screened as having very low safety significance (Green). This finding has a cross-cutting aspect in Evaluation for the Problem Identification and Resolution cross-cutting area since the licensee failed to thoroughly evaluate the impact on operability of a nonconforming condition associated with nine PCS welds susceptible to PWSCC [IMC 310, Item P.2]. (Section 1R15)

Inspection Report# : [2015012](#) (*pdf*)

---

### Mitigating Systems

**Significance:**  Mar 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Meet the Minimum Staffing Requirements of the Fire Brigade**

An NRC identified finding of very low safety significance and an associated NCV of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Section 48(c) and the National Fire Protection Association (NFPA) Standard 805 Section 3.4.1 was identified for the failure to meet the minimum staffing requirements for the Fire Brigade on January 4 and 5, 2016. Specifically, two nuclear plant operators (NPOs) who had their Fire Brigade qualifications suspended, stood watch as Fire Brigade members during day shift on January 4, 2016 and approximately one half of day shift on January 5, 2016. The licensee entered this issue into their Corrective Action Program (CAP) as CR PLP 2016 00198, performed an apparent cause evaluation, successfully performed a fire drill to requalify the Fire Brigade members with suspended qualifications on January 6, 2016, and planned to update the tracking method used to validate drill completion for Fire Brigade qualifications.

The performance deficiency 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 of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding screened as having very low safety significance based on using qualitative criteria located in IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria." The finding had a cross cutting aspect of Documentation in the Human Performance cross cutting area because the licensee informally tracked drill completion and this information was not accessible to each individual Fire Brigade member to validate their qualifications

Inspection Report# : [2016001](#) (*pdf*)

**Significance:** G Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Inadequate PT Examination of Pipe Lug Welds**

The inspectors identified a finding of very-low safety significance (Green), and an associated NCV of Title 10, Code of Federal Regulations (CFR), Part 50, Appendix B, Criterion IX, "Control of Special Processes," for the licensee's failure to perform a dye penetrant (PT) examination of the Safety Injection System (SIS) pipe lug welds in accordance with the American Society of Mechanical Engineers (ASME) Code Section XI requirements. The licensee entered this issue into the Corrective Action Program (CAP) as CR-PLP-2015-04191, repeated the PT examination of the affected SIS lug welds to meet the full extent of coverage required by the ASME Code, repeated examinations of other welds conducted by the PT examiner during the outage, and removed the PT examiner from further weld examination activities.

This performance deficiency was determined to be more than minor because, if left uncorrected, the failure to perform a PT examination in accordance with the ASME Code requirements could result in acceptance and return to service of a component with an undetected crack that would increase the possibility of pipe leakage or failure. In addition, the failure to perform a PT examination in accordance with the ASME Code adversely affected the Mitigating System Cornerstone attribute of Equipment Performance, because it could result in failure to detect cracks in pipe welds, which would reduce the availability and reliability of the SIS mitigating system. The inspectors evaluated the finding in accordance with IMC 0609, Appendix A, "The SDP for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," and answered "yes" to screening question number 1. Although this finding adversely affected the design or qualification of the SIS pipe lugs, the finding screened as very-low safety significance (Green), because it did not result in the loss of operability or functionality of the affected SIS pipe segment. This finding had a cross-cutting aspect in the Field Presence component of the Human Performance cross-cutting area. Specifically, licensee leaders were not observed in the work areas of the plant to coach and reinforce standards or expectations for the licensee's vendor staff to ensure deviation from standards and expectations were promptly corrected.

Inspection Report# : [2015004](#) (*pdf*)

**Significance:**  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Identify Components Required to be Covered by the Quality Assurance Program**

The inspectors identified a Severity Level (SL) IV, NCV of 10 CFR, Part 50, Section 59, “Changes, Tests, and Experiments,” for the licensee’s failure to maintain records of written safety evaluations, which provide the bases for concluding the nonsafety-related portions of the CCW system inside containment could be credited to perform their function during and following a DBE, and that the change would not result in an unreviewed safety question. The licensee entered this issue into their CAP and, after performing operability determinations, concluded the system would still be capable of performing its function.

The violation was determined to be more than minor because the inspectors could not reasonably determine that the changes would not have ultimately required NRC prior approval. The violation was categorized as a SL IV in accordance with Section 6.1.d.2 of the NRC Enforcement Policy because the resulting changes were evaluated by the SDP as having very-low safety significance (i.e., green finding). The resulting changes, the violation’s underlying technical concerns, impacted the Mitigating Systems cornerstone, and were evaluated separately as the Green finding with the associated 10 CFR, Part 50, Appendix B, Criterion II, NCV discussed above. The inspectors did not identify a cross-cutting aspect because cross-cutting aspects are not assigned to traditional enforcement violations.

Inspection Report# : [2015004](#) (*pdf*)

**Significance:**  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Perform a Required 50.59 Evaluation for Declassification of the CVCS**

The inspectors identified a SL IV, NCV of 10 CFR, Part 50.59, “Changes, Tests, and Experiments,” and an associated finding of very-low safety significance (Green) for the licensee’s failure to maintain a record of the declassification of the Chemical Volume and Control System (CVCS) from safety-related to nonsafety-related, which includes a written evaluation that provides the bases for the determination that the change did not require a license amendment. The licensee entered this issue into their CAP, and after a review of the system, determined there was reasonable assurance that it could perform its function.

The inspectors determined the underlying technical concern was a performance deficiency associated with the Mitigating Systems cornerstone that was more than minor because, if left uncorrected, would become a more significant safety concern. The underlying technical concern screened as a finding with very-low safety significance (Green) because, although it affected the design or qualification of the CVCS, it did not result in the loss of functionality of the CVCS. The violation was determined to be more than minor because the inspectors could not reasonably determine that the changes would not have ultimately required NRC prior approval. The violation was categorized as a SL IV in accordance with Section 6.1.d.2 of the NRC Enforcement Policy because the changes were evaluated by the SDP, described above, as having very-low safety significance (i.e., Green finding). The inspectors did not identify a cross-cutting aspect associated with the finding because the finding was not representative of current performance.

Inspection Report# : [2015004](#) (*pdf*)

**Significance:**  Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Justify Continued Service of Safety-Related Electrolytic Capacitors Installed Beyond Their Service Life**

An NRC identified finding of very low safety significance and an associated NCV of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion III, "Design Control," was identified for the failure to justify continued service of safety related electrolytic capacitors that were installed beyond their recommended service life associated with the safety related containment floor level indicating transmitters (LITs). Specifically, on June 21, 2015, containment floor LIT LIT-0446B and LIT-0446A did not satisfy the acceptance criteria of the technical specification surveillance monthly channel checks and LIT-0446B was declared inoperable. Further troubleshooting identified a failure of the electrolytic capacitor within the transmitter's converter module and that this failure was most likely due to age since the transmitter had been in service for greater than its recommended service life. In addition to entering this issue into their Corrective Action Program (CAP) as CR-PLP-2015-04972, the licensee replaced the failed components and planned to develop a replacement schedule for non critical, safety related electrolytic capacitors.

The performance deficiency was determined to be more than minor because it was associated with the Equipment Performance 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 (i.e., core damage). The finding screened as having very low safety significance based on answering "No" to all of the screening questions in the Mitigating Structures, Systems, and Components (SSCs) and Functionality section of IMC 0609, Appendix A, "The Significance Determination Process for Findings At Power," Exhibit 1, "Mitigating Systems Screening Questions." The finding had a cross cutting aspect of Operating Experience in the Problem Identification and Resolution cross cutting area because the licensee did not effectively and thoroughly evaluate and implement relevant industry operating experience and guidance for age related electrolytic capacitor degradation

Inspection Report# : [2015003](#) (*pdf*)

**Significance:**  Jun 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Take Appropriate Corrective Action for the Charging System While in Maintenance Rule (a)(1)**

#### **Status**

An NRC identified finding of very low safety significance and an associated NCV of Title 10 of the Code of Federal Regulations (CFR) 50.65(a)(1) was identified for the failure to take appropriate corrective actions for the charging system, while in Maintenance Rule (a)(1) status, when performance or condition goals were not met. Specifically, on April 2, 2015, the front cap of the 'B' charging pump cracked, causing volume control tank (VCT) level and pressure to lower, most likely due to excessive local cavity pressures in the pump caused by the suction accumulator pressure being out of specification. Accumulator pressures being out of specification, which causes pressure oscillations and vibrations in the charging pumps and their associated suction and discharge piping, was a similar cause to previous maintenance rule system functional failures that occurred in 2013 and 2014, which transitioned the system to (a)(1) status in July 2014. The licensee documented the issue in their corrective action program (CAP), conducted an equipment apparent cause evaluation (EACE) for the most recent failure, and revised the Maintenance Rule (a)(1) Action Plan to address the on going issues with the suction and discharge accumulators.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612 because it was associated with the Equipment Performance attribute of the Mitigating Systems Cornerstone and adversely impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The charging system provides the critical safety functions of pressure and inventory control in the emergency operating procedures. The finding screened as having very low safety significance (i.e., Green) based on answering "No" to all the screening questions under the Mitigating Structures, Systems, and Components (SSCs) and Functionality section of the significance determination process

(SDP). The finding had a cross-cutting aspect of Evaluation in the Problem Identification and Resolution area. Specifically, the organization did not thoroughly evaluate previous data on the suction and discharge accumulators pressures being out of specification and what affect that may have on the system. Also, when the accumulator pressures were found out of specification, sometimes that information was not documented in condition reports (CRs), nor were the preventive maintenance (PM) frequencies re evaluated in a technical and rigorous manner to ensure the correct PM activities were being conducted on these components in a timely manner to assure system reliability

Inspection Report# : [2015002](#) (*pdf*)

**Significance:**  Apr 17, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Correctly Assess the Suppression System in the Cable Spreading Room in the Probabilistic Risk Assessment for NFPA 805 (Section 1R05.3b)**

Green. The inspectors identified a finding of very-low safety significance, and an associated NCV of Title 10, Code of Federal Regulations (CFR) 50.48(c), and National Fire Protection Association Standard 805, Section 2.4.3.3 for the licensee's failure to correctly model the as-built plant in the Fire Probabilistic Risk Assessment (PRA). Specifically, the licensee credited the suppression system located in the cable spreading room in the PRA to suppress type 2 fire scenarios, whereas the actual room contained numerous obstructions due to the stacked cable trays located near the ceiling that interfered with the water spray pattern discharged from the sprinklers. These obstructions could have prevented the suppression system from providing an adequate water density pattern to suppress a fire below the cable trays in areas which contained electrical panels.

The inspectors determined that the performance deficiency was more than minor because the finding, if left uncorrected, would have the potential to lead to a more significant safety concern. Specifically, the licensee's failure to correctly model/analyze the as-built condition of the suppression system located in the cable spreading room in the PRA could potentially affect the risk associated with a fire in the room, and could result in inappropriately screening out the effects of other changes associated with the fire area. Appendix M was used because the existing SDP Appendices do not adequately address the risk of performance deficiencies associated with licensees' PRAs. The Senior Reactor Analyst concluded that the finding was of very-low safety significance (Green) because while there may be a change to the plant's baseline risk as a result of this issue, there is no delta plant risk due to a deficiency in the licensee's PRA model/analysis. This finding has a cross-cutting aspect in the area of Human Performance associated with Team Work because the licensee did not communicate and coordinate activities between the PRA and the fire protection groups. [H.4]

Inspection Report# : [2015008](#) (*pdf*)

---

## Barrier Integrity

---

## Emergency Preparedness

---

## Occupational Radiation Safety

**Significance:**  Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

**Movement of Radioactive Material Results in an Unposted and Un-Barricaded High-Radiation Area**

A self revealed finding of very low safety significance and an associated Non-Cited Violation of Technical Specification 5.7.1 was identified when movement of a bag of radioactive material caused an area to become a high radiation area without the proper posting and barricades. The licensee immediately moved this bag of radioactive material to a posted locked high radiation area and entered this issue into their Corrective Action Program as CR-PLP-2015-05019.

The performance deficiency was determined to be more than minor because it was associated with the Program and Process attribute of the Occupational Radiation Safety cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. Specifically, the movement of the bag from an area that was a high radiation area to an area that was not posted and barricaded as a high radiation area removed a barrier that was intended to prevent workers from receiving unexpected dose. The finding was determined to be of very low safety significance in accordance with Inspection Manual Chapter 0609 Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008. The violation was of very low safety significance because: (1) it did not involve as low as reasonably achievable planning or work controls, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. The finding had a cross cutting aspect of Teamwork in the Human Performance cross cutting area because the individuals and work groups involved did not communicate or coordinate their activities within and across organizational boundaries to ensure nuclear safety was maintained

Inspection Report# : [2016001](#) (pdf)

**Significance:**  Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure To Establish, Implement, and Maintain the Offsite Dose Calculation Manual**

A finding of very low safety significance and an associated NCV of Technical Specification (TS) 5.5.1, "Offsite Dose Calculation Manual," was identified for the failure to establish, implement, and maintain the Offsite Dose Calculation Manual (ODCM) relative to dose calculation parameters. Specifically, the licensee failed to modify the parameters used in public radiation calculations when changes in the use of unrestricted areas were identified. As a result, the quarterly and annual doses that were calculated every 31 days, as required by the ODCM, were incorrect and non conservative. In addition to entering this issue into their Corrective Action program (CAP) as CR-PLP-2015-2972, the licensee recalculated the dose using the correct calculation parameters.

The performance deficiency was determined to be more than minor because it was associated with the Program and Process attribute of the Public Radiation Safety cornerstone and adversely affected the cornerstone objective of ensuring the adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. The finding was determined to be of very low safety significance in accordance with IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," because the issue did not represent a significant deficiency in evaluating a planned or unplanned effluent release since the resulting dose was not grossly underestimated. The finding had a cross cutting aspect of Training in the Human Performance cross cutting area because the licensee did not ensure adequate knowledge transfer to maintain a knowledgeable, technically competent workforce.

Inspection Report# : [2015003](#) (pdf)

**Significance:**  Jun 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Wear Prescribed Respiratory Protection**

A self revealed finding of very low safety significance and an associated NCV of Technical Specification (TS) 5.4.1 was identified for insulation work activities during the refueling outage associated with pressurizer spray valve CV-1057. Specifically, prior to the work beginning, the licensee determined that the use of powered air purifying respirators would be required to minimize worker dose and maintain exposures as low as reasonably achievable (ALARA), but the work was performed using only face shields, and as a result a worker was contaminated externally and internally. Corrective actions included creation of an administrative requirement to revise any radiation work permit (RWP) task that required respiratory protection to more clearly state the requirements.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612 because it was associated with the Program and Process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation. Specifically, the failure to wear required respiratory protection during the reinsulating of CV-1057 resulted in personal contamination and the intake of radioactive material. The inspectors concluded that the radiological hazards had the potential to result in higher exposures to the individuals had the circumstances been slightly altered. The finding was determined to be of very low safety significance (Green) in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," because it was not an ALARA planning issue, there was neither an overexposure nor a substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors concluded that the cause of the issue involved a cross cutting aspect in the area of Human Performance, Basis for Decisions. Specifically, the bases for operational decisions were communicated in a timely manner.

Inspection Report# : [2015002](#) (*pdf*)

---

## **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**

**Significance:** N/A Aug 19, 2015

Identified By: NRC

Item Type: VIO Violation

**Innaccurate/Incomplete Information Submitted for Relieft Request 4-18 (Section 1R15)**

• TBD. An apparent violation (AV) of Title 10 of the Code of Federal Regulations (CFR) 50.9 was identified by the licensee, related to a failure to provide information that was complete and accurate in all material respects to the NRC in letter PNP 2014-015, “Relief Request (RR) Number 4-18 - Proposed Alternative Use of Alternate ASME [American Society of Mechanical Engineers] Code Case N-770-1 Baseline Examination.” Specifically, in this document the licensee stated, “In the unlikely case that crack initiation were to occur, crack growth calculations considering primary water stress corrosion cracking (PWSCC) as the failure mechanism demonstrate that the hot leg drain nozzle weldment satisfies ASME Code acceptance criteria for 60 effective full power years [EFPY] for a circumferential flaw, and more than 34 years for an axial flaw.” However, this statement was not correct or accurate in that, the ASME Code acceptance criteria were not satisfied for 60 EFPY for a circumferential flaw and 34 years for an axial flaw, where correct information was 20 EFPY for a circumferential flaw, and 11.3 years for an axial flaw. This AV was not an immediate safety concern because the licensee demonstrated an adequate basis for continued operability of the nine affected primary coolant system (PCS) welds. The licensee corrective actions for this AV included completion of an operability evaluation, submittal of a corrected analysis to the NRC, and entering this issue into the Corrective Action Program (CAP) (CR-PLP-2015-03441).

If the NRC was provided with the correct information in letter PNP 2014-015, where the affected welds satisfied ASME Code acceptance criteria (i.e., 75 percent through-wall) for only 20 effective full power years for a circumferential flaw, and 11.3 years for an axial flaw, the NRC would not likely have approved RR 4-18 and, as a minimum, would have requested additional supporting analysis (e.g., required substantial further inquiry). Further, the need for substantial further inquiry was illustrated by the licensee’s subsequent decision in RR 4 21 to abandon the prior analytical approach used in RR 4 18. The inspectors evaluated the underlying technical issue in accordance with the SDP to determine the risk significance of this AV. The issue of concern was of more than minor significance because it was similar to the “not minor if” aspect of Example 3j in IMC 0612, Appendix E, “Example of Minor Issues.” Specifically, the erroneous information provided in letter PNP 2014-015 resulted in a condition in which there was a reasonable doubt on the operability of the systems and components that were the subject of the evaluation and dissimilar from the “minor because” aspect of this example since the impact of the error for the operability of nine PCS welds was not minimal. In addition, the performance deficiency was determined to be more than minor because it was associated with the Initiating Event Cornerstone attribute of Equipment Performance and adversely affected the Cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions. The inspectors evaluated the finding in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” Table 3, for the Initiating Events Cornerstone, and IMC 0609, Appendix A, “The SDP for Findings At-Power.” Because the licensee was able to demonstrate operability of the nine PCS welds susceptible to PWSCC, the inspectors answered “No” to questions A.1 and A.2, of Exhibit 1, “Initiating Events Screening Questions,” identified in Appendix A of IMC 609 and, as a result, the finding screened as having very low safety significance (Green). No cross-cutting aspect was assigned because this Green finding was identified by the licensee. (Section 1R15)

- A final significance determination letter, SL III, Notice of Violation for EA-15-171 was issued on November 24, 2015. ADAMS Accession Number ML15328A534.

The failure to provide complete and accurate information is of significant safety concern to the NRC because the inaccurate information impacted the NRC’s ability to perform its regulatory function. The NRC relied on the inaccurate information to make a licensing decision approving Relief Request 4-18. If the information had been correct the NRC would have undertaken substantial further inquiry and reconsidered its regulatory position. Therefore, this violation has been categorized in accordance with the NRC Enforcement Policy at Severity Level III. Inspection Report# : [2015012](#) (*pdf*)

Last modified : July 11, 2016