**UNITED STATES**
**NUCLEAR REGULATORY COMMISSION**
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

July 25, 2014

EA-11-096

Mr. Anthony Vitale
Vice-President, Operations
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR PLANT
NRC INTEGRATED INSPECTION REPORT 05000255/2014003

Dear Mr. Vitale:

On June 30, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Palisades Nuclear Plant. The enclosed report documents the results of this inspection, which were discussed on July 10, 2014, with Mr. A. Williams, and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, four NRC-identified and two self-revealed findings of very low safety significance were identified. Five of the findings involved violations of NRC requirements. In addition, one Severity Level IV violation was identified that was dispositioned under the traditional enforcement process. However, because of their very low safety significance, and because the issues were entered into your corrective action program, the NRC is treating the violations as non-cited violations (NCVs) in accordance with Section 2.3.2 of the NRC's Enforcement Policy. Additionally, a licensee-identified violation is listed in Section 4OA7 of this report.

If you contest the subject or severity of any of the NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Palisades Nuclear Plant.

If you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Palisades Nuclear Plant.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, “Public Inspections, Exemptions, Requests for Withholding,” of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

***/RA/***

Eric Duncan, Chief
Branch 3
Division of Reactor Projects

Docket No. 50-255
License No. DPR-20

Enclosure:
Inspection Report 05000255/2014003
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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| Docket No: | 50-255 |
| License No: | DPR-20 |
| Report No: | 05000255/2014003 |
| Licensee: | Entergy Nuclear Operations, Inc. |
| Facility: | Palisades Nuclear Plant |
| Location: | Covert, MI |
| Dates: | April 1 through June 30, 2014 |
| Inspectors: | A. Garmoe, Senior Resident Inspector<br>A. Scarbeary, Resident Inspector<br>B. Boston, Reactor Engineer<br>J. Cassidy, Senior Health Physicist<br>R. Latta, Senior Reactor Inspector, Region IV<br>J. Lennartz, Project Engineer<br>R.M. Morris, Senior Operator Licensing Examiner<br>A. Schwab, Reactor Engineer (NSPDP)<br>C. Zoia, Operator Licensing Examiner |
| Approved by: | Eric Duncan, Chief<br>Branch 3<br>Division of Reactor Projects |

Enclosure

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## SUMMARY OF FINDINGS

Inspection Report 05000255/2014003, 04/01/2014 - 06/30/2014; Palisades Nuclear Plant; Licensed Operator Requalification Program; Plant Modifications; Radiological Hazard Assessment and Exposure Controls.

This report covers a three-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. Six Green finding were identified by the inspectors. Five of the findings involved non-cited violations (NCVs) of NRC regulations. One Severity Level IV NCV was also identified. The significance of inspection findings are indicated by their color (i.e., Greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, “Significance Determination Process,” dated June 2, 2011. Cross-Cutting aspects are determined using IMC 0310, “Aspects Within Cross-Cutting Areas,” dated January 1, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC’s Enforcement Policy, dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, “Reactor Oversight Process,” Revision 5, dated February 2014.

### NRC-Identified and Self-Revealed Findings

### Cornerstone: Mitigating Systems

- Green. 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 I, "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. (Section 1R11.4.b.1)

- Green. 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). (Section 1R11.4.b.2)

- Severity Level IV. 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. (Section 1R11.4.b.3)

- Green. 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 (H.4). (Section 1R18)

**Cornerstone: Occupational Radiation Safety**

- Green. 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 (P.6). (Section 2RS1.4)

- Green. 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 (H.14). (Section 2RS1.9.b.1)

- Green. 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 (H.12). (Section 2RS1.9.b.2)

**Licensee-Identified Violations**

- A violation of very low safety significance that was identified by the licensee was reviewed by the NRC. Corrective actions taken or planned by the licensee were entered into the licensee's CAP. This violation and CAP tracking number is listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

The reactor operated at or near full power until June 20, 2014, when the plant was shut down for planned maintenance to replace the 'C' primary coolant pump seal. On June 26, the reactor was taken critical and the plant was synchronized to the grid. The reactor achieved full power on June 30.

### 1. REACTOR SAFETY

**Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness**

1R01 Adverse Weather Protection (71111.01)

.1 Readiness of Offsite and Alternate Alternating Current (AC) Power Systems

a. Inspection Scope

The inspectors verified that plant features and procedures for operation and continued availability of offsite and alternate AC power systems during adverse weather were appropriate. The inspectors reviewed the licensee's procedures affecting these areas and the communications protocols between the transmission system operator (TSO) and the plant to verify that the appropriate information was being exchanged when issues arose that could impact the offsite power system. Examples of aspects considered in the inspectors' review included:

- coordination between the TSO and the plant during off-normal or emergency events;
- explanations for the events;
- estimates of when the offsite power system would be returned to a normal state; and
- notifications from the TSO to the plant when the offsite power system was returned to normal.

The inspectors also verified that plant procedures addressed measures to monitor and maintain the availability and reliability of both the offsite AC power system and the onsite alternate AC power system prior to or during adverse weather conditions. Specifically, the inspectors verified that licensee procedures addressed the following:

- actions to be taken when notified by the TSO that the post-trip voltage of the offsite power system at the plant would not be acceptable to assure the continued operation of the safety-related loads without transferring to the onsite power supply;
- compensatory actions identified to be performed if it would not be possible to predict the post-trip voltage at the plant for the current grid conditions;
- re-assessment of plant risk based on maintenance activities which could affect grid reliability, or the ability of the transmission system to provide offsite power; and

- communications between the plant and the TSO when changes at the plant could impact the transmission system, or when the capability of the transmission system to provide adequate offsite power was challenged.

Documents reviewed are listed in the Attachment to this report. The inspectors also reviewed CAP items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures.

This inspection constituted one readiness of offsite and alternate AC power systems sample as defined in Inspection Procedure (IP) 71111.01-05.

b. Findings

No findings were identified.

.2 Summer Seasonal Readiness Preparations

a. Inspection Scope

The inspectors performed a review of the licensee's preparations for summer weather for selected systems, including conditions that could lead to an extended drought.

During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. The inspectors also reviewed CAP items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- Auxiliary Building Ventilation; and
- Emergency AC Power

Documents reviewed are listed in the Attachment to this report.

This inspection constituted one seasonal adverse weather sample as defined in IP 71111.01-05.

b. Findings

No findings were identified.

.3 Readiness for Impending Adverse Weather Condition – High Wind Conditions

a. Inspection Scope

Since high winds were forecast in the vicinity of the facility on April 28, 2014, the inspectors reviewed the licensee's overall preparations and protection for the expected weather conditions. The inspectors walked down the transformers and other outside plant areas in the vicinity of safety-related or important to safety equipment because

their design functions could be affected or required as a result of high wind-generated missiles or the loss of offsite power. The inspectors compared the licensee staff's preparations with the site's procedures and determined whether the staff's actions were adequate. During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to respond to specified adverse weather conditions. The inspectors evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant. Additionally, the inspectors reviewed the UFSAR and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific procedures. The inspectors also reviewed a sample of CAP items to verify that the licensee identified adverse weather issues at an appropriate threshold and dispositioned them through the CAP in accordance with station corrective action procedures. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one readiness for impending adverse weather condition sample as defined in IP 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- right train control room heating, ventilation and air conditioning with left train out of service for maintenance;
- high pressure air (HPA) system cross-tie with air compressor 6B out of service; and
- right train auxiliary feedwater (AF) (P-8C) alignment with left train out of service.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, TS requirements, outstanding work orders (WOs), condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify that system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted three partial system walkdown samples as defined in IP 71111.04-05.

b. Findings

No findings were identified.

.2 Semiannual Complete System Walkdown

a. Inspection Scope

On April 7 and 8, 2014, the inspectors performed a complete system alignment inspection of the 1-2 emergency diesel generator (EDG) and auxiliaries to verify the functional capability of the system. This system was selected because it was considered both safety-significant and risk-significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment lineups; electrical power availability; system pressure and temperature indications, as appropriate; component labeling; component lubrication; component and equipment cooling; hangers and supports; operability of support systems; and to ensure that ancillary equipment or debris did not interfere with equipment operation. A review of a sample of past and outstanding WOs was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the CAP database to ensure that system equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment to this report.

These activities constituted one complete system walkdown sample as defined in IP 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns that were focused on the availability, accessibility, and condition of firefighting equipment in the following risk-significant plant areas:

- Fire Area 26: Southwest Cable Penetration Room;
- Fire Area 9: Lake Screenhouse;
- Fire Areas 4, 5 & 7: 1-1 EDG Room, 1-1 Fuel Oil Day Tank Room and 1C Switchgear;
- Fire Areas 6 & 8: 1-2 EDG Room and 1-2 Fuel Oil Day Tank Room; and
- Fire Area 2: Cable Spreading Room.

The inspectors reviewed these areas and assessed whether the licensee had implemented a fire protection program that adequately controlled combustibles and

ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and implemented adequate compensatory measures for out-of-service, degraded, or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the Attachment to this report, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP.

These activities constituted five quarterly fire protection inspection samples as defined in IP 71111.05-05.

b. Findings

No findings were identified.

1R06 Flood Protection (71111.06)

a. Inspection Scope

The inspectors reviewed selected risk-important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analyses and design documents, including the UFSAR; engineering calculations; and abnormal operating procedures to identify licensee commitments. In addition, the inspectors reviewed licensee drawings to identify areas and equipment that may be affected by internal flooding caused by the failure or misalignment of nearby sources of water, such as the fire suppression or the circulating water systems. The inspectors also reviewed the licensee's corrective action documents with respect to past flood-related items identified in the CAP to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following plant area to assess the adequacy of watertight doors and verify drains and sumps were clear of debris and were operable, and that the licensee complied with its commitments:

- 1C Switchgear Room sump groundwater in-leakage.

Documents reviewed during this inspection are listed in the Attachment to this report.

This inspection constituted one internal flooding sample as defined in IP 71111.06-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review of Licensed Operator Requalification (71111.11Q)

a. Inspection Scope

On June 18, 2014, the inspectors observed a crew of licensed operators in the plant's simulator during just-in-time training for an upcoming plant shutdown to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- the ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator requalification program simulator sample as defined in IP 71111.11.

b. Findings

No findings were identified.

.2 Resident Inspector Quarterly Observation of Heightened Activity or Risk (71111.11Q)

a. Inspection Scope

On June 20, 2014, the inspectors observed plant operators reduce plant power, remove plant equipment from service, trip the turbine, and trip the reactor to commence a planned maintenance outage. This was an activity that required heightened awareness or was related to increased risk. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of procedures;
- control board and equipment manipulations;
- oversight and direction from supervisors; and
- the ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The performance in these areas was compared to pre-established operator action expectations, procedural compliance, and task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator heightened activity/risk sample as defined in IP 71111.11.

b. Findings

No findings were identified.

.3 Biennial Written and Annual Operating Test Results (71111.11A)

a. Inspection Scope

The inspectors reviewed the overall pass/fail results of the Biennial Written Exam administered by the licensee from January 7 through February 15, 2013, required by 10 CFR 55.59. On May 14, 2014, the inspectors received the results of the Annual Operating Test administered from March 31 through May 9, 2014. The results for both parts of the exam were compared to the thresholds established in IMC 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process," to assess the overall adequacy of the licensee's Licensed Operator Requalification Training (LORT) Program to meet the requirements of 10 CFR 55.59. (02.02).

This inspection constituted one annual licensed operator requalification examination results sample as defined in IP 71111.11-05.

b. Findings

No findings were identified.

.4 Biennial Review (71111.11B)

a. Inspection Scope

The following inspection activities were conducted during the week of April 7, 2014, to assess: 1) the effectiveness and adequacy of the licensee's implementation and maintenance of its systems approach to training (SAT)-based LORT Program, put into effect to satisfy the requirements of 10 CFR 55.59; 2) conformance with the requirements of 10 CFR 55.46 for use of a plant referenced simulator to conduct operator licensing examinations and for satisfying experience requirements; and 3) conformance with the operator license conditions specified in 10 CFR 55.53. The documents reviewed are listed in the Attachment to this report.

- Licensee Requalification Examinations (10 CFR 55.59(c); Systems Approach To Training Element 4 as Defined in 10 CFR 55.4): The inspectors reviewed the licensee's program for the development and administration of the LORT biennial written examination and annual operating tests to assess the licensee's ability to develop and administer examinations that were acceptable for meeting the requirements of 10 CFR 55.59(a).

- The inspectors conducted a detailed review of previously administered biennial requalification written examination versions to assess content, level of difficulty, and quality of the written examination materials. The inspectors reviewed the quality of the Biennial Written Examination administered by the licensee from January 7, 2013, through February 15, 2013, as required by 10 CFR 55.59(a). The Biennial Written Exam quality was reviewed during the inspection week. The inspectors reviewed two of the written requalification exams and determined that they did not meet written exam quality requirements. The inspectors reviewed the first exam and determined that more than 20 percent of the questions were flawed. Because of the percentage of flawed questions, the inspectors reviewed a second written exam. (02.03) (See Finding Section Below (.1))

- The inspectors conducted a detailed review of 10 Job Performance Measures (JPMs) and six dynamic simulator scenarios to assess the content, level of difficulty, and quality of the operating test materials. (02.04)

- The inspectors observed the administration of the annual operating test to assess the licensee's effectiveness in conducting the examinations, including the conduct of pre-examination briefings, evaluations of individual operator and crew performance, and post-examination analysis. The inspectors evaluated the performance of two simulator crews in parallel with the facility evaluators during three dynamic simulator scenarios and evaluated various licensed crew members concurrently with facility evaluators during the administration of several JPMs. (02.05)

- The inspectors assessed the adequacy and effectiveness of the remedial training conducted since the last requalification examinations and the training planned for the current examination cycle to ensure that they addressed weaknesses in licensed operator or crew performance identified during training and plant operations. The inspectors reviewed remedial training procedures and individual remedial training plans. (02.07)

- Conformance with Examination Security Requirements (10 CFR 55.49): The inspectors conducted an assessment of the licensee's processes related to examination physical security and integrity (e.g., predictability and bias) to verify compliance with 10 CFR 55.49, "Integrity of Examinations and Tests." The inspectors reviewed the licensee's examination security procedure and observed the implementation of physical security controls (e.g., access restrictions and simulator input/output controls) and integrity measures (e.g., security agreements, sampling criteria, bank use, and test item repetition) throughout the inspection period. (02.06) (See Finding Section Below (.2))

- Conformance with Operator License Conditions (10 CFR 55.53): The inspectors reviewed the licensee's program for maintaining active operator licenses and to assess compliance with 10 CFR 55.53(e) and (f). The inspectors reviewed the procedural guidance and the process for tracking on-shift hours for licensed operators, and the control room positions granted watch-standing credit for maintaining active operator licenses. Additionally, medical records for 10 licensed operators were reviewed for compliance with 10 CFR 55.53(l). (02.08) (See Finding Section Below (.3))

- Conformance with Simulator Requirements Specified in 10 CFR 55.46: The inspectors assessed the adequacy of the licensee's simulation facility (simulator) for use in operator licensing examinations and for satisfying experience requirements. The inspectors reviewed a sample of simulator performance test records (e.g., transient tests, malfunction tests, scenario based tests, post-event tests, steady state tests, and core performance tests), simulator discrepancies, and the process for ensuring continued assurance of simulator fidelity in accordance with 10 CFR 55.46. The inspectors reviewed and evaluated the discrepancy corrective action process to ensure that simulator fidelity was being maintained. Open simulator discrepancies were reviewed for importance relative to the impact on 10 CFR 55.45 and 55.59 operator actions, as well as on nuclear and thermal hydraulic operating characteristics. (02.09)

- Problem Identification and Resolution (10 CFR 55.59(c); System Approach to Training Element 5 as Defined in 10 CFR 55.4): The inspectors assessed the licensee's ability to identify, evaluate, and resolve problems associated with licensed operator performance (a measure of the effectiveness of its LORT Program and their ability to implement appropriate corrective actions to maintain its LORT Program up-to-date). The inspectors reviewed documents related to licensed operator performance issues (e.g., recent examination and inspection reports including cited and non-cited violations; licensee event reports (LERs); licensee condition reports, including documentation of plant events; and review of industry operating experience). The inspectors also sampled the licensee's quality assurance oversight activities including licensee training department self-assessment reports. (02.10)

This inspection constituted one Biennial LORT Program inspection sample as defined in IP 71111.11-05.

b. Findings

.1 Written NRC Biennial Examinations Did Not Meet Qualitative Standards

Introduction: The inspectors identified a finding of very low safety significance (Green) 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 examination cycle were flawed.

Description: The NRC-required biennial written exams are designed to ensure that licensed operators maintain safe standards of knowledge and ability in order to take appropriate safety-related actions in response to actual abnormal or emergency conditions. As part of the biennial LORT Program inspection, the inspectors evaluated the content of two NRC-required Biennial Written Exams that the licensee developed and administered to licensed operators during weeks three and five of the examination cycle. Twenty six of the 84 questions reviewed (approximately 30.9 percent) were found to contain psychometric flaws, such as more than one implausible distracter, direct lookup, or low level of difficulty. These written exam flaws collectively affected the level of exam difficulty, making the exams less discriminating. Procedure EN-TQ-114, "Licensed Operator Training Program Description," Section 5.8[3](h) stated, in part, "All items should adhere to the appropriate psychometric attributes and the psychometric error rate should be as low as possible," and Section 5.8[3](d) further stated, in part, "No

test item in the comprehensive written examination should be a direct lookup question." Document NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Appendix B, "Written Examination Guidelines," lists implausible distracters as a psychometric deficiency to be avoided and Section C.2.m, stated, in part, "Avoid specific determiners that give clues to the correct answer. Specific determiners include the following:…(5) implausible distracters." Adhering to the established qualitative guidelines for developing written exams is important because they establish an objective standard that is used throughout the nuclear industry to ensure that the NRC-required Biennial Written Exams are written at an appropriate discriminatory level. The licensee entered this issue into their CAP as CR-PLP-2014-02521, Written Exam Quality, dated April 10, 2014. An apparent cause evaluation was conducted, and corrective actions were assigned to remove closed reference questions from the biennial exam and to evaluate revising procedure EN-TQ-114 to add the use of a plausibility statement for each distracter used.

Analysis: The inspectors determined that the failure to ensure that NRC-required biennial comprehensive written examinations met the qualitative standards established for NRC written examinations was an issue of concern. The issue of concern was reasonably within the licensee's ability to foresee and correct and should have been prevented, thus it was determined to be a performance deficiency.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," 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 affected the quality and discriminatory level of biennial written exams, which potentially impacted Palisades' ability to appropriately evaluate licensed operators. The finding was not subject to traditional enforcement since the issue did not impact the NRC's ability to perform its regulatory function and was not willful.

The significance of the finding was evaluated using IMC 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process (SDP)." The inspectors considered the number of written exam questions that did not meet the qualitative standard for the written exam questions. The qualitative standard used by the inspectors is defined in NUREG-1021, Revision 9, ES-602, Attachment I, "Guidelines for Developing Open-Reference Examinations," and Appendix B, "Written Examination Guidelines." Since 30.9 percent of the questions reviewed did not meet the guidance, Block 4 of Appendix I applied. As a result, the finding was determined to be of 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 possible cross-cutting aspects was performed and no cross-cutting aspect was identified that would be considered a contributor to the cause of the finding.

Enforcement: Title 10 CFR 55.59, "Requalification," Section 4, "Evaluation," requires, in part, that the Requalification Program must include written examinations which determine licensed operators' and senior operators' knowledge of subjects covered in the Requalification Program and provide a basis for evaluating their knowledge of abnormal and emergency procedures. However, the regulation does not specify a requirement for the quality of exam material. Therefore, no violation of regulatory

requirements was identified. The licensee entered this issue into the CAP as CR-PNP-2014-02521. **(FIN 05000255/2014003-01, Written NRC Biennial Examinations Did Not Meet Qualitative Standards)**

.2 Exam Security Issues

Introduction: A finding of very low safety significance (Green) and an associated NCV of 10 CFR 55.49, "Integrity of Examinations and Tests," was identified by the inspectors for the failure to maintain exam security in a manner that would prevent an exam compromise. Specifically, the licensee placed personnel in the simulator operating booth that were not on the security agreement, placed the scenario turnover sheet for the second scenario in the simulator during the first scenario, and left a Job Performance Measure (JPM) turnover sheet in the simulator after the applicant left the simulator and brought the next applicant into the simulator.

Description: Title 10 CFR 55.49 states, "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." Licensee procedure EN-TQ-217, "Examination Security," Section 5.3[6], stated, "Personnel shall not discuss Examination Material where persons not on the Exam Security Agreement may overhear it." During the week of March 31, 2014, a Non-Licensed Operator (NLO) from the crew in training was placed in the simulator operator booth to be used as a communicator for the crew in the simulator that was taking the annual operating exam. The inspectors identified that the NLO was not on the exam security agreement while in the booth. The simulator operators had exam material on the table next to the NLO and were discussing the exam. In addition, procedure EN-TQ-217, Section 5.2[4](d), stated, "Maintain positive control of Examination Material while developing, revising, printing, copying, filing, reviewing, approving, and administering." During the week of April 7, 2014, the inspectors observed several instances of potential exam material compromise, which included placement of the scenario turnover sheet for the second scenario in the simulator during the first scenario and a JPM turnover sheet left in the simulator after one of the applicants completed the simulator JPM when the next applicant was brought into the simulator.

The inspectors reviewed several self-assessments and noted that the licensee's Accreditation Self-Evaluation Report dated November 7, 2013, also indicated that there were six corrective action documents in 2011 and 2012 that represented exam security challenges. The common cause analysis identified that procedure use and adherence could be improved. As discussed above, a performance issue associated with procedure use and adherence was identified. The licensee entered this issue into the CAP as CR-PLP-2014-02533, Issues Were Identified During the Annual Exam Administered on April 10, 2014, dated April 10, 2014.

Analysis: The inspectors determined that the failure to maintain examination security was contrary to 10 CFR 55.49 and licensee procedure EN-TQ-217 and was an issue of concern. The issue of concern was reasonably within the licensee's ability to foresee and correct and should have been prevented, thus it was determined to be a performance deficiency.

The performance deficiency was determined to be more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," because, if left uncorrected, it would have the potential to become a more significant safety concern. Specifically, the failure to

maintain 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 not subject to traditional enforcement since the issue did not impact the NRC's ability to perform its regulatory function and was not willful.

The inspectors evaluated the finding using the Significance Determination Process in accordance with IMC 0609, Attachment 4, "Initial Characterization of Findings." Because the issue involved the Licensed Requalification Section, the inspectors screened the finding using IMC 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process." Using the flow chart, the inspectors screened through flow path 'B', "Related to Requalification Exam Security." The finding was determined to be of very low safety significance (Green) because, although there were lapses in the handling of the exam material, the exam was not actually compromised.

The inspectors determined that the finding had a cross-cutting aspect of Procedural Adherence in the Human Performance area. Specifically, the licensee failed to maintain physical control of exam material during the 2014 operating examination and allowed an NLO to be in the booth with the simulator operators without being on the security agreement (H.8).

Enforcement: Title 10 CFR 55.49, "Integrity of Examinations and Tests," states, in part, "The integrity of a test or examination is considered compromised if any activity, regardless of intent, affected, or but for detection, would have affected the equitable and consistent administration of the test or examination." In addition, licensee procedure EN-TQ-217, Section 5.3[6], stated, "Personnel shall not discuss Examination Material where persons not on the Exam Security Agreement may overhear it," and Section 5.2[4](d) stated, "Maintain positive control of Examination Material while developing, revising, printing, copying, filing, reviewing, approving, and administering."

Contrary to the above, on April 10, 2014, during the administration of the annual operating examination, the licensee did not follow procedure EN-TQ-217. Specifically, while administering the examination, the exam administrators failed to maintain control of the examination material on several occasions. However, the failures did not ultimately result in an exam compromise. Because this violation was of very low safety significance (Green) and was entered into the licensee's CAP as CR-PLP-2014-02533, this violation is being treated as a NCV consistent with Section 2.3.2 of the NRC's Enforcement Policy. **(NCV 05000255/2014003-02, Exam Security Issues)**

.3 Failure to Notify the NRC Within 30 Days of Discovering Changes in Medical Conditions

Introduction: The inspectors identified a Severity Level IV NCV of 10 CFR 50.74, "Notification of Change in Operator or Senior Operator Status." Specifically, the licensee did not notify the NRC within 30 days of discovering a change in medical condition for a licensed operator.

Description: As part of the Biennial Licensed Operator Requalification Training Program Inspection, the inspectors reviewed a sample of licensed operator medical records. The inspectors identified that the licensee had not notified the NRC within 30 days of learning of a change in medical condition of a licensed operator for which a license condition was required by 10 CFR 50.74. In addition, the facility staff also failed to adhere to the requirements of Palisades Nuclear Training 16.0, Revision 2, "NRC Operator License

Application and Renewal Requirements," Section 7.4, "Medical Examination Considerations/Change of Operator Status." Part 7.4.4.a, stated, in part, "Prepare notification, with supporting information, for forwarding to the NRC Region III per 10 CFR 55.25 and ES605.C.3 for final determination in accordance with the requirements of Regulatory Guide 1.134. Notifications SHALL be completed by Licensing and submitted to NRC Region III within 30 days of the resolution of condition..."

In July 2013, the licensee's medical staff became aware of medical conditions that caused a change in a licensed operator's ability to meet the requirements of 10 CFR 55.21 and for which a license restriction change was required. Specifically, the letter sent from the medical examiner to the Palisades training department stated that the licensed operator's license restrictions are that he/she must take medications as prescribed and no-solo operations until a fitness-for-duty exam was completed. The licensed operator's restrictions had not changed and the fitness-for-duty exam had not been completed as of the inspector's review of the medical record on April 8, 2014. The inspectors verified that the licensed operator had not stood a watch since the medical issue occurred. This change in medical condition warranted NRC notification due to a change in the operator's restrictions that required a no-solo license. The licensee did not notify the NRC of these medical changes until April 11, 2014, a period of greater than 30 days. This issue was entered into the licensee's CAP as CR-PLP-2014-02518, NRC Informed the Palisades Training Department that an NRC Form 396 was Not Submitted, dated April 10, 2014.

Analysis: The inspectors determined that the failure to notify the NRC within 30 days of a Licensed Operator change in medical condition as required by 10 CFR 50.74 was an issue of concern. In addition, the facility staff also failed to adhere to the requirements of Palisades Nuclear Training 16.0, Revision 2, "NRC Operator License Application and Renewal Requirements," Section 7.4, related to, "Medical Examination Considerations/Change of Operator Status," Part 7.4.4.a, which stated, in part, "Prepare notification, with supporting information, for forwarding to the NRC Region III per 10 CFR 55.25 and ES605.C.3 for final determination in accordance with the requirements of Regulatory Guide 1.134." Because the failure to make a required report to the NRC is defined in IMC 0612, Appendix B, as impacting the regulatory process, this issue was subject to traditional enforcement.

The issue of concern was reasonably within the licensee's ability to foresee and correct and should have been prevented, thus it was determined to be a performance deficiency. The inspectors reviewed the performance deficiency in accordance with IMC 0612, Appendix B, "Issue Screening," and determined that a Reactor Oversight Process finding did not exist.

The inspectors reviewed Section 6.9, "Inaccurate and Incomplete Information or Failure to Make a Required Report," of the NRC's Enforcement Policy. Based on Example 6.9.d.1, the inspectors determined that the issue represented a Severity Level IV violation. Because the licensee entered this issue into the CAP and restored compliance by submitting the required report, the inspectors determined this issue could be dispositioned as an NCV, in accordance with Section 2.3.2 of the NRC's Enforcement Policy.

Because this issue was dispositioned under traditional enforcement, no cross-cutting aspect was assigned.

Enforcement: Title 10 CFR 50.74(c) requires, in part, "Each licensee notify the Commission in accordance with 10 CFR 50.4 within 30 days of the following in regard to licensed operator or senior operator permanent disability or illness as described in 10 CFR 55.25." Title 10 CFR 55.25 requires that if, during the term of the license, the licensee (reactor operator or senior reactor operator) develops a permanent physical or mental condition that causes the licensee to fail to meet the requirements of 10 CFR 55.21, the facility licensee shall notify the Commission, within 30 days of learning of the diagnosis, in accordance with 10 CFR 50.74(c). During conditions in which a conditional license (as described 10 CFR 55.33(b)) is requested, the facility licensee shall provide medical certification on Form NRC 396 to the Commission (as described in 10 CFR 55.23).

Contrary to the above, as of September 1, 2013, Palisades did not notify the NRC within 30 days of learning of a permanent physical condition for a licensed operator, which caused the licensed operator to fail to meet the requirements of 10 CFR 55.21. Specifically, Palisades' medical staff became aware on approximately July 31, 2013, of medical conditions that caused a change in a licensed operator's ability to meet the requirements of 10 CFR 55.21 and for which license restrictions were required. The facility licensee medical staff informed the Palisades training department staff by letter dated July 31, 2013. However, the Palisades training staff did not notify the NRC of these medical changes until April 11, 2014, a period of greater than 30 days. The inspectors verified that the licensed operator had not stood a watch since the medical issue occurred. Because this issue was entered into the CAP as CR-PLP-2014-02518 and compliance was restored, this issue is being treated as a NCV consistent with Section 2.3.2 of the NRC's Enforcement Policy. **(NCV 05000255/2014003-03, Failure to Notify the NRC Within 30 Days of Discovering Changes in Medical Conditions)**

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant systems:

- High Pressure Air System.

The inspectors reviewed events including those in which ineffective equipment maintenance had resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and

- verifying appropriate performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2), or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- 1-1 EDG two year preventive maintenance outage window;
- P-55C, 'C' Charging Pump, through-wall leak on socket weld;
- P-54C, 'C' component cooling water pump, maintenance window;
- Startup Transformer 1-1 oil leak;
- Troubleshooting direct current (DC) system grounds; and
- Reduced primary cooling system inventory.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Documents reviewed during this inspection are listed in the Attachment to this report.

These maintenance risk assessments and emergent work control activities constituted six samples as defined in IP 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functional Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- water in diesel fire pump header;
- primary coolant pump (PCP) P-50C degraded seal; and
- feedwater system ultrasonic flowmeter signal noise.

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and UFSAR to the licensee's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors reviewed a sample of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

This operability inspection constituted three samples as defined in IP 71111.15-05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors reviewed the following modifications:

- P-50C, PCP control room alarm setpoint changes for seal pressures; and
- Evaluation of scaffolding for long-term use.

The inspectors reviewed the configuration changes and associated 10 CFR 50.59 safety evaluation screening against the design basis, the UFSAR, and the TS, as applicable, to verify that the subject modification did not affect the operability or availability of the affected systems. The inspectors, as applicable, observed ongoing and completed work activities to ensure that the modifications were installed as directed and consistent with the design control documents; the modifications operated as expected; post-modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modifications did not impact the operability of any interfacing systems. As applicable, the inspectors verified that relevant procedure, design, and licensing documents were properly updated. Lastly, the inspectors discussed the plant modification with operations, engineering, and training personnel to ensure that the individuals were aware of how the operation with the plant modification in place could

impact overall plant performance. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two temporary modification samples as defined in IP 71111.18-05.

b. Findings

Introduction: The inspectors identified a finding of very low safety significance (Green) and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure 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 reviews, were not appropriately documented in the scaffold control log, and/or did not contain proper tags.

Description: During a routine plant walkdown in the West Engineered Safeguards Room on April 17, 2014, the inspectors identified two scaffolds with outdated scaffold tags. The inspectors raised the issue with the scaffold crew supervisor. The scaffold crew performed re-inspections of the two scaffolds in question and updated the tagging. The inspectors also questioned the process for controlling long-term scaffolds and how those requirements were implemented. A long-term scaffold was defined in procedure EN-MA-133 as, "scaffold remaining in the plant for greater than 90 days with the plant at power or scaffold erected more than 90 days near SSCs required to be operable when the plant is shut down." Section 5.0[10] of procedure EN-MA-133 required that long-term scaffold be inspected with the inspection documented in accordance with attachments in the procedure and that long-term scaffold be re-inspected every two years with the re-inspection documented on the scaffold tag and in the scaffold log. Section 5.0[10] further stated, "An EN-LI-100 Process Applicability Determination shall be performed." Completion of a Process Applicability Determination at Palisades included a review of the issue against the criteria contained in 10 CFR 50.59.

Through discussions with the workers, it was identified that the logging of scaffolds, scaffolding inspections, and process applicability determination review initiations, as needed, were managed by the Site Scaffold Coordinator during normal plant operations and by a designated Supplemental Scaffold Coordinator during refueling outages. It was revealed that during the change between online and outage work activities some scaffolds were not logged correctly or were thought to have been removed from service in the plant when they actually remained installed. Also during these discussions, it was identified by the inspectors that the licensee was not counting days when the plant was shut down in any calculations of the 90 day time frame for scaffolds installed near SSCs that were needed when the plant was shut down.

The licensee completed an extent-of-condition review that identified additional scaffolds that required process applicability determination reviews and re-inspections for continued use, reviewed scaffold logs, and performed in-field walkdowns of installed scaffolding that identified additional examples of scaffolds that qualified as long-term, and scaffolds that were not entered into the scaffold log. The identified scaffolding issues were entered into the licensee's CAP as CR-PLP-2014-3057, Discrepancies Identified from Review of Long-Term Scaffold Documentation, dated May 14, 2014, and CR-PLP-2014-2646, Two Scaffolds Near Safety-Related Equipment Not Being Controlled as Long-Term, dated April 17, 2014. The licensee subsequently completed

the required process applicability determination reviews and re-inspections for all identified discrepant scaffolds and ensured that the scaffold control log reflected the in-field scaffolding installations. An additional corrective action was planned to enhance the site-specific work instruction with information on which SSCs were important during shutdown operations.

Analysis: The inspectors determined that the failure to adequately implement the requirements of procedure EN-MA-133 for the control of long-term scaffolding was a performance deficiency that warranted a significance determination.

The inspectors determined that the finding was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," 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. Multiple examples were identified of process applicability determination reviews not being performed within the procedurally required timeframe to validate leaving scaffolding installed near SSCs needed for shutdown and power operations. The finding was not subject to traditional enforcement since the issue did not impact the NRC’s ability to perform its regulatory function and was not willful.

The significance of the finding was reviewed in accordance with IMC 0609, Appendix A, “The Significance Determination Process for Findings At-Power,” Exhibit 2, “Mitigating Systems Screening Questions,” dated July 1, 2012. The finding was determined to be of very low safety significance (Green) based on answering ‘No’ to all the Mitigating Systems screening questions, which indicated that the finding did not affect the operability or functionality of an SSC and all required safety functions were maintained.

The finding was associated with a cross-cutting aspect of Teamwork in the Human Performance area. Specifically, site 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 (H.4).

Enforcement: Title 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” requires that activities affecting quality shall be accomplished in accordance with instructions, procedures, and drawings of a type appropriate to the circumstances. A long-term scaffold was defined in procedure EN-MA-133 ,“Control of Scaffolding,” as “scaffold remaining in the plant for greater than 90 days with the plant at power or scaffold erected more than 90 days near SSCs required to be operable when the plant is shut down.” Section 5.0[10] of procedure EN-MA-133 required that long-term scaffold be inspected with the inspection documented in accordance with attachments in the procedure and that long-term scaffold be re-inspected every two years with the re-inspection documented on the scaffold tag and in the scaffold log. Section 5.0[10] further stated, “An EN-LI-100 Process Applicability Determination shall be performed.” Completion of a Process Applicability Determination at Palisades included a review of the issue against the criteria contained in 10 CFR 50.59.

Contrary to the above, as of April 17, 2014, the licensee failed to adequately implement the requirements of quality procedure EN-MA-133 for the control of long-term scaffolding. Multiple examples were identified dating back to at least January 2014 of scaffolds being installed in the plant for greater than 90 days without the required process applicability determination reviews, appropriate documentation in the scaffold control log, or tagging. Because this violation was of very low safety significance and was entered into the CAP as CR-PLP-2014-2646 and CR-PLP-2014-3057, this violation is being treated as a NCV consistent with Section 2.3.2 of the NRC's Enforcement Policy. **(NCV 05000255/2014003-04, Failure to Evaluate Long-Term Scaffolds in Accordance with Procedures)**

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following post-maintenance testing activities to verify that procedures and testing activities were adequate to ensure system operability and functional capability:

- 1-1 EDG following maintenance;
- RO-97/QO-21C, 'C' AFW Pump testing following flow controller calibrations;
- MT-10, Core Monitoring following nuclear instrumentation adjustments;
- P-7A, 'A' Service Water Pump following packing replacement; and
- QO-21, AFW Pump P-8B following maintenance.

These activities were selected based upon the SSC's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TSs, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constituted five post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings were identified.

1R20 Outage Activities (71111.20)

a. Inspection Scope

The inspectors evaluated outage activities for a planned maintenance outage that began on June 20, 2014, and was completed on June 26, 2014. The purpose of the outage was to replace a degraded seal for the 'C' PCP. Both the seal and the impeller for the 'C' PCP were newly installed during the recent refueling outage. Shortly after plant startup, plant indications revealed that the seal was prematurely degrading.

The inspectors reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule. The inspectors observed or reviewed the reactor shutdown and cooldown, outage equipment configuration and risk management, electrical lineups, selected clearances, control and monitoring of decay heat removal, control of containment activities, startup and heatup activities, and identification and resolution of problems associated with the outage.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted one other outage sample as defined in IP 71111.20-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- QI-39, AFW Actuation System Logic Test (Routine);
- RO-128-1, EDG 1-1 24 Hour Loaded Run (Routine);
- NMS-7, Dual Line Power Channel Tilt Adjustment (Routine);
- QO-1, Safety Injection Initiation Test (Routine); and
- QO-21, AFW Pump P-8A Inservice Test (IST).

The inspectors observed in-plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- were the effects of the testing adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- were acceptance criteria clearly stated, sufficient to demonstrate operational readiness, and consistent with the system design basis;
- was plant equipment calibration correct, accurate, and properly documented;
- were as-left setpoints within required ranges; and was the calibration frequency in accordance with TSs, the UFSAR, plant procedures, and applicable commitments;

- was measuring and test equipment calibration current;
- was the test equipment used within the required range and accuracy and were applicable prerequisites described in the test procedures satisfied;
- did test frequencies meet TS requirements to demonstrate operability and reliability;
- were tests performed in accordance with the test procedures and other applicable procedures;
- were jumpers and lifted leads controlled and restored where used;
- were test data and results accurate, complete, within limits, and valid;
- was test equipment removed following testing;
- where applicable for IST activities, was testing performed in accordance with the applicable version of Section XI of the ASME Code, and were reference values consistent with the system design basis;
- was the unavailability of the tested equipment appropriately considered in the performance indicator data;
- where applicable, were test results not meeting acceptance criteria addressed with an adequate operability evaluation, or was the system or component declared inoperable;
- where applicable for safety-related instrument control surveillance tests, was the reference setting data accurately incorporated into the test procedure;
- was equipment returned to a position or status required to support the performance of its safety function following testing;
- were all problems identified during the testing appropriately documented and dispositioned in the licensee's CAP;
- where applicable, were annunciators and other alarms demonstrated to be functional and were annunciator and alarm setpoints consistent with design documents; and
- where applicable, were alarm response procedure entry points and actions consistent with the plant design and licensing documents.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted four routine surveillance testing samples, and one inservice testing sample as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on May 7, 2014, to identify any weaknesses and deficiencies in the classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the control room simulator, technical support center, operational support center, and emergency operations facility to determine whether the event classification, notifications, and protective action

recommendations were performed in accordance with procedures. The inspectors also attended the licensee facility critique in the emergency operations facility and reviewed the overall drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the CAP. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the Attachment to this report.

This emergency preparedness drill inspection constituted one sample as defined in IP 71114.06-05.

b. Findings

No findings were identified.

## 2. RADIATION SAFETY

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

These inspection activities supplement those documented in NRC Inspection Report 05000255/2014002 and constitute one complete sample as defined in IP 71124.01-05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed all licensee performance indicators for the Occupational Radiation Exposure Cornerstone for followup. The inspectors reviewed the results of Radiation Protection Program audits (e.g., licensee quality assurance audits or other independent audits). The inspectors also reviewed any reports of operational occurrences related to occupational radiation safety since the last inspection. The inspectors reviewed the results of the audit and operational report reviews to gain insights into overall licensee performance.

b. Findings

No findings were identified.

.2 Radiological Hazard Assessment (02.02)

a. Inspection Scope

The inspectors determined if there had been changes to plant operations since the last inspection that may have resulted in a significant new radiological hazard for onsite workers or members of the public. The inspectors evaluated whether the licensee assessed the potential impact of these changes and had implemented periodic monitoring, as appropriate, to detect and quantify the radiological hazard.

The inspectors conducted walkdowns of the facility, including radioactive waste processing, storage, and handling areas to evaluate material condition and performed independent radiation measurements to verify conditions.

b. Findings

No findings were identified.

.3 Instructions to Workers (02.03)

a. Inspection Scope

The inspectors selected various containers holding non-exempt licensed radioactive materials that may cause unplanned or inadvertent exposure of workers and assessed whether the containers were labeled and controlled in accordance with 10 CFR 20.1904, "Labeling Containers," or met the requirements of 10 CFR 20.1905(g), "Exemptions To Labeling Requirements."

The inspectors reviewed selected occurrences where a worker's electronic personal dosimeter noticeably malfunctioned or alarmed. The inspectors evaluated whether workers responded appropriately to the off-normal condition. The inspectors assessed whether the issue was included in the CAP and dose evaluations were conducted as appropriate.

b. Findings

No findings were identified.

.4 Contamination and Radioactive Material Control (02.04)

a. Inspection Scope

The inspectors observed locations where the licensee monitored potentially contaminated material leaving the radiologically controlled area and inspected the methods used for the control, survey, and release of material from these areas. The inspectors observed the performance of personnel surveying and releasing material for unrestricted use and evaluated whether the work was performed in accordance with plant procedures and whether the procedures were sufficient to control the spread of contamination and prevent the unintended release of radioactive materials from the site. The inspectors assessed whether the radiation monitoring instrumentation had appropriate sensitivity for the types of radiation present.

The inspectors reviewed the licensee's criteria for the survey and release of potentially contaminated material. The inspectors evaluated whether there was guidance on how to respond to an alarm that indicated the presence of licensed radioactive material.

The inspectors reviewed the licensee's procedures and records to verify that the radiation detection instrumentation was used at its typical sensitivity level based on appropriate counting parameters. The inspectors assessed whether the licensee had established a de facto "release limit" by altering the instrument's typical sensitivity through such methods as raising the energy discriminator level or locating the instrument in a high radiation background area.

The inspectors selected several sealed sources from the licensee's inventory records and assessed whether the sources were accounted for and verified to be intact.

The inspectors evaluated whether any transactions, since the last inspection, involving nationally tracked sources were reported in accordance with 10 CFR 20.2207.

b. Findings

Introduction: The inspectors identified a finding of very low safety significance (Green) and an associated NCV of TS 5.4.1 for the failure to maintain a sealed source inventory and to perform leak tests required by station procedures. Specifically, the inspectors identified multiple sources that were either not included in the inventory, not leak-tested, or were not properly stored.

Description: 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. The inspectors identified the following four specific categories of errors:

- Sources that were not included in the inventory and appeared to be unknown to the radiation protection organization. The inspectors reviewed the radioactive sources in two chemistry laboratories. The inspectors identified more than 10 sources in each of these locations with activities greater than 100 microcuries of beta/gamma-emitting material or 5 microcuries of alpha-emitting material that were not included in the radioactive source inventory.

- Sources that were not included in the inventory, but were tested for leakage by the radiation protection organization. This included a source that contained 10 millicuries of Ni-63.

- Sources that were included in the inventory and were required to be tested for leakage, but the testing was not performed. This included more than five sources that contained 500 microcuries of Po-210 and another source that contained 1 curie of Cs-137.

- Sources that the licensee determined to be “in storage”; however, the sources were co-located with sources that were available for general use by authorized personnel. The periodic leak test did not apply to sealed sources that were stored and not being used, although licensee procedures stated that these sources shall be tested prior to use. The inspectors determined that sources radiation protection determined to be “in storage” yet co-located with sources that were available for general use by authorized personnel represented two potential problems. First, the sources did not have any special label or designated location to inform personnel that the sources must be leak tested prior to use. Additionally, if the sources determined to be “in-storage” leaked, the contamination could easily transfer to sources that were intended for use and could present an additional radiation hazard to the worker using the source.

Station radiation safety procedure EN-RP-143, “Source Control,” established the requirements for the receipt, inventory, storage, issuance, return, transfer, and disposal of radioactive sources. This procedure also established the requirements for the inventory of sources, and the leak testing of sealed sources. Step 5.6.1 required leak testing for sources that contained radioactive material with a half-life greater than 30 days with an activity greater than 100 microcuries of beta/gamma-emitting material or

5 microcuries of alpha or neutron-emitting material. Step 5.6.2 of EN-RP-143 required that leak testing be performed upon receipt, at intervals not to exceed 6 months, when there was any indication that the source was damaged, and prior to being shipped offsite for disposal. The requirement for leak testing of certain sources was important to minimize the spread of radioactive contamination to personnel, equipment, and work areas.

The inspectors noted that the self-assessment completed by the licensee prior to this inspection did not review sealed source inventory and leak testing results, which was an assessment objective. This issue was entered into the licensee's CAP as CR-PLP-2014-02715, Issue with Control of Sources, dated April 22, 2014.

Analysis: The inspectors determined that the failure to maintain an inventory of sources onsite and to perform adequate leak testing of sources was an issue of concern. Because the inspectors concluded that this activity was within the licensee's ability to foresee and should have been prevented, it was determined to be a performance deficiency.

The performance deficiency was determined to be more than minor in accordance with IMC 0612, Appendix B, "Issue Screening." Specifically, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern in that the failure to ensure that the sources were free of external contamination could result in the spread of radioactive contamination, including alpha contamination that is not readily detected by personnel monitoring equipment, and could result in increased exposure to radiation. The finding was not subject to traditional enforcement since the issue did not impact the NRC's ability to perform its regulatory function and was not willful.

The finding was assessed using IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," and was determined to be of very low safety significance (Green) because the finding 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 issue was associated with a cross-cutting aspect of Self-Assessment in the Problem Identification and Resolution area. Specifically, the self-assessment completed by the licensee prior to this inspection did not review sealed source inventory and leak testing results, which was an assessment objective. Thus, the licensee did not conduct a self-critical and objective assessment of the program and practice (P.6).

Enforcement: Technical Specification 5.4.1 requires, in part, that the licensee shall establish, implement, and maintain applicable procedures recommended in Regulatory Guide (RG) 1.33, Revision 2, Appendix A. Section 7, Appendix A, of RG 1.33, recommends RP procedures for contamination control. Licensee procedure EN-RP-143, Revision 9, implemented a portion of these requirements.

Contrary to the above, as of April 25, 2014, the licensee did not implement the requirements contained in procedure EN-RP-143 to verify that all of the sources were known and free of external contamination. Corrective actions planned include a complete site-wide search for sealed sources, updating the source inventory, and ensuring that all sources required were successfully leak-tested within the last six months. Because this violation was of very low safety significance (Green) and was

entered into the licensee's CAP as CR-PLP-2014-02715, this violation is being treated as a NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV 05000255/2014003-05, Failure to Follow Procedure Associated with Sealed Source Inventory and Leak Testing)**

.5 Radiological Hazards Control and Work Coverage (02.05)

a. Inspection Scope

The inspectors evaluated the adequacy of radiological controls, such as required surveys, radiation protection job coverage (including audio and visual surveillance for remote job coverage), and contamination controls. The inspectors evaluated the licensee's use of electronic personal dosimeters in high noise areas as high radiation area monitoring devices.

The inspectors assessed whether radiation monitoring devices were placed on the individual's body consistent with licensee procedures. The inspectors assessed whether the dosimeter was placed in the location of highest expected dose or that the licensee properly employed an NRC-approved method of determining effective dose equivalent.

The inspectors reviewed the application of dosimetry to effectively monitor exposure to personnel in high radiation work areas with significant dose rate gradients.

The inspectors examined the licensee's physical and programmatic controls for highly activated or contaminated materials (i.e., nonfuel) stored within spent fuel and other storage pools. The inspectors assessed whether appropriate controls (i.e., administrative and physical controls) were in place to preclude inadvertent removal of these materials from the pool.

The inspectors examined the posting and physical controls for selected HRAs and very high radiation areas (HRAs) to verify conformance with the occupational radiation safety performance indicator.

b. Findings

No findings were identified.

.6 Risk-Significant High Radiation Area and Very High Radiation Area Controls (02.06)

a. Inspection Scope

The inspectors discussed with the radiation protection manager the controls and procedures for high-risk HRAs and very high radiation areas. The inspectors discussed methods employed by the licensee to provide stricter control of very high radiation area access as specified in 10 CFR 20.1602, "Control of Access to Very High Radiation Areas," and RG 8.38, "Control of Access to High and Very High Radiation Areas of Nuclear Plants." The inspectors assessed whether any changes to licensee procedures substantially reduced the effectiveness and level of worker protection.

The inspectors discussed the controls in place for special areas that had the potential to become very high radiation areas during certain plant operations with first-line health physics supervisors (or equivalent positions having backshift health physics oversight

authority). The inspectors assessed whether these plant operations required communication beforehand with the health physics group, so as to allow corresponding timely actions to properly post, control, and monitor the radiation hazards, including re-access authorization.

The inspectors evaluated licensee controls for very high radiation areas and areas with the potential to become a very high radiation area to ensure that an individual was not able to gain unauthorized access to the very high radiation areas.

b. Findings

No findings were identified.

.7 Radiation Worker Performance (02.07)

a. Inspection Scope

The inspectors reviewed radiological problem reports since the last inspection that identified the cause of the event as human performance errors. The inspectors evaluated whether there was an observable pattern traceable to a similar cause. The inspectors assessed whether this perspective matched the corrective action approach taken by the licensee to resolve the reported problems. The inspectors discussed with the radiation protection manager any problems with the corrective actions planned or implemented.

b. Findings

No findings were identified.

.8 Radiation Protection Technician Proficiency (02.08)

a. Inspection Scope

The inspectors reviewed radiological problem reports since the last inspection that identified the cause of the event to be radiation protection technician error. The inspectors evaluated whether there was an observable pattern traceable to a similar cause. The inspectors assessed whether this perspective was consistent with the corrective action approach taken by the licensee to resolve the reported problems.

b. Findings

No findings were identified.

.9 Problem Identification and Resolution (02.09)

a. Inspection Scope

The inspectors evaluated whether problems associated with radiation monitoring and exposure control were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involve radiation monitoring and exposure controls.

The inspectors assessed the licensee's process for applying operating experience to their plant.

b. Findings

.1 Inadequate Control of Entry into High Radiation Areas

Introduction: The inspectors reviewed a self-revealed finding of very low safety significance (Green) and an associated NCV of Technical Specification 5.7.1 for unauthorized entry into HRAs. Specifically, on two separate occasions workers unknowingly entered areas with greater than expected dose rates.

Description: On January 30, 2014, a worker replacing lights in lower containment received an electronic dosimeter dose rate alarm that identified the worker was in an area that not was discussed or authorized by radiation protection (RP) staff. The electronic dosimeter alarmed when the worker entered an area with dose rates that exceeded 300 mR/hour. The worker immediately exited containment after the alarm was received. The worker had been led to the areas of containment that required new light bulbs by a radwaste technician. However, this technician was included in the RP briefing and traversed a different travel path than discussed with RP staff, which resulted in higher than anticipated dose rates. The licensee's investigation concluded that the worker was in an area that not was discussed or authorized by RP staff.

On February 14, 2014, a worker entered the West Engineered Safeguards Room and received an electronic dosimeter dose rate alarm that identified the worker was in an area that was not discussed or authorized by RP personnel. The electronic dosimeter alarmed when the worker entered an area with dose rates that exceeded 150 mR/hour. The worker immediately exited the area after the alarm was received. The worker discussed his work plans with RP staff before entering the radiologically controlled area. The individual was briefed by RP personnel regarding the radiological conditions in the hot machine shop. However, after the worker left RP and entered the radiologically controlled area, his supervisor directed him to collect some tools from the West Engineered Safeguards Room. The licensee's investigation concluded that the worker was in an area that not was discussed or authorized by RP staff.

Station radiation safety procedure EN-RP-101, "Access Control for Radiologically Controlled Areas," Attachment 9.9 for HRA access specifically stated, in part, that workers be briefed on their radiological hazards, including radiological dose rates, prior to entering HRAs. Immediate corrective actions included a discussion of lessons learned at crew stand-downs. This issue was also entered into the licensee's CAP as CR-PLP-2014-00858, Worker Received Dose Rate Alarm During Relamping Activities, dated January 30, 2014; and CR-PLP-2014-01401, Worker Received Dose Rate Alarm Upon Entering West Engineered Safeguards Room, dated February 14, 2014.

Analysis: The inspectors determined that the inadequate control of entry into HRAs was an issue of concern. The issue of concern was reasonably within the licensee's ability to foresee and correct and should have been prevented, thus it was determined to be a performance deficiency.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," 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 knowledge of the radiological conditions placed them at increased risk for unnecessary radiation exposure. The finding was not subject to traditional enforcement since the issue did not impact the NRC's ability to perform its regulatory function and was not willful.

The finding was assessed using IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," and 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 a 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 RP staff and did not stop to consider whether the new work activity or location was safe (H.14).

Enforcement: Technical Specification 5.7.1.e states, in part, that entry into HRAs shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them.

Contrary to the above, on January 30, 2014, and again on February 14, 2014, workers entered HRAs without the requisite knowledge of the radiological conditions of the areas. These issues have been entered in the licensee's CAP as CR-PLP-2014-00858 and CR-PLP-2014-01401. Because this issue was of very low safety significance and the issues were entered into the licensee's CAP, this violation is being treated as a NCV consistent with Section 2.3.2 of the NRC Enforcement Policy.
**(NCV 05000255/20014003-06, Inadequate Control of Entry into High Radiation Areas)**

.2 Entries Into High Radiation Areas Without Required Dosimetery

Introduction: The inspectors reviewed a self-revealed finding of very low safety significance (Green) and an associated NCV of Technical Specification 5.7.1 for entries into HRAs without the required monitoring device. Specifically, on two separate occasions workers entered areas without a radiation monitoring device that continuously integrated the radiation dose rates in the area and alarmed when the device's dose alarm setpoint was reached.

Description: On February 11, 2014, a worker entered the 607' elevation of containment and entered areas with dose rates of 320 mR/hour. The worker left the required EAD in the dress out area. Another worker found the EAD in the dress out area and notified RP 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 worker left the required EAD in the dress out area. The individual identified the missing EAD when undressing to leave the room.

Station radiation safety procedure EN-RP-101, Step 5.4[4] stated that each person entering a HRA shall have an alarming direct reading dosimeter (Electronic Dosimeter). Additionally, the licensee maintained their ability to assess worker dose through the use

of radiological surveys, area stay times, and secondary dosimetry. This issue was entered into the licensee's CAP as CR-PLP-2014-01292, Worker Entered Containment Without Electronic Dosimetry, dated February 11, 2014; and CR-PLP-2014-01629, Operator Entered West Engineered Safeguards Room Without Electronic Dosimeter, dated February 22, 2014.

Analysis: The inspectors determined that entry into a HRA without the required monitoring device was an issue of concern. The inspectors determined that the issue of concern was reasonably within the licensee's ability to foresee and correct and should have been prevented, thus it was a performance deficiency.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," 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 not subject to traditional enforcement since the issue did not impact the NRC's ability to perform its regulatory function and was not willful.

The finding was assessed using IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," and 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 a 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 (H.12).

Enforcement: Technical Specification 5.7.1.d states, in part, that each individual or group entering an HRA shall possess, "a radiation monitoring device that continuously integrates the radiation dose rates in the area and alarms when the device's dose alarm setpoint is reached, with an appropriate alarm setpoint."

Contrary to the above, on February 11, 2014, and again on February 22, 2014, workers entered HRAs without the requisite alarming direct reading dosimeter. Because this issue was of very low safety significance (Green) and has been entered into the licensee's CAP as CR-PLP-2014-01292 and CR-PLP-2014-01629, this violation is being treated as a NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV 05000255/20014003-07, Entries into High Radiation Areas Without Required Dosimetry)**

## 3. OTHER ACTIVITIES

**Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, and Occupational and Public Radiation Safety**

4OA1 Performance Indicator Verification (71151)

.1 Unplanned Scrams Per 7000 Critical Hours

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Scrams Per 7000 Critical Hours (IE01) performance indicator (PI) for the period from the 2nd quarter 2013 through the 1st quarter 2014. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee's operator narrative logs, condition reports, event reports, and NRC Integrated Inspection Reports for the period of April 1, 2013 to March 31, 2014, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one unplanned scrams per 7000 critical hours sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.2 Unplanned Transients Per 7000 Critical Hours

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Transients Per 7000 Critical Hours (IE03) PI for the period from the 2nd quarter 2013 through the 1st quarter 2014. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee's operator narrative logs, condition reports, maintenance rule records, event reports and NRC Integrated Inspection Reports for the period of April 1, 2013 to March 31, 2014, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one unplanned transients per 7000 critical hours sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.3 Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspectors sampled licensee submittals for the Occupational Radiological Occurrences PI for the period from the 3rd quarter 2013 through the 1st quarter 2014. The inspectors used PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 2013, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's assessment of the PI for occupational radiation safety to determine if indicator-related data was adequately assessed and reported. To assess the adequacy of the licensee's PI data collection and analyses, the inspectors discussed with RP staff the scope and breadth of its data review and the results of those reviews. The inspectors independently reviewed electronic personal dosimetry dose rate and accumulated dose alarms and dose reports and the dose assignments for any intakes that occurred during the time period reviewed to determine if there were potentially unrecognized occurrences. The inspectors also conducted walkdowns of numerous locked high and very high radiation area entrances to determine the adequacy of the controls in place for these areas. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one occupational exposure control effectiveness sample as defined in IP 71151-05.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

**Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection**

.1 Routine Review of Items Entered into the Corrective Action Program

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify they were being entered into the licensee's CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: identification of the problem was complete and accurate; timeliness was commensurate with the safety significance; evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the Attachment to this report.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 Semiannual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the 6-month period of January 1 through June 30, 2014, although some examples expanded beyond those dates where the scope of the trend warranted.

The review also included issues documented outside the normal CAP in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenge lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

This review constituted one semiannual trend inspection sample as defined in IP 71152-05.

b. Findings

No findings were identified.

Based on their review of the licensee's CAP, the inspectors noted an elevated number of instances where inadequate work instructions or coordination of activities were identified when work was ready to begin or already underway. The inspectors noted that workers had generally exhibited the correct behavior in the field by stopping the job when unexpected conditions are encountered, contacting their supervision and Operations, and documenting the unexpected conditions in condition reports. However, these issues could have been addressed in the work planning process well before workers entered the field to place clearance orders or begin work. These issues represented a reliance on the last barrier of defense, which was identification by workers in the field, and were precursors to events that could result in worker injuries and adversely impact plant safety and stability. Specific examples include, but are not limited to the following:

- CR-PLP-2014-00513 written January 23: Work was started without all potential energy sources isolated
- CR-PLP-2014-00588 written January 24: Valve was unexpectedly stroked while workers were lubricating the valve
- CR-PLP-2014-00907 written January 31: During local preparations for valve testing the valve unexpectedly stroked due to a conflicting activity
- CR-PLP-2014-00937 written February 2: Job was stopped due to inadequate confined space rescue plans
- CR-PLP-2014-01229 written February 10: Tag was found installed on the wrong component during a walkdown prior to Alloy 600 project work
- CR-PLP-2014-01391 written February 14: Unclear work instructions for main condenser tube plugging delayed the start of work
- CR-PLP-2014-01643 written February 23: Work instructions were discovered to be incorrect when work was to begin on the containment boom crane
- CR-PLP-2014-01831 written March 2: Work was stopped when a discrepancy was identified between weld documentation, work instructions, and field conditions
- CR-PLP-2014-02292 written March 26: Scheduled work on pump P-951 could not be performed since alternate pump P-952 was also removed from service
- CR-PLP-2014-02353 written April 1: Workers found that an incorrect valve was marked in the work order for adjustment
- CR-PLP-2014-02466 written April 8: Scheduled work on fire pump P-9A was canceled due to work on EDG 1-1, which required all fire pumps to be protected
- CR-PLP-2014-02681 written April 21: Divers were performing work in the wrong intake bay
- CR-PLP-2014-02710 written April 22: Maintenance on dirty waste drain pump P-60A was not performed due to a scheduled operations activity that required the pump be in service
- CR-PLP-2014-02997 written May 13: Scheduled work that required removal of dilution water pump P-40A from service was not performed due to a conflict with a scheduled operations activity
- CR-PLP-2014-03092 written May 20: Scheduled work on a watertight door was canceled when it was determined the work could not be performed within the 30 minute time limit for door inoperability (the door was scheduled to be fully removed)
- CR-PLP-2014-03222 written May 30: Planned work on the domestic water system was canceled when the clearance order could not be placed

- CR-PLP-2014-03254 written June 3: Instructions for work on fire pump P-41 directed the removal of portions of fuel oil piping that contained danger-tagged valves
- CR-PLP-2014-03350 written June 11: Work was stopped when it was discovered the vendor supplied incomplete paperwork

The inspectors discussed this trend with the licensee and noted that the licensee had previously identified improvement opportunities in various areas of work planning and coordination and implemented actions to address them. However, the numerous examples described above indicated that corrective actions had not yet been effective in preventing, or at least greatly reducing, the vulnerability to events during work activities that could result in personnel injury or upset plant stability. The licensee planned to review the information provided by the inspectors to determine whether existing actions were sufficient to address this trend.

.4 Selected Issue Follow-Up Inspection: Primary Coolant Pumps

a. Inspection Scope

Section 1R20 of Palisades Inspection Report 2014-002 documented historical and continued operation of the PCPs in a manner that resulted in flow cavitation. Over time, the flow cavitation resulted in damage to the PCP impellers and on occasion impeller pieces had broken off. The operation of the PCPs in this manner was the subject of an NRC-identified NCV documented in Section 1R15 of Palisades Inspection Report 2012003. The inspectors continued their review of licensee corrective actions to address the NCV issued in 2012. The licensee replaced the 'C' PCP impeller during the 2014 refueling outage and was considering plans for inspection and potential replacement of the 'B' PCP impeller, which was the only refurbished PCP impeller still installed. It was believed by the licensee that all susceptible areas of the PCP 'B' impeller had previously broken off, but this had not been validated by visual inspection. The licensee was working with Westinghouse on the technical merits of altering plant startup and shutdown methods to eliminate the operation of PCPs in the cavitation-inducing high-flow low-pressure condition. This effort was ongoing and the inspectors planned to continue to monitor the timeliness and effectiveness of licensee corrective actions.

This review constituted one in-depth problem identification and resolution sample as defined in IP 71152-05.

b. Findings

No findings were identified.

4OA3 Followup of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Report 05000255/2014-002-00: Degraded Condition Due to Crack Indications in Control Rod Drive Mechanism Housing Assemblies

a. Inspection Scope

On January 24, 2014, during a planned examination of a subset of control rod drive mechanisms (CRDMs), which were being conducted as a corrective action for

through-wall leakage from CRDM-24 that was identified in 2012, the licensee identified crack indications in the interior surface of the upper housing assembly of CRDM-23. Subsequent evaluation of the crack indications led to the conclusion on January 29, 2014, that the acceptance criteria contained in the inspection plan was not met. Based on the results of the examinations of the subset of CRDM housings, the scope of CRDM housing examinations was expanded to include all 45 CRDM upper housing assemblies. The licensee identified crack indications outside of the acceptance criteria in 17 of the 45 CRDM upper housing assemblies. The crack indications in all of the CRDM housings were in the vicinity of weld number 5, an interior surface onlay weld. The licensee replaced 44 of the 45 CRDM housings with a new design that eliminated weld number 5. The 45$^{th}$ CRDM housing, CRDM-24, had been previously replaced with a new design.

The LER was reviewed. No findings or violations of NRC requirements were identified. Documents reviewed are listed in the Attachment. This LER is closed.

This event followup review constituted one sample as defined in IP 71153-05.

b. Findings

No findings were identified.

4OA5 Other Activities

.1 Follow-up of Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternative Dispute Resolution Confirmatory Orders (IP 92702)

a. Inspection Scope

On August 24, 2011, the NRC issued Confirmatory Order EA-11-096 to Entergy Operations Inc., and Entergy Nuclear Operations, Inc. (collectively referred to as Entergy). The Confirmatory Order actions were agreed upon by Entergy and the NRC during an alternative dispute resolution session held on July 18, 2011, to resolve NRC concerns regarding an apparent violation of employee protection requirements at the River Bend Station. The actions focused on reorganizing the Quality Control reporting relationships, ensuring adequate training of 10 CFR 50.7, “Employee Protection,” and performing an effectiveness review of the Employee Concerns Program procedures at all Entergy facilities.

By letter dated August 23, 2012, Entergy notified the NRC of the actions that had been taken in response to the requirements imposed by the Confirmatory Order. Accordingly, during the week of April 29, 2013, NRC staff from the Office of Enforcement and Region IV performed an inspection at the River Bend Station to assess the specific actions identified in Entergy’s response letter. NRC staff also verified implementation of the remaining actions required to satisfy the conditions set forth in the Confirmatory Order, for all Entergy sites. Subsequent to this inspection, NRC staff continued to interact with Entergy regarding the adequacy of the corrective and preventive actions related to the underlying discriminatory issue.

b. Findings

During the follow-up inspection, the NRC staff reviewed Entergy's Employee Concerns Program supervisory training and general employee training documents, the relevant "lessons learned" from the facts of this matter, and the fleet-wide written communication reinforcing Entergy's commitment to maintaining a safety conscious work environment.

The NRC staff also reviewed the General Employee Training and Supervisory Training modules. Based on these reviews, it was determined that these training modules adequately addressed employee protection and included insights from the underlying discriminatory matter. The NRC staff determined that the supervisory training module appeared complete and included case studies as well as the specific elements from the underlying 10 CFR 50.7, "Employee Protection," violation. However, it was noted that although employees received General Employee Training on an annual basis, Entergy did not require supervisors to take employee protection refresher training on a recurring basis, as a means to reinforce these standards.

Additionally, NRC staff evaluated the results of Entergy's effectiveness review of Employee Concerns Program (ECP) enhancements and the associated training that arose from the corrective actions taken to address this matter. Based on the results of this evaluation it was determined that Entergy had performed the requisite reviews at each station including examination of selected ECP Case Files, Records Retention, Concerned Individual follow-up, and ECP Coordinator training. Within the areas examined, no findings were identified and in general it was determined that Entergy had adequately performed the effectiveness review of ECP procedural enhancements and the ECP training related to this matter.

During the follow-up review of the Quality Control/Quality Assurance reporting relationship, it was determined that Entergy's response did not ensure that persons performing the quality assurance function of receipt inspection reported to a management level sufficient to maintain organizational freedom and independence from cost and schedule were maintained. Subsequent to the identification of this performance issue, which affected the implementation of the Quality Assurance program at all nine Entergy sites, the condition was entered into the licensee's CAP as CR-HQN-2013-00466, Track Resolution of Reporting Relationship of Warehouse Receipt Inspectors, dated May 7, 2013.

Following the identification of this issue, additional discussions were held between NRC and Entergy to clarify the intent of the settlement agreement and subsequent Confirmatory Order stemming from the earlier alternate dispute resolution mediation. As a result of these discussions, Entergy's Corporate Licensing organization developed a fleet reconciliation plan to modify Entergy's Quality Assurance Program Manual to require that individuals performing inspections in accordance with Quality Assurance Program Manual, Section B.12, "Inspection," functionally report to the associated manager responsible for Quality Assurance. As described in the corrective actions associated with CR-HQN-2013-00466, the affected individuals were those requiring certification in accordance with Quality Assurance Program Manual, Table 1, Regulatory Commitments, Section G, Regulatory Guide 1.58, Revision 1, "Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel," dated September 1980. In addition to revising the applicable provisions in the Quality Assurance Program Manual, corrective actions were initiated to revise implementing procedures to reflect the

change in reporting relationship during the performance of required inspections as well as providing training to the affected individuals. The NRC staff confirmed that the remaining conditions of the Confirmatory Order were adequately addressed.

Based on the above reviews, the NRC determined that Entergy properly implemented the conditions specified in the Confirmatory Order and the associated actions were adequately implemented.

.2 (Closed) Unresolved Item (URI) 05000255/2011014-09, Potential Loss of Preferred AC Sources in Harsh Environment

A URI was opened in Section 4OA5.7.b.2 of Palisades Inspection Report 2011-014, which documented the review by an NRC Special Inspection Team of the circumstances surrounding the loss of left train DC power event on September 25, 2011. During the event, electrical breaker 72-37, which supplied DC power to inverter D-06, was found tripped. Discussions with the inverter manufacturer revealed that the inverters were capable of reverse feeding DC short circuits for short durations, which could cause breaker 72-37 to trip. The inverter had four potentially fully charged 4400 micro-Farad parallel capacitors on the DC side of the inverter that, during a DC short circuit, could rapidly discharge and feed the fault. The inspectors were concerned: 1) that several nonsafety-related and non-qualified cables associated with the four PCP motor DC oil lift pumps were routed in a harsh environment and were supplied from the safety-related busses; and 2) that without further analysis a low probability condition might exist, which could result in the loss of all safety-related inverters and preferred AC sources. This issue was unresolved pending completion of the licensee's evaluation and the inspectors' review of the design and licensing basis to determine if a performance deficiency existed. The licensee entered this issue into their CAP as CR-PLP-2011-06210, Potential for Station Chargers and Inverters to Trip or Shutdown as a Result of a 125V DC Fault, dated November 14, 2011.

Based on a subsequent review and questions by the inspectors, the licensee concluded that cable failure due to a harsh environment was not credible; the installed cables in the turbine building associated with the oil lift pumps were of types that had been qualified in other instances for the accident-induced environmental conditions. However, the cables were not identified in the Environment Qualification Binder as Environment Qualification equipment. The licensee planned to revise their Environment Qualification document to add these cables. For the associated power cables located inside containment, the inspectors reviewed the available short current from the parallel capacitors on the DC side of the inverters. The inspectors determined that the maximum short circuit current available inside containment supplied by the capacitors would be below the magnetic trip setting (700 amps) of the DC circuit breakers associated with these inverters. Therefore, there was reasonable assurance that these DC breakers would not trip due to a harsh environment inside containment.

Based on the above, the inspectors concluded that the licensee's failure to verify that the design of the nonsafety-related cables associated with the four PCP motor DC oil lift pumps would not result in tripping the inverter DC circuit breakers was a minor violation of 10 CFR, Part 50, Appendix B, Criterion III, "Design Control." This URI is closed.

## 4OA6 Management Meetings

### .1 Exit Meeting Summary

On July 10, 2014, the inspectors presented the inspection results to Mr. A. Williams and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

### .2 Interim Exit Meetings

Interim exits were conducted for:

- The inspection results for the area of radiological hazard assessment and exposure controls with Mr. A. Vitale, Site Vice President, and other members of the licensee staff on April 25, 2014;

- The inspection results for the Biennial Written and Annual Operating Test and Biennial Review inspections to Mr. A. Vitale, Site Vice President, and other members of the licensee staff, on May 28, 2014.

The inspectors confirmed that none of the potential report input discussed was considered proprietary.

## 4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as an NCV.

- Technical Specification 5.7.2, "High Radiation Areas with Dose Rates Greater than 1.0 Rem/Hour at 30 Centimeters from the Radiation Source or from Any Surface Penetrated by the Radiation, But Less than 500 Rads/Hour at 1 Meter from the Radiation Source or from any Surface Penetrated by the Radiation," requires, in part, that each entryway to such an area shall be barricaded and conspicuously posted as a high radiation area. Such barricades may be opened as necessary to permit entry or exit of personnel or equipment.

  Contrary to the above, on March 12, 2014, radwaste operators found that the south east steam generator bio-wall cage door, a locked high radiation area, was open and not locked. The licensee documented this issue as CR-PLP-2014-02083, Radwaste Operators Found a Locked High Radiation Area Gate Left Open, dated March 13, 2014. The finding was determined to be of very low safety significance (Green) because it 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.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

## KEY POINTS OF CONTACT

Licensee

A. Vitale, Site Vice President
A. Williams, General Manager, Plant Operations
D. Corbin, Operations Manager
B. Davis, Engineering Director
T. Davis, Licensing Specialist
B. Ford, Senior Manager Nuclear Safety and Licensing
O. Gustafson, Director PI and Regulatory Assurance
T. Mulford, Assistant Operations Manager
W. Nelson, Training Manager
B. White, Training Superintendent

Nuclear Regulatory Commission

E. Duncan, Chief, Reactor Projects Branch 3
A. Garmoe, Senior Resident Inspector
R. M. Morris, Senior Operator Licensing Inspector
C. Zoia, Operator Licensing Inspector

## LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

| | | |
|---|---|---|
| 05000255/2014003-01 | FIN | Written NRC Biennial Written Examinations Did Not Meet Qualitative Standards (Section 1R11.4.b.1) |
| 05000255/2014003-02 | NCV | Exam Security Issues (Section 1R11.4.b.2) |
| 05000255/2014003-03 | SLIV | Failure to Notify the NRC Within 30 Days of Discovering Changes in Medical Conditions. (Section 1R11.4.b.3) |
| 05000255/2014003-04 | NCV | Failure to Evaluate Long-Term Scaffolds in Accordance with Procedures (Section 1R18) |
| 05000255/2014003-05 | NCV | Failure to Follow Procedure Associated With Sealed Source Inventory and Leak Testing (Section 2RS1.4) |
| 05000255/2014003-06 | NCV | Inadequate Control of Entry into High Radiation Areas (Section 2RS1.9.b.1) |
| 05000255/2014003-07 | NCV | Entries into High Radiation Areas Without Required Dosimetry (Section 2RS1.9.b.2) |

Closed

| | | |
|---|---|---|
| 05000255/2014003-01 | FIN | Written NRC Biennial Written Examinations Did Not Meet Qualitative Standards (Section 1R11.4.b.1) |
| 05000255/2014003-02 | NCV | Exam Security Issues (Section 1R11.4.b.2) |
| 05000255/2014003-03 | SLIV | Failure to Notify the NRC Within 30 Days of Discovering Changes in Medical Conditions (Section 1R11.4.b.3) |
| 05000255/2014003-04 | NCV | Failure to Evaluate Long-Term Scaffolds in Accordance with Procedures (Section 1R18) |
| 05000255/2014003-05 | NCV | Failure to Follow Procedure Associated With Sealed Source Inventory and Leak Testing (Section 2RS1.4) |
| 05000255/2014003-06 | NCV | Inadequate Control of Entry into High Radiation Areas (Section 2RS1.9.b.1) |
| 05000255/2014003-07 | NCV | Entries into High Radiation Areas Without Required Dosimetry (Section 2RS1.9.b.2) |
| 05000255/2014-002-00 | LER | Degraded Condition Due to Crack Indications in Control Rod Drive Mechanism Housing Assemblies (4OA3.1) |
| EA-11-096 | ORD | Confirmatory Order (4OA5.1) |
| 05000255/2011014-09 | URI | Potential Loss of Preferred AC Sources in Harsh Environment (4OA5.2) |

Discussed

None

## LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1R01 Adverse Weather Protection

- AOP-38, Acts of Nature, Revision 1
- Admin 4.00, Operations Organization, Responsibilities and Conduct, Revision 53
- Admin 4.02, Control of Equipment, Revision 68
- Design Basis Document 6.01, Grid Interface Topical Report, Revision 4
- Design Basis Document 6.02, 345kV Switchyard, Revision 4
- EN-FAP-EP-010, Severe Weather Response, Revision 1
- NOAA's National Weather Service - Glossary, April 29, 2014
- RTO-EOP-004-R14.1, MISO Transmission Emergencies Procedure, June 1, 2014
- SOP-23, Attachment 10, Warm Weather Checklist, Revision 45
- SOP-30, Attachment 6, Station Power System Checklist, Revision 74
- WO 52482711, Task 1, Warm Weather Checklist - WCC

1R04 Equipment Alignment

- AOP-21, EDG 1-2 Malfunctions, Revision 0
- ARP-20B, Diesel Generator 1-2 Scheme EK-30, Revision 6
- CR-PLP-2013-00811, Minor Exhaust Leak Identified in Area of Cylinders 1R and 1L on 1-2 EDG, February 23, 2013
- CR-PLP-2013-01151, PI-1489, Starting Air Pressure Indicator, Indicating 10 psig When It Should Be 0 psig, March 21, 2013
- CR-PLP-2013-01182, 1-2 EDG Jacket Water Cooler (E-22B) Eddy Current Inspection Identified Tubes for Plugging, March 18, 2013
- CR-PLP-2013-01199, Gasket at Exhaust Outlet on Top of Turbocharger is Cracked and Extruding Through Flange, March 19, 2013
- CR-PLP-2013-01233, Eddy Current Inspection of 1-2 EDG Jacket Water Cooler Showed Pitting Growth Rate was More Than Expected, March 20, 2013
- CR-PLP-2013-01376, Service Water Flow Rate Through 1-2 Emergency Diesel Generator was Higher Than Expected During Surveillance Testing, March 22, 2013
- CR-PLP-2013-01438, PI-1490, Starting Air Pressure Indicator Reading Low, April 1, 2013
- CR-PLP-2013-01683, During 1-2 EDG Overspeed Trip Testing the Engine Tripped High Outside the Acceptable rpm Range, April 15, 2013
- CR-PLP-2013-01774, Leak Identified on 1-2 D/G Jacket Water Cooler, April 25, 2013
- CR-PLP-2013-02280, Flow Rate, Discharge Pressure, and Motor Amps for P-18A, Fuel Oil Transfer Pump, Lower Than Expected, May 19, 2013
- CR-PLP-2013-02736, Diesel Generator 1-1 and 1-2 Low Air Pressure Alarm Set Points per ARP-20A and ARP-20B are Set Lower than the Inoperability Values, June 21, 2013
- CR-PLP-2013-02764, During Monthly Surveillance Testing for 1-2 EDG, Received Alarm for Diesel Generator Day Tank Hi-Lo Level Unexpectedly, June 24, 2013
- CR-PLP-2013-02765, V-24C Diesel Generator Room Supply Fan Never Started During Monthly Surveillance Test, June 24, 2013

- CR-PLP-2013-02799, Relay 162-213 is Opening and Closing Continuously (1-1 EDG to Bus 1D), June 25, 2013
- CR-PLP-2013-03355, Post-Run Data for Monthly Surveillance Test of 1-2 Emergency Diesel Generator Showed Air Starting Tank Pressures High, August 2, 2013
- Drawing M-207, Sheet 2, P&ID Auxiliary Feedwater System, Revision 38
- Drawing M-214, P&ID Lube Oil, Fuel Oil, & Diesel Generator Systems, Sheet 1, Revision 78
- Drawing M-218, Sheet 6, Piping & Instrument Diagram, Heating, Ventilation & Air-Conditioning Control Room, Revision 16
- SOP-12, Feedwater System, Revision 71
- SOP-20, High Pressure Control Air System, Revision 32
- SOP-22, Emergency Diesel Generators, Revision 61
- SOP-24, Ventilation and Air Conditioning System, Revision 63
- System Health Report for Emergency Diesel Generators, Printed April 14, 2014
- WO 343051, K-6B; Minor Exhaust Leak on Exhaust Manifold Piping Near 1L
- WO 345303, Gasket Extruding From Flange on Top of Turbo
- WO 345485, 152-213; Damaged Wire Insulation in Cubicle Door
- WO 346921, Replace E-22B, Jacket Water Cooler
- WO 347056, PCV-1490; Adjust Set Point
- WO 360890, PS-1493 and PS-1494; Troubleshoot, Calibrate, or Replace
- WO 363336, EVI-1213; Accuracy Criteria Not Met

1R05 Fire Protection

- Fire Hazards Analysis
- FPIP-4, Safety-Related Fire Dampers, Revision 32
- Pre Fire Plan 2, Cable Spreading Room/Elev. 607'-6"
- Pre Fire Plan 5 & 7, Diesel Generator 1-1 and Fuel Oil Day Tank Room/Elev. 590', 607' & 625'
- Pre Fire Plan 6 & 8, Diesel Generator 1-2 and Fuel Oil Day Tank Room/Elev. 590', 607' & 625'
- Pre Fire Plan 9, Screenhouse/Elev. 590''

1R06 Flood Protection

- CR-PLP-2014-03240, 468 Gallons of Fluid was Pumped from 1C Switchgear Sump, June 2, 2014
- Design Basis Document 7.08, Plant Protection Against Flooding, Revision 5
- Drawing M-652, P&ID Primary System Makeup Water, Utility Water, and Oil Waste System, Revision 71
- EC 28249, Install Sump Pump in Manhole MH-2, Revision 0

1R11 Licensed Operator Requalification Program

- Accreditation Self-Evaluation Report, November 7, 2013
- Admin 4.00, Operations Organization, Responsibilities, and Conduct, Revision 52
- CR-PLP-2014-02496, NRC Questioned Exam Security Practices, April 9, 2014
- CR-PLP-2014-02518, NRC Informed the Palisades Training Department That An NRC Form 396 Was Not Submitted, April 10, 2014
- CR-PLP-2014-02521, Written Exam Quality, April 10, 2014
- CR-PLP-2014-02533, Issues Were Identified During the Annual Exam Administered on April 10, 2014, April 10, 2014
- CR-PLP-2014-02547, Blue Exam Material Paper Left on SE Desk – NRC Identified, April 11, 2014

- CR-PLP-2014-02549, DEP Failure During EP Classification for Annual LORT Exam in Simulator, April 10, 2014
- CR-PLP-2014-02494, NRC Questioned Examination Room Security Practices, April 9, 2014
- EN-OP-115, Conduct of Operations, Revision 14
- EN-OP-115-01, Operator Rounds, Revision 0
- EN-OP-115-02, Control Room Conduct and Access Control, Revision 3
- EN-OP-115-04, Operations Briefs, Revision 2
- EN-OP-115-05, Operation of Components, Revision 0
- EN-OP-115-06, Operations Training, Revision 1
- EN-OP-115-07, Component Deviations, Revision 1
- EN-OP-115-08, Annunciator Response, Revision 3
- EN-OP-115-09, Log Keeping, Revision 1
- EN-OP-115-10, Human Performance, Revision 1
- EN-RP-202, Personnel Monitoring, Revision 9
- EN-TQ-114, Licensed Operator Requalification Training Program Description, Revision 9
- EN-TQ-210, Conduct of Simulator Training, Revision 8
- EN-TQ-217, Examination Security, Revision 4
- Job Performance Measure (JPM) PLJPM-LOR-EOP-34, Revision 3
- Job Performance Measure (JPM) PLJPM-LOR-EOP-37, Revision 2
- Job Performance Measure (JPM) PLJPM-LOR-EOP-41, Revision 1
- Job Performance Measure (JPM) PLJPM-LOR-FPS-02, Revision 1
- Job Performance Measure (JPM) PLJPM-LOR-SI-20, Revision 2
- Licensee Event Report 2012-001, Control Rod Drive Mechanism Housing Assembly Crack, October 11, 2012
- Licensee Event Report 2012-002, Technical Specification Required Shutdown Due to Un-isolable Secondary Side Drain Valve Leak, December 20, 2012
- Licensee Event Report 2013-001, Technical Specification Required Shutdown Due to a Component Cooling Water System Leak, April 9, 2013
- Licensee Event Report 2013-002, Technical Specification Required Shutdown Due to Safety Injection/Refueling Water Tank Leak, June 25, 2013
- Licensee Event Report 2013-003, Both Control Room Ventilation Filtration Trains Declared Inoperable, October 11, 2013
- Licensee Event Report 2013-004, Latent Design Deficiency Results in Non-Compliance with 10 CFR Part 50, Appendix R; January 6, 2014
- List of Simulator Deviations Currently Approved by SRC, April 9, 2014
- List of Simulator Discrepancy Records Closed in the Last 12 Months, April 1, 2014
- List of Simulator Modifications Last 24 Months, April 9, 2014
- LM-0311 Qualification Matrix, April 2014
- Log Entries Report for Qualification, July, 2012 to December, 2013
- LO-PLPLO-2013-00019, Pre-NRC 71111.11 Inspection Focused Assessment, August 30, 2013
- LOR Weekly Schedule, Cycle 13G, Revision 2, March 4, 2014
- O2C-PAL-2013-0275, Operations Continuing Training Audit Report, dated December 11, 2013
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Manual Reactor Trip, Revision 2, August 1, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Simultaneous Trip of all Reactor Coolant Pumps, Revision 4, August 1, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4; Simultaneous Trip of all MSIVs, Revision 2, August 1, 2012

- Palisades Simulator Performance Test PNP 18.0, Attachment 4; Control Room Channel Checks (MO-45), Revision 2, September 18, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Cycle 23 Core Test, Revision 2, April 11, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Main Turbine Trip w/o Immediate Reactor Trip, Revision 2, August 1, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Maximum RCS Rupture with LOOP, Revision 2, August 1, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Maximum Rate Power Ramp from 100 Percent to 75 Percent to 100 Percent, Revision 2, August 1, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Maximum Size Main Steam Line Rupture, Revision 2, August 1, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Maximum Design Load Rejection, Revision 2, August 1, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Operator's Daily/Weekly Items Modes 1-4 DWO-1, Revision 2, April 10, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Operations Pre-Startup Tests, Revision 2, April 15, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Real Time and Repeatability Verification, Revision 2, August 1, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Slow PCS Depressurization to Saturated Conditions w/o HPCI, Revision 2, August 1, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Steady State Parameters, Revision 2, August 3, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Trip of Any Single Reactor Coolant Pump, Revision 2, August 1, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Unit Shutdown from Rated Power to CSD, Revision 2, April 11, 2012
- Palisades Simulator Performance Test PNP 18.0, Attachment 4, Unit Heat Up from CSD to Hot Standby, Revision 2, April 22, 2012
- Procedure 4.00, Attachment 2, Certification for Resuming Active License Status, PL-TRN13-0563, March 6, 2013
- Procedure 4.00, Attachment 2, Certification for Resuming Active License Status, PL-TRN13-1009, April 19, 2013
- Procedure 4.00, Attachment 2, Certification for Resuming Active License Status, PL-TRN13-2183, May 21, 2012
- Procedure 4.00, Attachment 2, Certification for Resuming Active License Status, PL-TRN13-3381, September 24, 2012
- Procedure SIP 4, Personnel Access, Revision 33
- QA-19-2012-PLP-1, Quality Assurance Audit Report, Training, February 1, 2012 through March 7, 2012
- Scenario SES-208, Revision 0
- Scenario SES-209, Revision 0
- Simulator Guide, PLSEG-LOR-EOP5, Revision 0
- Simulator Review Committee Minutes, dated June 2012 through November 2013
- Simulator Testing Review Form, PNT 18.0, Attachment 5, Revision 2, Testing Matrix, September 19, 2012
- Tables of Watch-Standing Credit for Licensed Operator Positions, April, 2014
- TQF-114-LRTP, Licensed Operator Requalification Long-Range Training Plan, December 15, 2013

- TQF-201-DD11, Simulator Examination Coversheet (Typical) for SES-202
- TQF-201-DD11, Simulator Examination Coversheet (Typical) for SES-203
- TQF-210-DD01, Simulator Exercise Guide Checklist, Revision 2, Simulator Material Number SES-203
- TQF-210-DD01, Simulator Exercise Guide Checklist, Revision 2, Simulator Material Number SES-208
- TQF-210-DD01, Simulator Exercise Guide Checklist, Revision 2, Simulator Material Number SES-209
- TQF-217-SEC, Exam Security Agreement, Revision 0, for April 2014 Annual Operating Examination
- TQF-201-IM05, Remediation Forms for Written Exam Failures (3), Revision 8
- TQF-114-LRTP, Licensed Operator Requalification Long-Range Training Plan, Revision 1
- Training Advisory Committee Agenda/Minutes, March 25, 2013 and June 26, 2013
- Training Oversight Committee Meeting Minutes, April 23, 2013 and October 22, 2013
- Training Review Group Meeting Minutes, 1st, 2nd, 3rd, and 4th Quarters 2013
- Various Remedial Training Plans Associated With Annual Written Exam Failures in February 2013
- Various Simulator Discrepancies (DRs) Completed, April 2012 through March 2014
- Various Simulator Discrepancies (DRs) Open, April 2012 through March 2014
- Written Exam PL-N00220 (NCO-5), January 2, 2013
- Written Exam PL-N00220 (SRO-5), January 2, 2013

1R12 Maintenance Effectiveness

- ARP- 7, Auxiliary Systems Scheme EK-11, Revision 91
- CR-PLP-2014-00043, RV-2505, C-6C Intercooler Relief Valve, Cycling Open and Closed with the Compressor Running, January 3, 2014
- CR-PLP-2014-00551, During RO-141 Containment Sump Check Valve Test, PCV-3057B Did Not Maintain Pressure at 170 psig as Designed, January 24, 2014
- CR-PLP-2014-01372, High Pressure Air System Has Had 2 Maintenance Rule Functional Failures in the Previous 24 Months Against Performance Criteria of 3, February 14, 2014
- CR-PLP-2014-01515, When Stroking Open CV-3057, SIRWT Outlet Isolation, the Valve Did Not Travel Full Open, February 18, 2014
- CR-PLP-2014-02020, CAS/HPA Has Exceeded Its Maintenance Rule Criteria for Functional Failures of Less Than 3 Per 24 Months, March 9, 2014
- CR-PLP-2014-02551, Received Alarm EK-1118, High Pressure Control Air Compressors Low Pressure, April 11, 2014
- CR-PLP-2014-02808, High Pressure Air System Has “Yellow” Overall System Health, April 28, 2014
- CR-PLP-2014-02811, High Pressure Air System Has Exceeded Its Functional Failure Performance Criteria, April 28, 2014
- CR-PLP-2014-02904, Received Alarm EK-1118, High Pressure Control Air Compressors Low Pressure, Unexpectedly, May 7, 2014
- CR-PLP-2014-02969, Received Alarm EK-1118, High Pressure Control Air Compressors Low Pressure, Twice, May 10, 2014
- CR-PLP-2014-02999, C-6B, High Pressure Air Compressor, Tripped on Thermals Again, May 13, 2014
- CR-PLP-2014-03103, Found Loose Wires on Breaker for C-6B, May 20, 2014
- EC 42504, Secure and/or Replace Pull Apart Terminal Blocks in MCC Buckets, Revision 0
- EN-DC-143, Engineering Health Reports, Revision 15
- EN-DC-205, Maintenance Rule Monitoring, Revision 5

- EN-DC-206, Maintenance Rule (a)(1) Process, Revision 3
- Engineering Report PLP-RPT-12-00026, Maintenance Rule Scoping Document, Revision 0
- Function Failure Determination Re-evaluation for CR-PLP-2014-0551, During RO-141 Containment Sump Check Valve Test, PCV-3057B Did Not Maintain Pressure at 170 psig as Designed, May 15, 2014
- Functional Failure Determination Re-evaluation for CR-PLP-2014-0043, RV-2505, C-6C Intercooler Relief Valve, Cycling Open and Closed with the Compressor Running, May 3, 2014
- High Pressure Air (HPA) Maintenance Rule (a)(1) Evaluation, Revision 1
- SOP-20, High Pressure Control Air System, Revision 32
- WO 312824, PCV-3057B; Replace Regulator
- WO 323036, HC-2501; M-9A Air Dryer Has Faulty Controller
- WO 347992, 52-467 (C-6C), Install Locking Screw on Terminal Block
- WO 347996, 52-811 (C-6B), Install Locking Screw on Terminal Block
- WO 359232, HC-2502; Low Dew Point on M-9B High Pressure Control Air Dryer
- WO 371140, C-6C First Stage Discharge Relief Lifts Continuously
- WO 372131, M-9C, Turbine Building High Pressure Control Air Dryer, Not Maintaining Humidity
- WO 373272, SV-3057A Continued to Blow Down with CV-3057 Open
- WO 382587, C-6B, High Pressure Air Compressor, Tripped on Overload

1R13 Maintenance Risk Assessments and Emergent Work Control

- Admin. 4.02, Attachment 3, “Risk Management & Monitoring,” Revision 68
- AOP-29, Primary Coolant Pump Abnormal Conditions, Revision 1
- ARP-5, Primary Coolant Pump Steam Generator and Rod Drives Scheme EK-09, Revision 95
- CR-PLP-2013-02920, 1/8” Hole in Weld of Elbow Upstream of MV-CVC2211, Charging Pump P-55B Discharge Manifold Flush Inlet, July 3, 2013
- CR-PLP-2014-02437, Blue Plastic Sheeting Not Listed on Approved TCE Form, April 5, 2014
- CR-PLP-2014-02443, Transient Combustible Evaluation Forms Removed Due to Expiration While Outage Materials Still Staged, April 6, 2014
- CR-PLP-2014-02472, Two Combustible Items Located in 1C Switchgear Room, April 8, 2014
- CR-PLP-2014-02562, Leak on Weld of Elbow Downstream of MV-CVC2212, Charging Pump P-55C Discharge Manifold Flush Inlet, April 13, 2014
- CR-PLP-2014-03328, Solid +5ma Ground on #1 and #2 DC Buses when Opening CV-3065, June 10, 2014
- CR-PLP-2014-03329, Red Ground Fault Light Illuminated on ED-11A, June 10, 2014
- CR-PLP-2014-03333, LT-0146A PCP 50 C Upper Oil Resv Oil Level Erratic, June 10, 2014
- Drawing E-245, Schematic Diagram Safety Injection & Shutdown Cooling Valves, Sheet 3, Revision 12
- Drawing M-202 Sheet 1B, Piping & Instrument Diagram Chemical & Volume Control System, Revision 59
- EC 49890, Update P&ID M-202 Sh. 1B to Provide Piping Line Class Information for Charging Pump P-55A/B/C, Discharge Manifold Flush Inlet Lines, Revision 0
- EN-MA-118, Foreign Material Exclusion, Revision 10
- EN-MA-119, Evaluation for Non-Standard Lift for EDG 1-1 Turbochargers, April 1, 2014
- EN-MA-119, Lift Plan for Emergency Diesel Generator 1-1 Turbochargers, April 3, 2014
- EPS-E-9, Use of Portable DC Ground Fault Detection System, Revision 9
- GOP-14, Reduced Inventory Checklist, Revision 47
- P-50C PCP Seal Outage Infrequent Evolution Brief
- SOP-3, Safety Injection and Shutdown Cooling System, Revision 94
- WO 364437, P-55C, Replace 3/16 x 3/16 Socket Welds, April 14, 2014

- WO 385376 Task 1, CV-3065 DC Bus Ground, June 12, 2014
- WO 385376 Task 2, CV-3065 DC Bus Ground, Inspect Connector #24 on Z-121, June 12, 2014
- WO 385376-04, CV-3065 DC Bus Ground, Check ED-10 Bus for Grounds, June 12, 2014

1R15 Operability Determinations

- Chemistry Operating Procedure, COP-22A, Diesel Fuel Oil Testing Program, Revision 20
- CR-PLP-2014-02835, Transmitter Receiver Combo for Feedwater Loop A Found to be Degraded, May 16, 2014
- CR-PLP-2014-03086, Water in Diesel Fire Pump Header, May 19, 2014
- DWO-1, Operator's Daily/Weekly Items Modes 1, 2, 3, and 4, Revision 101
- MT-15, UFM Data Collection, Analysis, and Implementation, Revision 4
- MT-15, UFM Data Collection, Analysis, and Implementation, Revision 15
- Drawing M-216, Piping and Instrument Diagram, Fire Protection, Revision 46
- Procedure MC-17, Fuel Oil Sampling, Revision 30
- TM-96-031, Relocate and Reinstall Ultrasonic Flow Measurement System to Each Steam Generator, Revision 1
- WO 52516036 Task 1, UFM Data Collection, Analysis, and Implementation, June 4, 2014

1R18 Plant Modifications

- AOP-29, Primary Coolant Pump Abnormal Conditions, March 22, 2014
- ARP-5, Primary Coolant Pump Steam Generator and Rod Drives Scheme EK-09 (C-12), Revision 93
- CR-PLP-2014-02161, Primary Coolant Pump P-50C Seal Package Breakdown Pressures are Not Trending as Expected, March 16, 2014
- CR-PLP-2014-02530, Multiple EK-0951 Primary Coolant Pump P-50C Seal Pressure Off Normal Alarms, April 10, 2014
- CR-PLP-2014-02560, P-50C Primary Coolant Pump Seal Pressures Exceed Trigger Point #3, April 12, 2014
- CR-PLP-2014-02638, NRC Identified 2 Long-Term Scaffolds in WESG With Outdated Tagging, April 17, 2014
- CR-PLP-2014-02646, Two Scaffolds Near Safety-Related Equipment Not Being Controlled as Long Term, April 17, 2014
- CR-PLP-2014-03057, Discrepancies Identified from Review of Long-Term Scaffold Documentation, May 14, 2014
- CR-PLP-2014-03123, Found Scaffold Installed in 590' CCW Room That was Not in Scaffold Control Log, May 21, 2014
- CR-PLP-2014-03310, Exceeded P-50C, Primary Coolant Pump, Seal Degradation ODMI Trigger Point #2, June 9, 2014
- Drawing M-209, P&ID Component Cooling System, Sheet 1, Revision 68
- EN-DC-136, Temporary Modifications, Revision 10
- EN-MA-133, Control of Scaffolding, Revisions 9 and 10
- PR-0140A, P-50C Seal Pressure Temporary Set Point Changes, Revision 1
- PR-0140A, P-50C Seal Pressure Temporary Set Point Changes, Revision 0
- Primary Coolant Pump P-50C Seal Degradation ODMI for Cycle 24, Revision 0
- Primary Coolant Pump P-50C Seal Degradation ODMI for Cycle 24, Revision 1
- Process Applicability Determination Form for Scaffold IDs 11-0003 11-0006, 11-0033, 12-0216, 13-0075, 13-0076, 13-0077, 13-0115, and 13-0160, Revisions 0

- Process Applicability Determination Form for Scaffolding Associated With WO 178686, Revision 0
- Scaffold Walk Down, Installation, and Removal Form for Scaffold #12-216, West Engineered Safeguards Room
- SOP-1A, Primary Coolant System, Revision 23
- WI-MSM-M-31, Site Specific Scaffold Controls, Revision 1
- WO 379024, PR-014A Implement Temporary Set Point Changes Per EC 49961, April 9, 2014
- WO 52436163, VHX-27B Engineering Safeguards Room Cooling Unit Clean and Inspect PM, May 6, 2013

1R19 Post-Maintenance Testing

- CR-PLP-2014-02450, PS-1482, Diesel K-6A Starting Air, Low Pressure Switch to Annunciators EK-0551, EK-2006 and EK-2013 Out of As Found Tolerance High, April 7, 2014
- CR-PLP-2014-02460, 3 Agastat Relays in K-6A EDG 1-1 Not Within the Settings for As Found, April 8, 2014
- CR-PLP-2014-02463, Chip Noted on Stationary Diffuser Vane After Turbocharger Installation, April 8, 2014
- CR-PLP-2014-02482, Incorrect Work Instruction Found During Turbocharger Replacement on K-6A E/D, April 9, 2014
- CR-PLP-2014-02490, Nuts Associated with 1" Studs Experienced More Rotation than Expected during ADG 1-1 K-6A Turbocharger, April 9, 2014
- CR-PLP-2014-02495, Reassemble of K-6A EDG 1-1 Delayed Due to Incorrect Gaskets, April 9, 2014
- CR-PLP-2014-02527, D/G 1-1 RPM Meter on the G20 Panel Not Indicating, April 10, 2014
- CR-PLP-2014-02535, 1-1 D/G Primary Fuel Oil Filter D/P Outside of Normal Range, April 10, 2014
- CR-PLP-2014-02537, Oil Leaking from Crankcase During Testing of 1-1 EDG, April 11, 2014
- CR-PLP-2014-03164, Evaluation of Correct Post-Maintenance Test for Repack of a Service Water Pump, May 27, 2014
- CR-PLP-2014-02734, Unable to Complete Auxiliary Feedwater System Automatic Initiation Test Procedure as Written, April 23, 2014
- EA-EC28106-03, Diesel Generator Lube Oil Cooler Tube Plugging, Revision 0
- EA-EC28106-04, Diesel Generator Jacket Water Cooler Tube Plugging, Revision 0
- EPS-M-14A, Diesel Generator Every Cycle Maintenance, August 8, 2012
- MO-7A-1, Emergency Diesel Generator 1-1, Revision 85
- Procedure No. 10.41, AFW System Auto Initiation Test Procedure, Revision 48
- QO-14, Inservice Test Procedure – Service Water Pumps, Revision 36
- RO-97, Auxiliary Feedwater System Automatic Initiation Test Procedure, Revision 17
- WO 349218, Replace Degraded Wire Labels in D/G 1-1 Control Panel EG-20, April 4, 2014
- WO 366914, Visual Inspection of all Relays in EG-20, April 4, 2014
- WO 52215732, Replace Turbocharger, April 4, 2014
- WO 52215735, Inspection and Pressure Testing of E-32A 1-1 D/G Aftercooler, April 4, 2014
- WO 52450035 Task 1, RO-97C – Auxiliary Feedwater System Automatic Initiation Test, March 24, 2014
- WO 52450194, Instrument Calibrations for AFW Flow from P-8C to #-50B, 'B' Steam Generator, April 23, 2014
- WO 52485819, K-6A; 24M (1 Cycle) PM of Aftercooler 6 Heat Exchangers, April 4, 2014
- WO 52487127, K-6A; 24M (1 Cycle) PM of Engine and Fuel System, April 4, 2014
- WO 52450194, Instrument Calibrations for AFW Flow from P-8C to E-50A, 'A' Steam Generator, April 23, 2014

1R20 Outage Activities

- 1F2401CS, P-50C Seal Replacement, June 19, 2014
- CR-PLP-2014-03240, 1C Switchgear Sump Sampling, June 2, 2014
- Drawing M-652, P&ID, Primary System Makeup Water Utility Water & Oil Waste System, Sheet 1, Revision 71
- EN-DC-115, Nuclear Change, Revision 11
- EOP-1.0, Standard Post-Trip Actions, Revision 15
- GL 88-17, Loss of Decay Heat Removal – 10 CFR 50.54(f), October 17, 1988
- GOP-3, Mode 3 to Mode 2, Revision 31
- GOP-8, Power Reduction and Plant Shutdown to Mode 2 or Mode 3 ≥ 525°, Revision 34
- GOP-14, Shutdown Cooling Equipment Availability, Revision 47
- SOP-1B, Primary Coolant System – Cooldown, Revision 18

1R22 Surveillance Testing

- EN-OP-115, Operations Log, April 29, 2014
- NMS-I-10, Dual Linear Power Current Measurements, Revision 15
- NMS-I-7, Dual Linear Power Channel Tilt Adjustment, Revision 23
- QI-39, Auxiliary Feedwater Actuation System Logic Test, Revision 6
- QO-1, Safety Injection System, Revision 61

1EP6 Drill Evaluation

- Emergency Planning Integrated Drill, May 7, 2014
- Palisades Nuclear Plant Site Emergency Plan, Supplement 1, EAL Wall Charts, Revision 1

2RS1 Radiological Hazard Assessment and Exposure Controls

- CR-PLP-2014-00858, Worker Received Dose Rate Alarm During Relamping Activities, January 30, 2014
- CR-PLP-2014-01292, Worker Entered Containment Without Electronic Dosimetry, February 11, 2014
- CR-PLP-2014-01401, Worker Received Dose Rate Alarm Upon Entering West Engineered Safeguards Room, February 14, 2014
- CR-PLP-2014-01629, Operator Entered West Engineered Safeguards Room Without Electronic Dosimeter, February 22, 2014
- CR-PLP-2014-02083, Radwaste Operators Found a Locked High Radiation Area Gate Left Open, March 13, 2014
- CR-PLP-2014-02715, Issue with Control of Sources, April 22, 2014
- CR-PLP-2014-02729, Investigation for Electronic Dosimeter Left at Dress Out was Incomplete, April 23, 2014
- CR-PLP-2014-02772, Condition Reports Associated with High Radiation Area (HRA) Incidents that were Closed Without Adequate Radiation Protections Input and Review, April 24, 2014
- CR-PLP-2014-02789, Missed Opportunity to Perform a Pre-Inspection Assessment of the Radioactive Source Program, April 24, 2014
- EN-RP-101, Access Control for Radiologically Controlled Areas, Revision 9
- EN-RP-141, Job Coverage, Revision 5
- EN-RP-143, Attachment 9.5, Radioactive Source List, March 19, 2014
- EN-RP-143, Attachment 9.5, Radioactive Source List, March 20, 2012
- EN-RP-143, Source Control, Revision 9

- LO-PLPLO-2012-00128, Focused Area Self-Assessment Plant and Report, September 6, 2013
- Offsite Dose Calculation Manual, Appendix A, Relocated Technical Specifications Per NRC Generic Letter 89-01 (TAC NO 75060), Revision 17
- Palisades Nuclear Plant Report of Changes, Tests, Experiments, and Summary of Commitment Changes, October 14, 2013
- WO 52438581 Task 1, Semiannual Sealed Source Leak Test, February 19, 2013
- WO 52471434 Task 1, Semiannual Sealed Source Leak Test, August 8, 2013
- WO 52507230 Task 1, Semiannual Sealed Source Leak Test, April 2, 2014

4OA1 Performance Indicator Verification

- NRC Performance Indicator Technique/Data Sheet, Unplanned Power Changes, April 2013 through March 2014
- NRC Performance Indicator Technique/Data Sheet, Unplanned Scrams Per 7000 Critical Hours, April 2013 through March 2014.

4OA2 Problem Identification and Resolution

- AOP-29, Primary Coolant Pump Abnormal Conditions, March 22, 2014
- CR-PLP-2014-00513, Work Started Without all Potential Energy Sources Isolated, January 23, 2014
- CR-PLP-2014-00588, Valve Unexpectedly Stroked While Lubricating the Valve, January 24, 2014
- CR-PLP-2014-00907, During Local Preparations for Testing the Valve Unexpectedly Stroked, January 31, 2014
- CR-PLP-2014-00937, Job Stopped Due to Inadequate Confined Space Rescue Plans, February 2, 2014
- CR-PLP-2014-01229, Tag Found Installed on the Wrong Component, February 10, 2014
- CR-PLP-2014-01391, Unclear Work Instructions for Main Condenser Tube Plugging Delayed Start of Work, February 14, 2014
- CR-PLP-2014-01643, Work Instructions Discovered to be Incorrect, February 23, 2014
- CR-PLP-2014-01831, Work Stopped When Discrepancy Identified Between Weld Documentation, Work Instructions, and Field Conditions, March 2, 2014
- CR-PLP-2014-02292, Scheduled Work on Pump P-951 Not Performed Since P-952 was Removed from Service, March 26, 2014
- CR-PLP-2014-02353, Workers Found an Incorrect Valve Marked in Work Order for Adjustment, April 1, 2014
- CR-PLP-2014-02466, Scheduled Work on Fire Pump P-9A Canceled Due to Work on Emergency Diesel Generator 1-1, April 8, 2014
- CR-PLP-2014-02560, P-50C Primary Coolant Pump Seal Pressures Exceed Trigger Point #3, April 12, 2014
- CR-PLP-2014-02681, Divers Performing Work in Wrong Intake Bay, April 21, 2014
- CR-PLP-2014-02710, Maintenance on Dirty Waste Drain Pump P-60A Not Performed, April 22, 2014
- CR-PLP-2014-02997, Removal of Dilution Water Pump P-40A From Service Not Performed, May 13, 2014
- CR-PLP-2014-03092, Scheduled Work on a Watertight Door was Canceled, May 20, 2014
- CR-PLP-2014-03222, Planned Work on the Domestic Water System Canceled When the Clearance Order Could Not be Placed, May 30, 2014

- CR-PLP-2014-03254, Instructions for Work on Fire Pump P-41 Directed the Removal of Portions of Fuel Oil Piping that Contained Danger-Tagged Valves, June 3, 2014
- CR-PLP-2014-03310, Exceeded P-50C, Primary Coolant Pump, Seal Degradation ODMI Trigger Point #2, June 9, 2014
- CR-PLP-2014-03350, Work Stopped When Vendor Supplied Incomplete Paperwork, June 11, 2014
- PR-0140A, P-50C Seal Pressure Temporary Set Point Changes, Revision 0
- PR-0140A, P-50C Seal Pressure Temporary Set Point Changes, Revision 1
- Primary Coolant Pump P-50C Seal Degradation ODMI for Cycle 24, Revision 0
- Primary Coolant Pump P-50C Seal Degradation ODMI for Cycle 24, Revision 1
- SOP-1A, Primary Coolant System, Revision 23

4OA3 Followup of Events and Notices of Enforcement Discretion

- LER 2014-002-00, Degraded Condition Due to Crack Indications in Control Rod Drive Mechanism Housing Assemblies, Submitted March 27, 2014

4OA5 Other Activities

- Entergy Nuclear Lesson Plan FCBT-GET-PATSS, Revision 16
- Entergy Nuclear Safety Culture Assessment 2012 Survey, April 30, 2013
- EN-MP-120, Material Receipt, Revision 7
- EN-MP-121, Materials, Purchasing and Contracts Indoctrination &Training, Revision 5
- EN-MP-138, Commercial Grade Dedication Lab Conduct of Operation, Revision 1
- EN-QV-100, Conduct of Nuclear Oversight, Revision 9
- EN-QV-111, Training and Certification of Inspection/Verification and Examination Personnel, Revision 13
- CR-HQN-2013-00466, Track Resolution of Reporting Relationship of Warehouse Receipt Inspectors, May 7, 2013
- CR-HQN-2011-00979, Receipt of NRC Confirmatory Order EA-11-096, August 30, 2011
- Entergy Quality Assurance Program Manual, Revision 25

## LIST OF ACRONYMS USED

| | |
|---|---|
| AC | Alternating Current |
| ADAMS | Agencywide Document Access Management System |
| ALARA | As-Low-As-Reasonably-Achievable |
| CAP | Corrective Action Program |
| CFR | Code of Federal Regulations |
| CRDM | Control Rod Drive Mechanism |
| DC | Direct Current |
| EAD | Electronic Alarming Dosimeter |
| ECP | Employee Concerns Program |
| EDG | Emergency Diesel Generator |
| HPA | High Pressure Air |
| HRA | High Radiation Area |
| IMC | Inspection Manual Chapter |
| IP | Inspection Procedure |
| IR | Inspection Report |
| JPM | Job Performance Measures |
| LER | Licensee Event Report |
| LORT | Licensed Operator Requalification Training |
| NCV | Non-Cited Violation |
| NLO | Non-Licensed Operator |
| NRC | U.S. Nuclear Regulatory Commission |
| PARS | Publicly Available Records System |
| PCP | Primary Coolant Pump |
| PI | Performance Indicator |
| RP | Radiation Protection |
| SAT | Systems Approach to Training |
| SDP | Significance Determination Process |
| SSC | Structures, Systems, and Components |
| TS | Technical Specification |
| TSO | Transmission System Operator |
| UFSAR | Updated Final Safety Analysis Report |
| URI | Unresolved Item |
| WO | Work Order |

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Sincerely,

***/RA/***
Eric Duncan, Chief
Branch 3
Division of Reactor Projects

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