Palisades
1Q/2015 Plant Inspection Findings

Initiating Events

Significance: G Mar 31, 2015
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Inadequate Procedure Leads to primary Coolant Pump Seal Degradation
A finding of very low safety significance and an associated NCV of Technical Specification (TS) 5.4.1(a) was self-revealed when the 'C' primary coolant pump (PCP) seal degraded as a result of an inadequate maintenance procedure. Specifically, maintenance procedure PCS–M–54, "N–9000 Primary Coolant Pump Shaft Seal Assembly," did not identify critical steps in the assembly of the PCP seal and, as a result, the work activity was not adequately controlled. This issue was entered into the licensee's Corrective Action Program (CAP) as CR–PLP–2014–03495, Planned Outage Required Due to Two Stages of the Primary Coolant Pump P 50C Seal Not Performing as Expected, dated June 21, 2014.

The performance deficiency was determined to be more than minor because it was associated with the Equipment Performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the 'C' PCP seal was not correctly assembled or installed during refueling outage (RFO) 1R23, which resulted in premature seal degradation. Based on a detailed risk evaluation performed by a Region III Senior Reactor Analyst (SRA) using SAPHIRE Version 8.20 and the Events and Conditions Assessment Feature of the Palisades Standardized Plant Analysis Risk (SPAR) model (Version 8.1.2), the inspectors determined the finding was of very low safety significance. This finding had a cross-cutting aspect in the Work Management component of the Human Performance cross-cutting area. Specifically, the licensee did not effectively screen the PCP seal assembly through the work management process to identify that it should have been classified as a critical maintenance activity. In addition, insufficient emphasis was placed on in-field vendor oversight during work execution.

Inspection Report# : 2015001 *(pdf)*

Significance: G Feb 27, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Determine the Cause of Head Penetration Nozzle J-Grove Weld Cracking (Section 4OA2.1)
Green: The inspector identified a finding of very-low safety significance with an associated NCV of Title 10, Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to establish measures to assure that the cause of the ultrasonic examination leakage path indications and crack indications identified in the J-groove welds of the reactor pressure vessel head penetration nozzles 29 and 30 (a significant condition adverse to quality) was determined. Specifically, the licensee did not complete adequate causal investigations to assure the cause of this significant condition adverse to quality was determined. The licensee entered this issue into the Corrective Action Program (CAP), and initiated an action to conduct a root cause investigation for this issue.

The issue was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," because it adversely affected the Initiating Events cornerstone attribute of equipment performance and procedure quality. The inspector also answered "Yes" to the more than minor screening question, "If left uncorrected, would the performance deficiency have the potential to lead to a more significant safety concern?" Specifically, the inspector determined that this issue was more than minor because, if left uncorrected, the licensee would have reduced the frequency of reactor vessel head nozzle penetration examinations which could result in the failure to detect primary water stress corrosion cracking (PWSCC). Undetected PWSCC could increase the risk for through-wall leakage and design basis events such as a loss-of-coolant accident (LOCA). The inspector determined that the finding was of very-low safety significance based on answering "No" to the IMC 0609, Appendix A, Exhibit 1-Initiating Events Screening Questions for LOCA Initiators. Although this performance deficiency occurred more than 10 years ago, it was representative of current licensee performance because in the November 19, 2014, Licensee Event Report Cancelation Letter, the licensee again failed to assure that the cause of the reactor pressure vessel nozzle crack indications in the J-groove welds was determined. Therefore, the finding had a cross-cutting aspect in the area of Problem Identification and Resolution because the licensee failed to assure the cause was determined for the reactor pressure vessel nozzle crack indications in the J-groove welds, and this decision was not consistent with an organization that thoroughly evaluates issues to ensure that resolutions address causes and extent of conditions commensurate with their safety significance (IMC 310-Item P.2). (Section 4OA2.1.b(1))
Inspection Report# : 2015009 *(pdf)*

Significance: G Feb 27, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Unqualified Non-Destructive Examinations of J-Grove Welds 29 and 30 (Section 4OA2.1)
Green: The inspector identified a finding of very-low safety significance with an associated NCV of 10 CFR Part 50, Appendix B, Criterion IX "Control of Special Processes," for the licensee's failure to use qualified personnel and procedures for the dye penetrant (PT) examinations of the J-groove welds at nozzles 29 and 30 used to characterize crack indications. Consequently, no quality records existed to validate or confirm the size or extent of the cracking identified in these welds. The licensee documented the use of the unqualified PT examination for characterizing the reactor pressure vessel nozzle J-groove weld cracks in the CAP, and was developing corrective actions at the conclusion of the inspection.

The issue was determined to be more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," because it adversely affected the Initiating Events cornerstone attribute of equipment performance and procedure quality. Further, if left uncorrected, it would become a more significant issue. Specifically, the licensee had based the risk evaluation of the nozzle cracking on the results of the unqualified PT examination, and if this result was not correct, the risk significance of past plant operation with these cracks may have been greater than assumed. Additionally, the licensee had considered the results from this PT examination, as part of the evaluations identified in their November 19, 2014, letter that concluded the flaws identified were caused by embedded weld defects, and not PWSCC. Based upon this revised cause

determination, the licensee had elected to reduce the scheduled vessel head examinations, and this reduced inspection schedule may not be adequate to identify PWSCC prior to experiencing a through-wall leak. The inspectors determined that the finding was of very low safety significance based on answering "No" to the IMC 0609, Appendix A, Exhibit 1-Initiating Events Screening Questions for LOCA Initiators. The finding did not have a cross-cutting aspect because it was not indicative of current licensee performance dudue to the age of the performance deficiency.
(Section 4OA2.1.b(2)).
Inspection Report# : 2015009 *(pdf)*

Significance: G Nov 04, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Include the Degraded Voltage Channel Time Delay in TS Surveillance Requirement 3.3.5.2a
The inspectors identified a finding having very low safety significance and an associated Non-Cited Violation (NCV) of 10 CFR Part 50.36(c)(3), "Surveillance Requirements," for the failure to ensure the channel time delay for the degraded-voltage monitor was included in Technical Specification (TS) Surveillance Requirement (SR) 3.3.5.2.a. Specifically, the licensee failed to include in the TS SR the required time delay after the voltage relay trips before the preferred source of power is isolated and 1E electrical loads transferred to the stand-by Emergency Diesel Generators (EDGs). This finding was entered into the licensee's Corrective Action Program and the licensee's preliminary verification determined the degraded voltage monitors were still operable but degraded or non-conforming.

The performance deficiency was determined to be more than minor because if left uncorrected, it would have the potential to lead to more significant safety concern. Specifically, by not incorporating the total time delay requirements into the Technical Specifications, (TS) the time could be changed without going through the TS change process, possibly leading to spurious trips of offsite power sources or possibly exceeding the accident analysis time is the FSAR. The inspectors determined the finding was of very low safety significance (Green) because it did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was not representative of the licensee's present performance.

Inspection Report# : 2014008 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate Procedure for Protection against High Winds
The inspectors identified a finding of very low safety significance and an associated non-cited violation of Technical Specification (TS) 5.4.1 when licensee personnel failed to maintain and implement an adequate procedure covering Acts of Nature. Specifically, the licensee's interpretation of Abnormal Operating Procedure (AOP)–38 entry conditions resulted in a decision not to enter the procedure despite available information indicating the presence of high wind conditions in the vicinity of the plant. The licensee entered this issue into their Corrective Action Program (CAP) as CR PLP 2014 04155, NRC Questioned Entry into AOP 38, dated August 20, 2014. Planned corrective actions include a procedure revision to clarify the procedure entry conditions.

The inspectors determined the performance deficiency was more than minor because it was associated with the Protection Against External Factors attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the preparatory actions prescribed by AOP 38

were directly related to the Initiating Events Cornerstone objective and inconsistent application of those actions in advance of high wind conditions increased the likelihood of debris induced initiating events. In accordance with IMC 0609, Appendix A, Exhibit 1, "Initiating Events Screening Questions," Section B, "Transient Initiators," because the finding did not result in a reactor trip or the loss of mitigating equipment, it was determined to be of very low safety significance. This finding was associated with a cross cutting aspect of Training in the Human Performance cross cutting area. Specifically, the licensee's interpretation of procedure AOP 38 entry conditions was a result of the training provided to operators.
Inspection Report# : 2014004 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2015
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Inadequate Procedure Results in Failure of Component Cooling Water Pump
A finding of very low safety significance and an associated NCV of TS 5.4.1(a) was self-revealed on January 6, 2015, after the licensee identified smoke coming from the 'C' component cooling water (CCW) pump (P–52C) as a result of incorrect assembly of the inboard pump bearing in December 2014, due to an inadequate maintenance procedure. This issue was entered into the licensee's CAP as CR–PLP–2015–00063, Workers Reported Smoke Coming from Shaft of P–52C, dated January 6, 2015.

The performance deficiency was determined to be more than minor because it was associated with the Procedure Quality 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. Based on a detailed risk evaluation performed by a Region III Senior Reactor Analyst using SAPHIRE Version 8.20 and the Events and Conditions Assessment Feature of the Standiardized Plant Analysis Risk model (Version 8.1.2), the inspectors determined the finding was of very low safety significance. This finding had a cross-cutting aspect in the Avoid Complacency component of the Human Performance cross-cutting area. Specifically, plant staff accepted the practice of bending the 'C' CCW pump oiler nipple to achieve proper level when the oiler could not be properly aligned which compensated for, rather than corrected, an underlying issue of improper alignment when tightening the alignment pin.
Inspection Report# : 2015001 *(pdf)*

Significance: G Mar 31, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inoperability of Safety Injection Tank Due to Long-Term Leakage
A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified by the inspectors when licensee personnel failed to assure that leakage out of the 'B' safety injection tank (SIT), a condition adverse to quality, was corrected in a timely manner. Specifically, although minor water leakage out of the 'B' SIT had been occurring since at least 2010, the licensee had not corrected the leakage despite several plant outages that provided an opportunity to address the issue. This issue was entered into the licensee's CAP as CR–PLP–2014–04861, B SIT Declared Inoperable Due to Reaching Technical Specification Low Level Setpoint, dated October 7, 2014.

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. Specifically, the leakage out of the 'B' SIT resulted in unexpected inoperability of the tank on October 7, 2014. The finding was determined to be of very low safety significance based on answering "No" to the screening questions in Exhibit 2.A, Mitigating Systems Screening Questions. This finding had a cross-cutting aspect in the Avoid Complacency component of the Human Performance cross-cutting area. Specifically, over time the licensee became confident that the long-term leakage out of the 'B' SIT was minor and could be managed without an impact to equipment operability, which proved to be incorrect when the minor leakage resulted in 'B' SIT inoperability on October 7, 2014.

Inspection Report# : 2015001 *(pdf)*

Significance: G Mar 31, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Verify the Adequacy of Credited High Energy Line Break Barriers
A finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors when the licensee credited fire doors for High Energy Line Break (HELB) protection without a supporting test or evaluation. Specifically, Procedure 4.02 credited fire doors with protection of safety-related equipment against a HELB when the primary HELB
barrier was disabled without a test or evaluation to demonstrate the doors could withstand the HELB environment. This issue was entered into the licensee's Corrective Action Program as CR–PLP–2015–00371, NRC Concerns with Calculation EA–PSA–CCW–HELB–02–17, dated January 22, 2015.

The performance deficiency was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee did not have an evaluation to demonstrate that barriers relied upon to protect mitigating systems from a HELB initiating event could perform the credited protection function. The inspectors answered "No" to the questions in Exhibit 2.A, Mitigating Systems Screening Questions, and as a result determined the issue was of very low safety significance. This finding was not associated with a cross-cutting aspect since the calculation in question was created in 2003 and therefore did not represent current performance.

Inspection Report# : 2015001 *(pdf)*

Significance: G Mar 31, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Evaluate the Adverse Effects of the Use of Non-Seismic Temporary Jumpers
A Severity Level IV NCV of 10 CFR 50.59(d)(1), "Changes, Tests, and Experiments," and an associated finding of very low safety significance was identified by the inspectors when licensee personnel failed to maintain a written safety evaluation that provided a basis that the use of temporary alligator clip jumpers to maintain emergency diesel generator (EDG) operability during certain maintenance activities did not require a license amendment. Specifically, the licensee did not address the adverse effects of the use of alligator jumpers on the design and qualification of the diesel generator (DG) circuit breaker used per Engineering Change 50310 and changes to procedure SPS–E–1, "2400 Volt and 4160 Volt Allis Chalmers and Siemens Vacuum Circuit Breaker Auxiliary Switch Adjustments," Revision 34. This issue was entered into the licensee's CAP as CR–PLP–2014–04859, NRC Identified 50.59 Issue, dated October 7, 2014.

The performance deficiency was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the change that was implemented adversely affected the seismic qualification of the electrical circuit that was relied upon to ensure safety bus 1C would be loaded by the 1–1 DG upon a loss of offsite power. The inspectors evaluated the underlying technical issue and determined the finding was of very low safety significance. In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, this violation was categorized as Severity Level IV because the finding associated with
this violation was determined to be of very low safety significance. This finding had a cross-cutting aspect in the Conservative Bias component of the Human Performance cross-cutting area. Specifically, the licensee did not use all available information and relevant guidance, such as Nuclear Energy Institute 96–07, to demonstrate that the proposed activity was safe and did not require a license amendment prior to implementation.

Inspection Report# : 2015001 *(pdf)*

Significance: G Mar 31, 2015
Identified By: NRC
Item Type: FIN Finding
Failure to Evaluate the Adverse Effects of the Use of Non-Seismic Temporary Jumpers
A Severity Level IV NCV of 10 CFR 50.59(d)(1), “Changes, Tests, and Experiments,” and an associated finding of very low safety significance was identified by the inspectors when licensee personnel failed to maintain a written safety evaluation that provided a basis that the use of temporary alligator clip jumpers to maintain emergency diesel generator (EDG) operability during certain maintenance activities did not require a license amendment. Specifically, the licensee did not address the adverse effects of the use of alligator jumpers on the design and qualification of the diesel generator (DG) circuit breaker used per Engineering Change 50310 and changes to procedure SPS–E–1, “2400 Volt and 4160 Volt Allis Chalmers and Siemens Vacuum Circuit Breaker Auxiliary Switch Adjustments,” Revision 34. This issue was entered into the licensee’s Corrective Action Program as CR–PLP–2014–04859, NRC Identified 50.59 Issue, dated October 7, 2014.

The performance deficiency was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the change that was implemented adversely affected the seismic qualification of the electrical circuit that was relied upon to ensure safety bus 1C would be loaded by the 1–1 DG upon a loss of offsite power. The inspectors evaluated the underlying technical issue and determined the finding was of very low safety significance. In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, this violation was categorized as Severity Level IV because the finding associated with
this violation was determined to be of very low safety significance. This finding had a cross-cutting aspect in the Conservative Bias component of the Human Performance cross-cutting area. Specifically, the licensee did not use all available information and relevant guidance, such as Nuclear Energy Institute 96–07, to demonstrate that the proposed activity was safe and did not require a license amendment prior to implementation.

Inspection Report# : 2015001 *(pdf)*

Significance: G Dec 31, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Follow Procedure for Storage of Equipment in the Vicinity of Safety-Related Equipment
The inspectors identified a finding of very low safety significance (Green) with an associated non-citied violation of

Technical Specification (TS) 5.4.1, Procedures and Programs, for the failure to follow site procedures covering the storage of material in the vicinity of safety-related equipment. Specifically, on three occasions the inspectors identified ladders at ladder station 42 in the 590' elevation of the component cooling water room that were either in contact with safety-related equipment or were capable of toppling into safety-related equipment. For immediate corrective actions, licensee personnel properly stored the ladder after each issue was identified by the inspectors. This issue is documented in the licensee's corrective action program (CAP) as Condition Report CR-PLP-2015-00126.

The performance deficiency was determined to be more than minor based on Inspection Manual Chapter (IMC) 0612, Appendix E, Example 4.a, which determined that low-level procedural errors without a safety consequence are more than minor when they become a repetitive/routine occurrence. Specifically, unrestrained ladders could impact safety-related equipment during a design basis seismic event. The inspectors evaluated the significance of the finding in accordance with IMC 0609, Attachment 4, "Initial Characterization of Findings." In accordance with Table 2, the finding was determined
to affect the Mitigating Systems Cornerstone. The inspectors answered 'No' to the questions in Table 3 and continued the significance evaluation in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power." The inspectors answered 'No' to the Mitigating Systems Screening Questions contained in Exhibit 2 and determined the finding was of very low safety significance (Green). This finding was associated with a cross-cutting aspect of Identification in the Problem Identification and Resolution cross-cutting area (P1).

Inspection Report# : 2014005 *(pdf)*

Significance: G Nov 04, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Ensure Engineered Safeguards Systems Aren't Adversely Affected By Air Entrainment
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 ensure the safety-related Engineered Safeguard Systems trains would not be adversely affected by air entrainment when aligned to the Safety Injection and Refueling Water (SIRW) Tank. Specifically, calculation EA-C-PAL-0877D, assumed incorrectly only one train of the Engineered Safeguards System (ESS) was in operation when evaluating if the SIRW Tank reaches the limit for critical submergence during a tank drawdown. As part of their corrective actions, the licensee re-evaluated the scenarios of concern, performed an operability evaluation, and implemented compensatory actions.

The performance deficiency was determined to be more than minor because it impacted the Equipment Performance attribute of the Reactor Safety, 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, air entrainment into the ESS systems could potentially impact the operability of the system by air binding the pumps, reduce discharge flow, discharge pressure and/or delay injection. The inspectors determined the finding was of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a mitigating structure system or component (SSC) but the SSC maintained its operability. The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was not representative of the licensee's present performance.
Inspection Report# : 2014008 *(pdf)*

Significance: G Nov 04, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Undersized Supply Cables from Startup Transformer to 2400V Buses
The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix

B, Criterion III, “Design Control,” for the licensee’s failure to ensure the incoming feeder cables from startup transformer 1-2 to 2400 V safety related Buses 1C and 1D were sized in accordance with their design basis, as described in Palisades FSAR Section 8.5.2. Specifically, the licensee failed to ensure the ampacity of the cables was at least as high as their maximum steady-state current. The licensee entered this finding into their Correction Action Program and verified the operability of the cables.

The performance deficiency was determined to be more than minor, because it impacted the Design Control attribute of the Reactor Safety, 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, cables were undersized with respect to the loading that would automatically occur as the result of a design basis accident. The inspectors determined the finding was of very low safety significance (Green) because the SSC maintained its operability and functionality. This finding had a crosscutting aspect in the area of Human Performance, associated with the Design Margin component, because the licensee did not ensure that equipment is operated and maintained within design margins, and margins are carefully guarded and changed only through a systematic and rigorous process.
Inspection Report# : 2014008 *(pdf)*

Significance: G Nov 04, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Undersized Motors
The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to ensure electric motors are sized in accordance with the design basis, as discussed in Palisades FSAR Section 6.2.3.1. Specifically, the horsepower ratings of certain motors are less than power demands of their driven equipment, and they were not analyzed to ensure overheating would not occur. The licensee entered this finding into their Correction Action Program with a recommended action to analyze the effect of the condition, and has verified the operability of the motors.

This performance deficiency was determined to be more than minor, because it impacted the Design Control attribute of the Reactor Safety, 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, motors serving loads with power demands in excess of the motor horsepower ratings were not analyzed to ensure that motor damage would not occur. The inspectors determined the finding was of very low safety significance (Green) because the SSC maintained its operability and functionality. This finding had a crosscutting aspect in the area of Human Performance, associated with the Design Margin component, because the licensee failed to ensure that equipment is operated within design margins, and margins are carefully guarded and changed only through a systematic and rigorous process.
Inspection Report# : 2014008 *(pdf)*

Significance: G Nov 04, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Ensure that 480V System Voltages do not Exceed Equipment Ratings
The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to ensure that voltages on the 480V system do not exceed equipment ratings. Specifically, the licensee increased the output voltage of the supply transformers to the 480V safety-related buses by 2.5 percent, but failed to ensure the resulting voltages would not exceed equipment ratings when the system is powered from the station power transformer or emergency diesel generator. The licensee entered this finding into their Correction Action Program and verified the operability of the affected equipment.

The performance deficiency was determined to be more than minor, because it impacted the Design Control attribute of the Reactor Safety, 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 licensee failed to verify or check the voltage increase on the 480V system to ensure the maximum allowable voltage would not exceed equipment ratings. The inspectors determined the finding was of very low safety significance (Green) because the affected SSCs maintained their operability and functionality. The inspectors did not identify a cross-cutting aspect associated with this finding, because the finding was not representative of the licensee's present performance.

Inspection Report# : 2014008 *(pdf)*

Significance: G Nov 04, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Perform Comprehensive Pump Testing of Containment Spray Pump P-54A in Accordance with the Inservice Testing Program
The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of Technical Specifications 5.5.7, "Inservice Testing Program," for the failure to perform comprehensive pump testing of Containment Spray Pump P-54A in accordance with the code of record. Specifically, the licensee did not rerun a comprehensive pump test, as required by the code's ISTB-6300 "Systematic Error" section. As part of their corrective actions, the licensee entered the issue into the Corrective Action Program, and determined the component remained operable.

The performance deficiency was determined to be more than minor because it impacted the Equipment Performance attribute of the Reactor Safety, 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, failing to perform testing as required could result in the degradation of the equipment being undetected. The finding screened as having very low safety significance because the finding was a deficiency affecting the design or qualification of a mitigating structure system or component (SSC) but the SSC maintained its operability. The findings had a cross-cutting aspect in the area of Problem Identification and Resolution, Evaluation, because the licensee failed to thoroughly evaluate the issue to ensure that resolutions address causes and extents of conditions commensurate with their safety significance.

Inspection Report# : 2014008 *(pdf)*

Significance: G Nov 04, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Non-Conservative Surveillance for Emergency Diesel Generator Largest Load Reject Test
The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the licensee's failure to have adequate acceptance criteria in the emergency diesel generator surveillance procedures. Specifically, the licensee failed to ensure the surveillance test procedures for the emergency diesel generator largest load rejection test bounded the power demand of the largest load, as required by Technical Specification SR 3.8.1.5. The licensee entered this finding into their Correction Action Program and verified the operability of the emergency diesel generators.

The performance deficiency was determined to be more than minor, because it impacted the Procedure Quality attribute of the Reactor Safety, Mitigating Systems Cornerstone and adversely affected the cornerstone objective of

ensuring the availability, reliability, and capability of systems to respond to initiating events to prevent undesirable consequences. Specifically, the surveillance procedure error could result in acceptance of test results that did not satisfy Technical Specification SR 3.8.1.5 for rejection of a load greater than or equal to the emergency diesel generator's single largest predicted post-accident load. The inspectors determined the finding was of very low safety significance (Green) because the SSC maintained its operability and functionality. This finding had a cross-cutting aspect in the area of Human Performance, associated with the Resources component, because the licensee failed to ensure that personnel, equipment, procedures, and other resources are adequate to assure nuclear safety by maintaining long term plant safety.
Inspection Report# : 2014008 *(pdf)*

Significance: G Jun 30, 2014
Identified By: NRC
Item Type: FIN Finding
Written NRC Biennial Written Examinations Did Not meet Qualitative Standards
The inspectors identified a finding of very low safety significance associated with 10 CFR 55.59, "Requalification," based on a determination that greater than 20 percent of the biennial requalification written exam questions administered to licensed operators during weeks three and five of the 2012 examination cycle were flawed. The licensee entered this issue into their Corrective Action Program (CAP) as CR PNP 2014 02521, Written Exam Quality, dated April 10, 2014.

The inspectors determined that the finding was more than minor because it was associated with the Human 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). Specifically, the finding adversely affected the quality and level of difficulty of biennial written exams, which potentially impacted Palisades' ability to appropriately evaluate licensed operators. The risk importance of this issue was evaluated using
IMC 0609, Appendix l, "Licensed Operator Requalification Significance Determination Process (SDP)." The inspectors considered the number of written exam questions that did not meet the qualitative standard for written exam questions. The qualitative standards used by the inspectors are defined in NUREG 1021, Revision 9, ES 602, Attachment 1, "Guidelines for Developing Open Reference Examinations," and Appendix B, "Written Examination Guidelines." Because more than 30 percent of the questions reviewed did not satisfy the guidance, Block 4 of Appendix I applied. Based on the screening criteria, the finding was characterized by the SDP as having very low safety significance (Green) because greater than 20 percent, but less than 40 percent, of the reviewed written exam questions were flawed. A review of the cross cutting aspects was performed and no associated cross cutting aspect was identified.

Inspection Report# : 2014003 *(pdf)*

Significance: G Jun 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Evaluate Long-Term Scaffolds in Accordance with Procedures
The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," when licensee personnel failed to adequately implement procedure EN MA 133, "Control of Scaffolding." Specifically, multiple examples were identified of scaffolds installed in the plant for greater than 90 days that had not undergone process applicability determinations, were not appropriately documented in the scaffold control log, and/or did not contain proper tags. The licensee documented the issue in their CAP as CR PLP 2014 2646, Two Scaffolds Near Safety Related Equipment Not Being Controlled as Long-Term, dated April 17, 2014; conducted an extent of condition review of the entire scaffold log and

identified additional discrepancies; completed the required process applicability determinations; and re inspected scaffolds that had been categorized as long term.

The inspectors determined that the performance deficiency was more than minor because it was similar to Example 4.a) of IMC 0612, Appendix E, "Examples of Minor Issues." This example described an engineering evaluation that was not performed for scaffolding erected near safety related equipment and stated that it would be a more than minor issue if the licensee routinely failed to perform the engineering evaluations. For this specific finding, there were multiple examples of process applicability determinations not being performed within the procedurally required timeframe. The finding was determined to be of very low safety significance (Green) because it did not affect the operability/functionality of structures, systems and components (SSCs) and all required safety functions were maintained. This finding was associated with the cross cutting aspect of Teamwork in the Human Performance area. Specifically, licensee and supplemental individuals and work groups did not sufficiently communicate and coordinate work activities associated with maintaining the scaffold control log or documentation related to scaffolding installed in the plant. The workers also did not understand how to account for time during refueling and forced outages when determining the long term status of scaffolds, which could have been resolved with input from other work groups

Inspection Report# : 2014003 *(pdf)*

Barrier Integrity

Significance: G Nov 04, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Correctly Translate Valve Leakage Limits into Test Procedure
The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to correctly translate design valve leakage limits into the applicable test procedure. Specifically, the acceptance criterion for emergency core cooling system (ECCS)/containment spray (CS) recirculation isolation valves CV-3027 and CV-3056 had not been correctly adjusted to account for the higher differential pressure associated with ECCS operation under post-accident conditions. The licensee entered this finding into their Corrective Action Program to correct the valve leakage limit.

The performance deficiency was determined to be more than minor because it impacted the Design Control attribute of the Barrier Integrity Cornerstone and adversely affected the associated cornerstone objective to provide reasonable assurance that containment could protect the public from radionuclide releases caused by accidents or events. Specifically, leakage approaching the procedural values would exceed analyzed dose calculations. The finding screened as of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation system, or heat removal components and did not involve an actual reduction in function of hydrogen igniters in the reactor containment. The inspectors determined this finding did not have an associated cross-cutting aspect because it was not representative of present performance.

Inspection Report# : 2014008 *(pdf)*

Significance: G Nov 04, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Identify Non-Safety-Related Sub-Components Improperly Supplied with Safety-Related Valves

The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion VII, “Control of Purchased Material, Equipment, and Services,” for the licensee’s failure to identify non-safety-related
sub-components improperly supplied with safety-related valves. Specifically, ECCS/CS recirculation isolation valves CV-3027 and CV-3056, which were installed in 2007, were supplied with non-safety-related sub-components. These components were identified as non-safety-related on the vendor drawings. In addition, the licensee later installed a section of non-safety-related tubing on valve CV-3027 based on the incorrect vendor drawing. The licensee entered this finding into their Corrective Action Program to correct the valve drawings and replace the non-safety-related parts.

The performance deficiency was determined to be more than minor because it impacted the Design Control attribute of the Barrier Integrity Cornerstone and adversely affected the associated cornerstone objective to provide reasonable assurance that containment could protect the public from radionuclide releases caused by accidents or events. Specifically, the licensee failed to identify non-safety-related sub-components improperly supplied with safety-related valves which would form part of the containment barrier under post-accident conditions. The finding screened as of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation system, or heat removal components and did not involve an actual reduction in function of hydrogen igniters in the reactor containment. The inspectors determined this finding did not have an associated cross-cutting aspect because it was not representative of the licensee’s present performance.

Inspection Report# : 2014008 *(pdf)*

Significance: G Nov 04, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Establish an Adequate Test Program for the Shutdown Cooling Heat Exchangers
The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, “Test Control,” for the licensee’s failure to establish an adequate test program for the Shutdown Cooling (SDC) Heat Exchangers (HXs) to demonstrate they can perform as designed. Specifically, the licensee failed to take actions to ensure the SDC HXs’ heat transfer capability met its design bases, as assumed in design bases calculations.

The performance deficiency was determined to be more than minor because it impacted the Design Control attribute of the Barrier Integrity Cornerstone and adversely affected the associated cornerstone objective to provide reasonable assurance that containment could protect the public from radionuclide releases caused by accidents or events. Specifically, the licensee failed to verify the SDC HXs heat transfer capability met their design bases, as assumed in design bases calculations, to limit containment temperatures and pressures during an event. The finding screened as of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation system, or heat removal components and did not involve an actual reduction in function of hydrogen igniters in the reactor containment. The inspectors determined this finding had an associated cross-cutting aspect, Conservative Bias, in the Human Performance cross-cutting area. Specifically, on several occasions when the licensee identified the need to perform testing and/or inspection of the SDC HXs, the licensee did not take actions because they did not believe any regulatory requirements or technical issues existed that required the testing and/or inspections.
Inspection Report# : 2014008 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC

Item Type: NCV Non-Cited Violation
Spent Fuel Pool Region II Criticality Analysis
The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” when licensee personnel failed to follow procedure EN OP 104, “Operability Determination Process.” Specifically, Operability Evaluation CR PLP 2013 04775 failed to include adequate technical information to support the basis for the reasonable expectation of operability, as required by Step 5.5.c of EN OP 104. On March 25, 2014, the licensee entered the NRC questions into the CAP as Assignments 6 and 7 of CR PLP 2013 04775, Issues Identified with Region II of SFP Criticality Analysis, with an initial due date of
April 8, 2014. Both Assignments 6 and 7 were ultimately closed in late April to a new Assignment 9, which was created to complete a revised Operability Evaluation. The licensee determined that contracted technical support was necessary to adequately evaluate the NRC concerns. At the end of the inspection period, the contracted evaluation effort was ongoing. Planned corrective actions included documenting the conclusions of the ongoing evaluation in a revised Operability Evaluation for CR PLP 2013 04775.

The inspectors determined that the performance deficiency was more than minor because it was associated with the Configuration Control attribute of the Barrier Integrity Cornerstone and adversely impacted the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the Spent Fuel Pool (SFP) criticality analysis relied on certain physical conditions to maintain the effective neutron multiplication factor below 1.0, but actual physical conditions were not completely bounded by the existing criticality analysis. Because the inspectors answered ‘No’ to all of the SFP questions in IMC 0609, Appendix A, Exhibit 3, “Barrier Integrity Screening Questions,” the finding was determined to be of very low safety significance. This finding was associated with a cross cutting aspect of Operating Experience in the Problem Identification and Resolution cross cutting area. Specifically, the licensee failed to collect and implement relevant external operating experience.
Inspection Report# : 2014004 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: W Oct 30, 2014
Identified By: NRC
Item Type: VIO Violation
Failure to Monitor the Highest Exposed Part of the Compartment When Using EDEX
The NRC identified one finding and two violations of NRC requirements associated with the replacement of Control Rod Drive (CRD) housings between February 6 and March 8, 2014. Specifically, the inspectors identified a violation of Title 10 of the Code of Federal Regulations (CFR) Part 20.1201, “Occupational Dose Limits for Adults,” because the licensee failed to ensure that radiation worker dosimeters calibrated to the Deep Dose Equivalent (DDE) were located at the highest exposed portion of the respective compartment, a condition of the NRC-approved method for determining effective dose equivalent external (EDEX). The inspectors also identified a violation of Technical Specification 5.4 “Procedures,” associated with this finding. Upon identification of this issue, the licensee suspended the use of EDEX and tungsten shield vests. The licensee re-calculated the dose received for the workers involved and updated the nuclear power industry’s dose tracking system with the revised dose results. Additionally, a root cause evaluation was initiated under Condition Report CR-PLP-2014-04683.

The inspectors reviewed the guidance in IMC 0612, Appendix E, “Examples of Minor Issues,” and did not find any similar examples. The performance deficiency was determined to be of more than minor safety significance in accordance with IMC 0612 Appendix B, “Issue Screening,” 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, in that inaccurate radiation monitoring affects the licensee’s ability to control and limit radiation exposures. Therefore, the performance deficiency was a finding. The finding did not involve as-low-as-reasonably-achievable (ALARA) planning or work controls and there was no overexposure or substantial potential for an overexposure. However, the NRC determined that the licensee’s ability to assess dose was compromised. Consequently, the NRC concluded that the finding was of White safety significance. The finding had a cross-cutting characteristic in the area of human performance related to the cross-cutting aspect of change management, in that, the licensee's procedures did not include all of the requirements for implementing EDEX when the methods were approved by the NRC and did not provide adequate guidance for the new tungsten shield vests.
Inspection Report# : 2014010 *(pdf)*
Inspection Report# : 2015007 *(pdf)*

Significance: G Jun 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Follow Procedure Associated with Sealed Source Inventory and Leak Testing
The inspectors identified a finding of very low safety significance and an associated non-cited violation of Technical Specification (TS) 5.4.1 for the failure to maintain a sealed source inventory and perform leak tests required by station procedures. The inspectors identified multiple discrepancies with the records that were required to be maintained to demonstrate that sealed sources stored onsite were known by the radiation protection organization, the storage locations of the sealed sources were identified, and that select sources were leak tested to prevent the spread of radioactive contamination. This issue was entered into the licensee’s CAP as CR PLP 2014 02715, Issue with Control of Sources, dated April 22, 2014.

The inspectors determined that the failure to maintain an inventory of sources onsite and leak test sources was a finding of more than minor significance because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, the failure to ensure that the sources were free of external contamination could spread radioactive contamination, including alpha contamination, that was not readily detectable by personnel monitoring equipment, and could result in increased exposure to radiation. The finding was assessed using the Occupational Radiation Safety SDP and was determined to be of very low safety significance (Green) because the problem was not an as low as reasonably achievable (ALARA) planning issue; there was no overexposure, nor a substantial potential for an overexposure; and the licensee’s ability to assess dose was not compromised. This finding was associated with the cross cutting aspect of Self Assessment in the Problem Identification and Resolution area. Specifically, the licensee did not conduct a self critical and objective assessment of the program and
practice

Inspection Report# : 2014003 *(pdf)*

Significance: G Jun 30, 2014
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Inadequate Control of Entry into High Radiation Areas
The inspectors reviewed a self revealed finding of very low safety significance and an associated non-cited violation of TS 5.7.1 for unauthorized entries into high radiation areas (HRAs). Specifically, on January 30, 2014, a worker

replacing lights in lower containment received an electronic dosimeter dose rate alarm. The licensee's investigation concluded that the worker was in an area that was not discussed or authorized by radiation protection staff. On February 14, 2014, a worker entered the West Engineered Safeguards Room and received an electronic dosimeter dose rate alarm. The licensee's investigation concluded that the worker was in an area that was not discussed or authorized by radiation protection staff. On both occasions, workers changed the work plans after discussing the work plans with radiation protection staff.

The inspectors determined that the performance deficiency was more than minor because it impacted 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, in that, worker entry into areas without knowledge of their radiological conditions placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance (Green) because the problem was not an ALARA planning issue; there was no overexposure, nor substantial potential for an overexposure; and the licensee's ability to assess dose was not compromised. This finding was associated with the cross cutting aspect of Conservative Bias in the Human Performance area. Specifically, both workers decided to change the work plans after discussing the work plans with radiation protection staff and did not stop to consider whether the new work activity or location was safe
Inspection Report# : 2014003 *(pdf)*

Significance: G Jun 30, 2014
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Entries into High Radiation Areas without Required Dosimetry
The inspectors reviewed a self revealed finding of very low safety significance and an associated non-cited violation of TS 5.7.1 for entry into HRAs without a required monitoring device. On two separate occasions, two separate workers entered HRAs without the required dosimetry. Specifically, on February 11, 2014, a worker entered the 607' elevation of containment and entered areas with dose rates of 320 millirem (mR)/hour. The licensee's investigation determined that the worker left the required electronic alarming dosimeter (EAD) in the dress out area. Another worker found the EAD in the dress out area and notified radiation protection staff, who located and escorted the individual from containment. On February 22, 2014, a worker entered the West Engineered Safeguards Room with dose rates of 150 mR/hour. The licensee's investigation determined that the worker left the required EAD in the dress out area. The individual identified the missing EAD when undressing to leave the room.

The inspectors determined that the performance deficiency was more than minor because it impacted 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, in that, worker entry into HRAs without alarming direct reading dosimetry placed them at increased risk for unnecessary radiation exposure. The finding was determined to be of very low safety significance (Green) because the problem was not an ALARA planning issue; there was no overexposure, nor substantial potential for an overexposure; and the licensee's ability to assess dose was not compromised. This finding was associated with the cross cutting aspect of Avoid Complacency in the Human Performance area. Specifically, the workers did not recognize and plan for possible mistakes and did not implement appropriate error reduction tools, such as self check, to ensure they were prepared to enter the HRA
Inspection Report# : 2014003 *(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: G Jun 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Exam Security Issues
The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 55.49, “Integrity of Examinations and Tests,” which stated, “Applicants, licensees, and facility licensees shall not engage in any activity that compromises the integrity of any application, test, or examination required by this part.” Specifically, Palisades placed personnel in the simulator operating booth that were not identified in the security agreement, placed the scenario turnover sheet for a second scenario in the simulator during the first scenario, and left a job performance measure turnover sheet in the simulator after the applicant left the simulator and brought the next applicant into the simulator. This issue was entered into the licensee’s CAP as CR PLP 2014 02533, Issues Were Identified During the Annual Exam Administered on April 10, 2014, dated April 10, 2014.

The performance deficiency was determined to be more than minor because, if left uncorrected, it would have the potential to become a more significant safety concern. Specifically, the failure to properly control operational examination material in a manner in which applicants were not prematurely exposed to the material provided opportunities to compromise the examination. The finding was screened as one of very low safety significance (Green) in accordance with IMC 0609, Appendix I, “Licensed Operator Requalification SDP.” This finding was associated with the cross cutting aspect of Procedure Adherence in the Human Performance area (H.8).

Inspection Report# : 2014003 *(pdf)*

Significance: N/A Jun 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Notify the NRC Within 30 Days of Discovering Changes in Medical Conditions
A Severity Level IV non-cited violation of 10 CFR 50.74, "Notification of Change in Operator or Senior Operator Status," was identified by the inspectors during a review of licensed operator medical records. Specifically, Palisades did not notify the NRC within 30 days of discovering a change in medical condition for a licensed operator. Subsequently, the licensee submitted the required notification for the operator on
April 11, 2014, and entered the issue into their CAP as CR PLP 2014 02518, NRC Informed the Palisades Training Department that an NRC Form 396 was Not Submitted, dated
April 10, 2014.

The inspectors determined that Traditional Enforcement applied because a failure to make a required report impacted the regulatory process. Specifically, the licensee had not notified the NRC within 30 days of learning of a change in

medical condition for a licensed operator for which a license condition was required. Based on Example 6.9.d.1 of the NRC's Enforcement Policy, the inspectors determined that the issue represented a Severity Level IV violation. No associated Reactor Oversight Process finding was identified, thus there was no associated cross-cutting aspect.

Inspection Report# : 2014003 *(pdf)*

Last modified : June 16, 2015