Palisades
4Q/2014 Plant Inspection Findings

Initiating Events

Significance: G Nov 04, 2014
Identified By: NRC
Item Type: NCV NonCited 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 NonCited 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)*

Significance: G Mar 31, 2014
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Insatallation of Steam Generator Nozzle Dams
A finding of very low safety significance and an associated non-citied violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was self-revealed when licensee personnel failed to have an adequate procedure and work order (WO) to install steam generator nozzle dams. The licensee entered this issue in their Corrective Action Program (CAP) as Condition Report (CR) PLP-2014-00770, Improper Routing of Nozzle Dam Air Supply. As part of their corrective actions, the licensee planned to revise the nozzle dam installation procedure and the WO.

The inspectors determined that this finding was more than minor in accordance with
IMC 0612, Appendix B, "Issue Screening," because the finding was associated with the Procedure Quality attribute of the Initiating Events cornerstone and adversely impacted 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, and was similar to the more than minor criteria in Example 5.a of IMC 0612, Appendix E, “Examples of Minor Issues.” As it related to this finding, the intended design of the nozzle dam air supply system was not correctly translated into the installation procedure or the work instructions. Further, the nozzle dam air system was not properly tested prior to being placed into service. Since the plant was shutdown in Mode 6, the inspectors assessed the risk significance of the event in accordance with IMC 0609, Appendix G, “Shutdown Operations Significance Determination Process.” A Phase 2 risk evaluation was required that determined the total event risk was 3.6E-8 and was therefore of very low safety significance (Green). This finding had an associated cross-cutting aspect in the Change Management (H.3) component of the Human Performance cross-cutting area. In particular, issues during the previous refueling outage led the steam generator project management team to review the configuration of the nozzle dam air system. Through this review, the licensee identified that changes to the alignment of air to the nozzle dams was required. However, due to turnover within the project management group and inadequate communications and documentation, the licensee failed to appropriately evaluate and implement those changes.

Inspection Report# : 2014002 *(pdf)*

Significance: G Mar 31, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure To Complete Volumetric Examinations for DM Butt Welds in Branch Connections
The inspectors identified a finding of very low safety significance and an associated non-citied violation of 10 CFR 50.55a(g)(6)(ii)(F)(3) when licensee personnel failed to complete required baseline volumetric examinations for nine dissimilar metal (DM) butt welds in the Primary Coolant System (PCS) that were fabricated from Inconel Alloy 82/182 weld metal and were susceptible to primary water stress corrosion cracking (PWSCC). The licensee entered this issue into their CAP as CR PLP 2014 01742, NRC Question on Whether Hot and Cold Leg Branch Connection Welds are In Scope of ASME [American Society of Mechanical Engineers] Code Case (CC) N-770-1. As part of their corrective actions, the licensee submitted a request for relief to the NRC to allow substitution of a visual and dye

penetrant surface examination of these welds as an alternative to volumetric examinations. The NRC granted verbal relief on March 13, 2014, which stated the licensee could implement the proposed alternative to 10 CFR 50.55a(g)(6)(ii)(F), which included a commitment to perform enhanced leakage monitoring during the current operating cycle and perform the required volumetric examinations during the next refueling outage.

The inspectors determined that this finding was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," because the finding was associated with the Equipment Performance (Reliability) attribute of the Initiating Events cornerstone and adversely impacted 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. The inspectors also determined that if left uncorrected the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, the failure to complete volumetric examinations on the nine DM butt welded PCS branch connections fabricated with Alloy 82/182 weld metal could have allowed PWSCC susceptible material to remain in service, which could propagate and result in a Loss-of-Coolant-Accident (LOCA). The inspectors performed a Phase I Significance Determination Process screening using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 1, "Initiating Events Screening Questions." The inspectors answered the Phase I SDP "LOCA Initiators" Questions A1 and A2 'No' because undetected cracks, if present, were not yet through-wall and did not challenge the structural integrity of the welds. Therefore, this finding screened as having very low safety significance (Green). This finding had an associated cross cutting aspect in the Evaluation (P.2) component of the Problem Identification and Resolution cross-cutting area because the licensee did not ensure that the resolution of the issue appropriately addressed causes and the extent of condition. Specifically, when determining the applicability of CC N 770 1, the licensee failed to thoroughly evaluate the scope of welds susceptible to PWSCC that required volumetric examination commensurate with the safety significance of this issue.

Inspection Report# : 2014002 *(pdf)*

Significance: G Mar 31, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Introduction of Foreign Material Into the SW System
A finding of very low safety significance and an associated non-citied violation of Technical Specification (TS) 5.4.1, "Procedures," was identified by the inspectors when licensee personnel failed to follow procedure EN MA 118, "Foreign Material Exclusion (FME)," during work on the safety-related critical service water (SW) system during refueling outage (RFO) 1R23. Specifically, Sections 5.2[1] and 5.2[6] of EN-MA-118 stated that planners and procedure writers should evaluate FME considerations for work activities and include job specific FME controls in work instructions and procedures. Additionally, EN-MA-188 stated that during the planning stage, the planner should designate the FME Zone type, risk level, pathways to FME sensitive equipment, and work practice restrictions, as applicable, in all work packages. However, adequate controls were not established and documented when the decision was made to use an inflatable bladder inside the SW system when work was being performed on the system. As a result, on two separate occasions during RFO 1R23, bladders were inadvertently entrained into the return header of the SW system by the relative vacuum created by system flow. The licensee entered this issue into their CAP as CR PLP 2014 00715, Vacuum was So Great that Bladder was Ripped Off Lanyard and Lost in Piping, and CR PLP 2014 01176, FME Bladder Lost During Work Near CV-0823. As part of their corrective actions, the licensee successfully completed a comprehensive SW system test, which validated acceptable system parameters.

The inspectors determined that this finding was more than minor in accordance with
IMC 0612, Appendix B, "Issue Screening," because if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. In accordance with Checklist 3, "PWR [Pressurized Water Reactor] Cold Shutdown and Refueling Operation RCS [Reactor Coolant System] Open and Refueling Cavity Level < 23' Or RCS Closed and No Inventory in Pressurizer Time to Boiling < 2 hours," following the loss of the first bladder,

and Checklist 4, “PWR Refueling Operation: RCS Level > 23' Or PWR Shutdown Operation with Time to Boil > 2 hours And Inventory in the Pressurizer,” following the loss of the second bladder of Attachment 1, “Phase 1 Operational Checklists for both PWRs and BWRs [Boiling Water Reactors],” of
IMC 0609, Appendix G, “Shutdown Operations Significance Determination Process,” the inspectors determined that mitigation capabilities were not adversely impacted. Additionally, utilizing Table 1, “Losses of Control,” of IMC 0609, Appendix G, the inspectors determined there was no loss of control. As a result, the finding screened as having very low safety significance (Green). This finding had an associated cross cutting aspect in the Work Management (H.5) component of the Human Performance cross-cutting area because the licensee did not implement a process of planning, controlling, and executing work activities such that nuclear safety was the overriding priority. In particular, the work process did not include the identification and management of risk commensurate to the work and the need for coordination with different groups or job activities.

Inspection Report# : 2014002 *(pdf)*

Mitigating Systems

Significance: G Dec 31, 2014
Identified By: NRC
Item Type: NCV NonCited 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 NonCited 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 NonCited 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 NonCited 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 NonCited 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 NonCited 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 NonCited 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 NonCited 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 NonCited 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 NonCited 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 NonCited 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 NonCited 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)*

Significance: G Mar 31, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Procedures During Reactor Vessel Head Lift
A finding of very low safety significance and an associated non-citied violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was self-revealed when licensee personnel failed to follow maintenance procedure RFL R 16, “Reactor Vessel Closure Head Installation.” Specifically, during the reactor vessel head lift on March 5, 2014, to support reinstallation onto the vessel flange, workers failed to identify an interference with the reactor head lift structure, causing the head to impact a jack screw on the structure and increasing the total load weight to approximately 283,000 pounds, which was greater than the procedural maximum polar crane load rating of 270,000 pounds. The licensee entered this issue into their CAP as CR-PLP-2014-01903, Reactor Head Flange Contacted Jacking Screw While Raising it Off the Head Stand. As part of their corrective actions, the licensee conducted a Level 1 Human Performance Evaluation, generated a site wide Human Performance error communication, and performed work crew stand downs to discuss crane and rigging expectations.

The inspectors determined that this finding was more than minor in accordance with
IMC 0612, Appendix B, "Issue Screening," because the finding was associated with the Human Performance attribute of the Barrier Integrity cornerstone and adversely impacted the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Additionally, the inspectors determined that the performance deficiency could reasonably be viewed as a precursor to a significant event and that if left uncorrected the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, the operability of the containment polar crane was required to be evaluated and the reactor vessel head was required to be inspected after the event occurred to verify no significant damage was caused and the maximum design limit of the crane could have been exceeded if the evolution was not stopped when it was, which increased the risk of dropping the head during the lift. The finding was screened in accordance with IMC 0609, Appendix G, “Shutdown Operations Significance Determination Process,” Attachment 1, “Phase 1 Operational Checklists for both PWRs and BWRs.” The finding was determined to be of very low safety significance (Green) based on not requiring a quantitative assessment after reviewing the five shutdown safety functional areas in Checklist 3, “PWR Cold Shutdown and Refueling Operation RCS Open and
Refueling Cavity Level < 23' Or RCS Closed and No Inventory in Pressurizer Time to Boiling <2 hours.” This finding had an associated cross cutting aspect in the Challenge the Unknown (H.11) component of the Human Performance cross-cutting area. Specifically, human performance investigations identified that workers exhibited a lack of rigor when performing interference verifications prior to and during the reactor head lift, and an inadequate “stop when unsure” mentality when assessing the situation before continuing with the head lift. In addition, the workers and supervisors for this task did not understand that the load cell increase exceeded the procedural maximum value and did not inform decision makers outside of the immediate work area to validate it was safe to proceed with the evolution.

Inspection Report# : 2014002 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: TBD Oct 30, 2014
Identified By: NRC
Item Type: AV Apparent Violation
Failure to Monitor the Highest Exposed Part of the Compartment When Using EDEX
The NRC identified a finding and two apparent 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 an apparent 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 an example of an apparent 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 preliminarily determined to be 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)*

Significance:  Jun 30, 2014
Identified By: NRC
Item Type: NCV NonCited 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 NonCited 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 NonCited 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)*

Significance: G Mar 31, 2014
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Maintain Radiation Exposure ALARA on CRDM 24 Repairs
A finding of very low safety significance was self revealed when workers received unplanned and unintended occupational radiation dose during a maintenance outage conducted in August 2012 due to deficiencies in the licensee's Radiological Work Planning and Work Execution Program. Specifically, the licensee failed to properly incorporate As-Low-As-Reasonably-Achievable (ALARA) strategies and insights while planning and executing Control Rod Drive Mechanism (CRDM) 24 housing work. The licensee entered this issue into their CAP as CR-PLP-2014 05812, UT [Ultrasonic Testing] Exams of the Additional CRDM Stalk Housings Has Exceeded the Dose Estimate for the RWP [Radiation Work Permit]. Corrective actions were implemented to address the outage planning and work execution issues.

The inspectors determined that this finding was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," because the finding was associated with the Program and Process attribute of the Occupational Radiation Safety cornerstone and adversely impacted the cornerstone objective of ensuring the adequate protection of worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Additionally, the finding was similar to the more than minor criteria in Example 6.i of IMC 0612, Appendix E, "Examples of Minor Issues." The inspectors screened this finding in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process." The inspectors determined that the finding did not involve: (1) a radiological overexposure; (2) a substantial potential for an overexposure; or (3) a compromised ability to assess dose. The inspectors also determined that the finding involved ALARA planning and work controls and that the licensee's 3 year rolling collective dose average was above 135 person Rem at the time the performance deficiency occurred. However, because the work activity was a single occurrence that involved an actual dose outcome that was within the licensee's control of less than 25 person Rem, this finding was determined to be of very low safety significance (Green). This finding had an associated cross cutting aspect in the Work Management (H.5) component of Human Performance cross-cutting area because the licensee did not plan work activities that appropriately incorporated radiological safety.

Inspection Report# : 2014002 *(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 NonCited 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 NonCited 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 : February 26, 2015