

## Palisades

### 3Q/2016 Plant Inspection Findings

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## Initiating Events

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## Mitigating Systems

**Significance:**  Sep 30, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

### **Failure to Appropriately Select and Review for Suitability of Application the Control Switch and Circuit Design of the Engineered Safeguards Room Cooler Fans**

A self revealed finding of very low safety significance and an associated non-cited violation (NCV) of Title 10 of the Code of Federal Regulations, Part 50, Appendix B, Criterion III, "Design Control," was identified for the failure to appropriately select and review for suitability of application the control switch and circuit design of the engineered safeguards room cooler fans. Specifically, on July 27, 2016, when the licensee was conducting troubleshooting activities for the tripping of engineered safeguards room cooler fan V-27B, it was revealed that the control switch design was "break before make" and as the hand switch was transitioned from one position to the next, the supply voltage and the motor became "out of phase" and caused an overcurrent trip of the breaker. This resulted in an unplanned entry into a 72 hour limiting condition for operation (LCO) for the right train of the emergency core cooling system (ECCS). In the apparent cause evaluation (ACE) for this issue, the licensee determined that the contributing cause had not previously addressed this particular failure mode (i.e. the control switch and circuit design) when similar overcurrent events occurred in the past. Prior corrective actions included adding guidance to system operating procedures to pause between hand switch movements and replacing other components within those systems. These actions were not successful in eliminating this failure mode. The licensee documented the issue in their CAP, planned to revise the control circuit and switch design, and added specific procedural steps on how to operate these fans until the design change was implemented.

The finding was more than minor in accordance with IMC 0612, Appendix B, because it was associated with the Mitigating Systems Cornerstone attribute of Equipment Reliability and adversely impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, as a result of the overcurrent trip of its breaker, V-27B was declared non functional and unavailable and the equipment in the room it cooled was declared inoperable, which included the 'A' high pressure safety injection (HPSI) pump and the 'A' containment spray (CS) pump. This led to an unplanned entry into a 72 hour LCO for the right train of ECCS. The finding had a cross cutting aspect in the area of Problem Identification and Resolution and was related to the cross cutting component of Evaluation, which required that the licensee thoroughly evaluate issues to ensure that resolutions address causes and extent of conditions commensurate with their safety significance. As discussed above, in the ACE for this issue the licensee determined that the corrective actions associated with the identified contributing cause following similar overcurrent events that occurred in the past had not addressed or been successful in eliminating this failure mode

Inspection Report# : [2016003](#) (pdf)

**Significance:**  Apr 08, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Correct Containment Spray Pump Non-conformance**

The team identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to promptly correct a condition adverse to quality. Specifically, the licensee failed to correct a non-conforming condition for containment spray pump P-54A, which was discovered in October 2014, during an NRC component design bases inspection (CDBI). The licensee entered this issue into their CAP as CR-PLP-2016-01646 with an assigned action to resolve the non-conforming condition of the containment spray pump.

The team determined that the performance deficiency was more than minor because it was associated with the Mitigating Systems cornerstone attribute of Design Control and adversely affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the performance deficiency identified that the licensee failed to correct a non-conformance between their current as-built configuration, the current licensing bases (i.e., Final Safety Analysis Report (FSAR) Section 6.2.3.1), and the design basis (i.e., Design Bases Calculation EA-ELEC-LDTAB-005) which was identified by the NRC in the 2014 CDBI. In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04 "Initial Characterization of Findings," issued June 19, 2012, and Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," issued June 19, 2012, the team answered "No" to all of the questions. Therefore, this finding was of very low safety significance (Green). The team identified a cross-cutting aspect in the Evaluation component of the Problem Identification and Resolution cross-cutting area because the licensee failed to fully evaluate the original issue identified in the 2014 CDBI to ensure that the corrective actions performed adequately addressed the non-conformance between the licensing basis, the as-built configuration, and the design basis.

Inspection Report# : [2016007](#) (*pdf*)

**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:**  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 finding of very-low safety significance, and an associated NCV of 10 CFR, Part 50, Appendix B, Criterion II, "Quality Assurance Program," for the licensee's failure to identify all component cooling water (CCW) structures, systems, and components (SSC), which were required to be covered by the Quality Assurance Program (i.e., be safety-related). As a result, the licensee incorrectly credited nonsafety-related CCW components to remain functional during and following a design basis event (DBE). The licensee entered this finding into their CAP and, after performing operability determinations, concluded the system would still be capable of performing its function.

The performance deficiency 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 screened as having very-low safety significance (Green) because, although it was a deficiency affecting the design or qualification of a mitigating SSC, the SSC maintained its operability. The inspectors did not identify a cross-cutting aspect associated with this finding because it was determined not to be representative

of current performance.

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)

## Barrier Integrity

**Significance:**  Jul 15, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Document 50.59 Evaluation for Removal of Eight Hour Operator Rounds from the FSAR (Section 1R17.1.b)**

The inspectors identified a Severity Level IV, Non-Cited Violation of Title 10 of the Code of Federal Regulations (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 records of a change in the facility which included a written evaluation that provided the bases for the determination that the change did not require a license amendment. Specifically, the licensee failed to have a written evaluation that provided the bases for why removal of the 8-hour operator rounds credited to detect a Spent Fuel Pool (SFP) dilution event from the Final Safety Analysis Report did not require a license amendment. The licensee entered this issue into their Corrective Action Program (CAP) as CR-PLP-2016-03055 and issued a standing order to log SFP level every eight hours as an immediate corrective action. The licensee’s planned corrective actions include preparation of a 10 CFR 50.59 evaluation for the change.

The inspectors determined that the failure to perform a 10 CFR 50.59 evaluation for the change to the Final Safety Analysis Report which removed the eight hour operator rounds credited to detect a SFP dilution event was contrary to

10 CFR 50.59(d)(1), and was a performance deficiency. The inspectors determined the performance deficiency was more than minor, and a finding, because it was associated with the barrier integrity cornerstone attribute of Configuration Control and adversely affected the associated Cornerstone Objective of ensuring that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the removal of the 8 hour operator rounds is associated with the boron concentration reactivity control in the SFP and could adversely affect the fuel cladding's function to protect the public from radionuclide releases. In addition, the associated 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 inspectors evaluated the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at Power," dated June 19, 2012, Exhibit 3, for the Barrier Integrity cornerstone and were directed to further evaluate the significance of the finding using IMC 0609 Appendix M, "Significance Determination Process Using Qualitative Criteria," dated April 12, 2012. The inspectors performed the qualitative evaluation described in IMC 0609, Appendix M, and determined the significance of the finding to be of very low safety significance (Green) by considering the availability of other measures the licensee had in place to detect a SFP dilution event. In accordance with Section 6.1.d of the NRC Enforcement Policy this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very low safety significance (i.e., Green finding). The inspectors determined the associated finding had a cross-cutting aspect in the area of Human Performance because the licensee did not ensure their staff were adequately trained in the implementation of the 10 CFR 50.59 rule. Specifically, the licensee staff did not realize that a change which fundamentally alters the existing means of performing or controlling design functions (removal of the 8-hour operator rounds for detecting a SFP dilution event in lieu of an automatic alarm) is adverse and requires an evaluation. (Section 1R17.1.b) [H.9]

Inspection Report# : [2016009](#) (pdf)

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## Emergency Preparedness

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## 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*)

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## Public Radiation Safety

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### 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.

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## Miscellaneous

**Significance:** N/A Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Provide Bases to Determine Changes Did Not Involve Unreviewed Safety Questions**

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 Component Cooling Water (CCW) system inside containment could be credited to perform their function during and following a Design Basis Event (DBE), and that the change would not result in an unreviewed safety question. The licensee entered this issue into their Corrective Action program (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 significance determination process (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*)

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