



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE RD. SUITE 210  
LISLE, IL 60532-4352

November 6, 2014

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  
05000255/2014004

Dear Mr. Vitale:

On September 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 October 15, 2014, with you 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, two NRC-identified findings of very low safety significance were identified. The findings involved violations of NRC requirements. 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 Enforcement Policy. Additionally, a licensee-identified violation is listed in Section 4OA7 of this report.

If you contest the subject or severity 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.

A. Vitale

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and 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 05000255/2014004  
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000255/2014004

Licensee: Entergy Nuclear Operations, Inc.

Facility: Palisades Nuclear Plant

Location: Covert, MI

Dates: July 1 through September 30, 2014

Inspectors: A. Garmoe, Senior Resident Inspector  
A. Scarbeary, Resident Inspector  
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Approved by: Eric Duncan, Chief  
Branch 3  
Division of Reactor Projects

Enclosure

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## SUMMARY OF FINDINGS

Inspection Report (IR) 05000255/2014004, 07/01/2014 - 09/30/2014; Palisades Nuclear Plant; Adverse Weather Protection; Operability Determinations and Functionality Assessments.

This report covers a three-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. Two Green findings were identified by the inspectors. The findings were considered non-cited violations (NCVs) of NRC regulations. The significance of inspection findings is 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 the 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.

### **Cornerstone: Initiating Events**

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

The inspectors determined the performance deficiency was more than minor because it was associated with the Protection Against External Factors attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the preparatory actions prescribed by AOP-38 were directly related to the Initiating Events Cornerstone objective and inconsistent application of those actions in advance of high wind conditions increased the likelihood of debris-induced initiating events. In accordance with IMC 0609, Appendix A, Exhibit 1, "Initiating Events Screening Questions," Section B, "Transient Initiators," because the finding did not result in a reactor trip or the loss of mitigating equipment, it was determined to be of very low safety significance. This finding was associated with a cross-cutting aspect of Training in the Human Performance cross-cutting area. Specifically, the licensee's interpretation of procedure AOP-38 entry conditions was a result of the training provided to operators. (H.9) (Section 1R01.2)

### **Cornerstone: Barrier Integrity**

- 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 follow procedure EN-OP-104, "Operability Determination Process." Specifically, Operability Evaluation CR-PLP-2013-04775 failed to include adequate technical information to support the basis for the reasonable expectation

of operability, as required by Step 5.5.c of EN-OP-104. On March 25, 2014, the licensee entered the NRC questions into the CAP as Assignments 6 and 7 of CR-PLP-2013-04775, Issues Identified with Region II of SFP Criticality Analysis, with an initial due date of April 8, 2014. Both Assignments 6 and 7 were ultimately closed in late April to a new Assignment 9, which was created to complete a revised Operability Evaluation. The licensee determined that contracted technical support was necessary to adequately evaluate the NRC concerns. At the end of the inspection period, the contracted evaluation effort was ongoing. Planned corrective actions included documenting the conclusions of the ongoing evaluation in a revised Operability Evaluation for CR-PLP-2013-04775.

The inspectors determined that the performance deficiency was more than minor because it was associated with the Configuration Control attribute of the Barrier Integrity Cornerstone and adversely impacted the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the Spent Fuel Pool (SFP) criticality analysis relied on certain physical conditions to maintain the effective neutron multiplication factor below 1.0, but actual physical conditions were not completely bounded by the existing criticality analysis. Because the inspectors answered 'No' to all of the SFP questions in IMC 0609, Appendix A, Exhibit 3, "Barrier Integrity Screening Questions," the finding was determined to be of very low safety significance. This finding was associated with a cross-cutting aspect of Operating Experience in the Problem Identification and Resolution cross-cutting area. Specifically, the licensee failed to collect and implement relevant external operating experience. (P.5) (Section 1R15)

#### **Licensee-Identified Violations**

A violation of very low safety or security significance or Severity Level IV that was identified by the licensee has been reviewed by the NRC. Corrective actions taken or planned by the licensee have been entered into the licensee's CAP. This violation and CAP tracking number are listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

The reactor operated at or near full power for the duration of the inspection period with the exception of August 25, when reactor power was reduced to 88 percent for heater drain pump maintenance, then returned to full power later that day.

#### 1. REACTOR SAFETY

##### **Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

#### 1R01 Adverse Weather Protection (71111.01)

##### .1 Readiness for Impending Adverse Weather Condition – Severe Thunderstorm Watch

###### a. Inspection Scope

Since severe thunderstorms with associated high winds were forecast in the vicinity of the facility on July 22, 2014, the inspectors reviewed the licensee's overall preparations and protection for the expected weather conditions. The inspectors walked down the transformer yard and emergency diesel generators (EDGs) and checked outside areas near safety-related equipment for potential debris in addition to the licensee's emergency alternating current power systems, because their safety-related functions could be affected or required as a result of high winds or tornado-generated missiles or the loss of offsite power. The inspectors compared the licensee staff's preparations with the site's procedures to determine 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 also toured the plant grounds to look for any loose debris that could become missiles during a tornado. The inspectors' evaluated operator staffing and the accessibility of controls and indications for systems that were required to control the plant. 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 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.

This inspection constituted one readiness for impending adverse weather condition sample as defined in Inspection procedure (IP) 71111.01–05.

###### b. Findings

No findings were identified.

##### .2 Readiness for Impending Adverse Weather Condition—Severe Thunderstorm Warning

###### a. Inspection Scope

Since the National Weather Service (NWS) issued a Severe Thunderstorm Warning with high winds for the vicinity of the facility on August 19, 2014, the inspectors reviewed the

licensee's overall preparations and protection for the expected weather conditions. The inspectors compared the licensee staff's preparations with the site's procedures to determine 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 the accessibility of controls and indications for systems that were 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.

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

b. Findings

Introduction: The inspectors identified a finding of very low safety significance (Green) and an associated NCV of Technical Specification 5.4.1 when licensee personnel failed to maintain and implement an adequate procedure covering Acts of Nature. Specifically, the licensee's interpretation of abnormal operating procedure (AOP)-38 entry conditions resulted in a decision not to enter the procedure despite available information indicating the presence of high wind conditions in the vicinity of the plant.

Description: On August 19, 2014, the inspectors were aware of the forecast for severe weather in the area and monitored weather conditions periodically throughout the day. During morning turnover meetings the inspectors observed that Operations personnel discussed the need to be aware of weather conditions due to the severe weather forecast that day. Later in the day, the inspectors identified the following NWS Warnings:

- A Special Marine Warning was issued at 2:21 p.m. Eastern Daylight Time (EDT) for the near shore and open waters between St. Joseph and Saugatuck due to the presence of severe thunderstorms located over the open waters of Lake Michigan that were moving toward the shore. The warning indicated that hazards included wind gusts in excess of 50 knots (57 miles per hour (mph)) and large hail, and noted that these storms had produced 50 knot wind gusts in prior locations.
- A Severe Thunderstorm Warning was issued at 2:35 p.m. EDT for portions of Allegan, Kalamazoo, and Van Buren Counties, including the Palisades Park, Van Buren State Park, and Covert locations. These locations were in the immediate vicinity of the Palisades plant. The warning indicated that hazards included wind gusts up to 60 mph and quarter size hail, and noted that a 59 mph wind gust had been recorded in South Haven, several miles from the Palisades plant.
- Another Severe Thunderstorm Warning was issued at 3:02 p.m. EDT for Van Buren County including the Covert location. The warning indicated that hazards included 65 mph wind gusts.

The inspectors referenced procedure AOP-38, "Acts of Nature," and noted the entry conditions for high winds were:

- Murray and Trettel Notification Form, Winds Category. Probability Factor of 7 or more for wind gusts over 58 mph.
- Wind speeds greater than or equal to 40 mph lasting 1 hour or longer, or winds of greater than 58 mph for any duration as measured by the meteorological tower.
- National Weather Service warning that any of the following may experience high winds within the next 72 hours:
  - Van Buren County;
  - Berrien County;
  - Allegan County; and
  - waters of Lake Michigan to the west of the Palisades Nuclear Plant.

The inspectors believed the third condition had been met based on the multiple NWS Warnings of winds that may exceed 58 mph over the waters of Lake Michigan west of the plant and in Van Buren and Allegan Counties. As a result, the inspectors subsequently questioned operations personnel in the control room regarding entry into AOP-38. The Murray and Trettel notification form and the NWS website were under review by the Shift Manager, who was aware of the weather conditions, including the Severe Thunderstorm Warning, when the inspectors arrived. The inspectors were informed that the AOP-38 entry conditions had not been met since the Murray and Trettel Notification Form did not include a probability factor of 7 or more for wind gusts over 58 mph and the NWS had not issued a High Wind Warning. The inspectors pointed out that the entry conditions did not appear to specifically reference a High Wind Warning, but more generically referenced any NWS Warning that forecasted high wind conditions, and also pointed out that the Severe Thunderstorm Warning was predicting winds greater than 58 mph in the immediate vicinity. The Shift Manager, and other licensee personnel in subsequent discussions, stated the procedure was actually referring specifically to a High Wind Warning and that was the interpretation operators were trained to use.

The inspectors referenced the NWS definitions of a High Wind Warning and a Severe Thunderstorm Warning and noted that they both contained the same 58 mph wind speed threshold. Based on the licensee's interpretation of AOP-38 entry conditions, the inspectors were concerned with the potential for inconsistent protective actions from a high wind hazard. In particular, the inspectors were informed by the licensee that in the event that the NWS warned of potential for high winds in excess of 58 mph through issuance of a High Wind Warning, proactive steps in accordance with AOP-38 would be taken, but when the NWS warned of high winds in excess of 58 mph through issuance of a Severe Thunderstorm Warning, the same proactive steps would only be taken if another entry condition was also met. The proactive preparatory steps that were to be taken, when warranted, included stabilizing plant conditions; ensuring that EDGs and auxiliary feedwater (AFW) pumps were properly aligned for standby conditions; suspending external site activities, such as switchyard maintenance or spent fuel dry cask moves; and securing outdoor loose equipment that could affect the switchyard, transformers, or offsite power lines. In this particular instance, while winds greater than 58 mph were not recorded by the plant meteorological tower, thunderstorms that

produced actual winds in excess of 58 mph were in the immediate vicinity of the plant and could have produced those wind gusts onsite without additional warning.

The licensee entered this issue into their CAP as CR-PLP-2014-04155, NRC Questioned Entry into AOP-38, dated August 20, 2014. Planned corrective actions include a procedure revision to clarify the entry conditions.

Analysis: The inspectors determined that inconsistent protection against high wind hazards in AOP-38 represented an inadequate procedure and was an issue of concern. The issue of concern was determined to not involve willful or traditional enforcement aspects. Because not maintaining an adequate procedure to protect against high wind hazards represented the failure to meet a requirement or standard and was reasonably within the ability of the licensee to foresee and correct, the issue of concern represented a performance deficiency.

The inspectors determined the performance deficiency was more than minor because it was associated with the Protection Against External Factors attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the preparatory actions prescribed by AOP-38 were directly related to the Initiating Events Cornerstone objective and inconsistent application of those actions in advance of high wind conditions increased the likelihood of debris-induced initiating events.

The inspectors performed a significance evaluation of the finding in accordance with IMC 0609, Attachment 4, "Initial Characterization of Findings," and determined the finding was associated with the transient initiator contributor attribute of the Initiating Events Cornerstone in accordance with Table 2, "Cornerstones Affected by Degraded Condition or Programmatic Weakness." The inspectors answered 'No' to the questions in Table 3, "Significance Determination Process (SDP) Appendix Router," and therefore continued the significance evaluation in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power." In accordance with IMC 0609, Appendix A, Exhibit 1, "Initiating Events Screening Questions," Section B, "Transient Initiators," and because the finding did not result in a reactor trip or the loss of mitigating equipment, it was determined to be of very low safety significance (Green).

This finding was associated with a cross-cutting aspect of Training in the Human Performance cross-cutting area. Specifically, the licensee's interpretation of procedure AOP-38 entry conditions was a result of the training provided to operators (H.9).

Enforcement: Technical Specification 5.4.1 requires, in part, that written procedures shall be established, implemented, and maintained as recommended in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978. Regulatory Guide 1.33, Revision 2, Appendix A, Item 6.w, recommends a procedure for Acts of Nature.

Contrary to the above, on August 19, 2014, licensee procedure AOP-38, "Acts of Nature," as written and implemented, was not adequate to ensure protection against predicted high wind hazard conditions. Because this violation was of very low safety significance and was entered into the licensee's CAP as CR-PLP-2014-04155, NRC Questioned Entry into AOP-38, this violation is being treated as an NCV consistent with Section 2.3.2 of the NRC's Enforcement Policy. **(NCV 05000255/2014004-01, Inadequate Procedure for Protection against High Winds)**

## 1R04 Equipment Alignment (71111.04)

### a. Inspection Scope

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

- “A” and “C” charging system trains with the “B” charging pump out-of-service for maintenance;
- “B” and “C” service water (SW) trains with the “A” SW train out-of-service for pump maintenance;
- nitrogen backup air bottle stations; and
- “B” train high pressure safety injection (HPSI) train with the “A” HPSI train out-of-service for maintenance.

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 (CRs), 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 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.

These activities constituted four 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 July 28, 2014, the inspectors performed a complete system alignment inspection of the component cooling water (CCW) system 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, component labeling, component lubrication, component and equipment cooling, hangers and supports, the 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.

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)

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 Protection System Post-Indicating Valves and Fire Hose Houses;
- Fire Area 12 – Battery Room #1;
- Fire Area 11 – Battery Room #2;
- Fire Area 28 – West Engineered Safeguards; and
- Fire Area 17 – SFP.

The inspectors reviewed areas to assess if 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, 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. Documents reviewed are listed in the Attachment.

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

b. Findings

No findings were identified.

1R06 Flooding (71111.06)

a. Inspection Scope

The inspectors reviewed selected risk-significant 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. Documents reviewed are listed in the Attachment. In addition, the inspectors reviewed licensee drawings to identify areas and equipment that could 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 areas 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:

- Annual inspection of watertight barriers in risk-significant areas.

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

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program (71111.11)

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

a. Inspection Scope

On August 6, 2014, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator regualification training 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 clarity and formality of communications;
- the 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.

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.

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 August 25, 2014, the inspectors observed the control room operating crew escalate power from approximately 90 percent power to full power after restoring a heater drain pump to service following maintenance. This was an activity that required heightened awareness or was related to increased risk. The inspectors evaluated the following areas:

- licensed operator performance;
- crew clarity and formality of communications;
- the ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of procedures;
- control board (or equipment) manipulations; and
- oversight and direction from supervisors.

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.

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

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

- Chemical and Volume Control System;
- Containment Integrity (Airlocks); and
- Instrument 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 licensee's CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment.

This inspection constituted three 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:

- "A" HPSI pump with the "B" HPSI pump out-of-service;
- core monitoring software issues during plant startup;
- CCW to SFP cooling system valve maintenance
- "C" charging pump block replacement; and
- risk associated with non-standard heavy lift in the turbine building.

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 complete and accurate. 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 are listed in the Attachment.

These maintenance risk assessments and emergent work control activities constituted five 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:

- Use of Teflon in Escape Airlock Seals (Information Notice (IN) 2014-04);
- Use of Teflon in Control Valves CV-1358 and CV-0939 (IN 2014-04);
- HPSI Pipe Support DC1-R201.2 Missing Wire Ring;
- Use of Temporary Jumper to Support Diesel Generator Operability; and
- Wall Thinning of SW Piping to Emergency Safeguards System Room Coolers.

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.

This operability inspection constituted five samples as defined in IP 71111.15–05.

b. Findings

(Closed) Unresolved Item 05000255/2014002-03 SFP Region II Criticality Analysis

This Unresolved Item (URI) was opened in Section 1R15 of NRC Inspection Report 05000255/2014-002. Subsequent to that inspection period, the inspectors reviewed additional information provided by the licensee and assessed the licensee's planned corrective actions.

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," when licensee personnel failed to follow procedure EN-OP-104, "Operability Determination Process." Specifically, Operability Evaluation CR 13-04775 failed to include adequate technical information to support the basis for the reasonable expectation of operability, as required by Step 5.5.c of EN-OP-104.

Description: On November 5, 2013, the licensee initiated CR-PLP-2013-04775, Issues Identified with Region II of SFP Criticality Analysis, which documented that the criticality analysis for Region II of the SFP was not updated following a power uprate implemented in 2004. The licensee identified this while reviewing industry operating experience regarding a similar issue at a different power plant. The licensee's specific concerns with the criticality analysis of record included: 1) the assumed fuel temperature depletion parameter did not appear to bound the actual temperature for Batch A fuel, and 2) the assumed primary coolant system (PCS) boron concentration did not appear to bound the actual PCS boron concentration after Cycle 20.

These concerns ultimately focused on whether fuel had achieved adequate burn-up prior to being stored in Region II of the SFP. The criticality analysis stated that Batch A, B, and C fuel from Cycle 1 would not qualify for storage in Region II of the SFP due to extremely low burn-up. However, Batch A fuel had been stored in Region II of the SFP since 1987, following an SFP re-rack project. Although most of the Batch A fuel was re-located to dry storage in 1994 and 1995, nine Batch A fuel assemblies remained stored in Region II of the SFP.

Operability Evaluation CR-PLP-2013-04775 was assigned on November 5, 2013, and completed on December 5, 2013. The inspectors reviewed the Operability Evaluation along with staff from the Spent Fuel Team in the Office of Nuclear Reactor Regulation (NRR), Division of Safety Systems. On March 20, 2014, the NRC discussed the following issues regarding the Operability Evaluation with the licensee:

- The licensee concluded that power uprate would not have an impact on the SFP storage requirements. However, to reach this conclusion the licensee used the post-uprate hot leg temperature as a calculation input when actual core temperature should have been used. Because actual core temperature was higher than hot leg temperature, the Operability Evaluation did not demonstrate that the analysis of record bounded the effect of the post-uprate core temperature.
- Because the actual PCS average soluble boron concentration for Cycles 20 and later was greater than that assumed in the analysis of record, TS Table 3.7.16-1 did not appear to ensure compliance with 10 CFR 50.68, TS 4.3.1.3.a, or TS 4.3.1.3.b.
- Sufficient information was not included in the Operability Evaluation to determine the effect of crediting axial blankets.
- The analysis of record contained the non-conservatisms identified in IN 2011-03 and utilized a non-conservative methodology, which the NRC withdrew approval of in July 2001. As a result, the Operability Evaluation underestimated the effect on SFP effective neutron multiplication factor ( $k_{eff}$ ).

The above issues collectively drew into question the ability to maintain the effective neutron multiplication factor ( $k_{eff}$ ) less than 1.0 in the unborated SFP case as required by the TSs and therefore ensure a reasonable expectation of the operability of Region II of the SFP.

On March 25, the licensee entered the NRC questions into the CAP as Assignments 6 and 7 of CR-PLP-2013-04775, with an initial due date of April 8. Both assignments were ultimately closed in late April to a new Assignment 9, which was created to complete a revised Operability Evaluation. The licensee determined that contracted technical support was necessary to adequately evaluate the NRC's concerns. At the end of this inspection period, the contracted evaluation effort was near completion. Planned corrective actions include documenting the conclusions of the ongoing evaluation in a revised Operability Evaluation for CR-PLP-2013-04775, with subsequent corrective actions to follow.

Analysis: The inspectors determined that the lack of sufficient technical information in an Operability Evaluation to support the basis for a reasonable expectation of operability, as required by procedure EN-OP-104, was an issue of concern. The issue of concern was determined to not involve willful or traditional enforcement aspects. Because the questions raised by the NRC represented the failure to meet a requirement or standard and were reasonably within the ability of the licensee to foresee and correct, the issue of concern represented a performance deficiency.

The inspectors determined that the performance deficiency was more than minor because it was associated with the Configuration Control attribute of the Barrier Integrity Cornerstone and adversely impacted the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the SFP criticality analysis relied on certain physical conditions to maintain the effective neutron multiplication factor below 1.0, but some actual physical conditions had not been completely bounded by the existing criticality analysis. The inspectors were informed in this decision by Example 3.j in IMC 0612, Appendix E, "Examples of Minor Issues," because the lack of sufficient technical information raised reasonable doubt on the operability of the SFP storage system.

The inspectors evaluated the significance of the finding in accordance with IMC 0609, Attachment 4, "Initial Characterization of Findings." The finding was associated with the maintaining subcritical conditions in the SFP attribute of the Barrier Integrity Cornerstone, in accordance with Table 2, "Cornerstones Affected by Degraded Condition or Programmatic Weakness." The inspectors answered 'No' to the questions in Table 3, "SDP Appendix Router," and therefore continued the significance evaluation in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 3, "Barrier Integrity Screening Questions." Because the inspectors answered 'No' to all of the SFP questions, the finding was determined to be of very low safety significance (Green).

This finding was associated with a cross-cutting aspect of Operating Experience in the Problem Identification and Resolution cross-cutting area. Specifically, the licensee failed to collect and implement external operating experience that had identified the non-conservatisms and the non-conservative methodology that were utilized in the analysis of record (P.5).

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions,

procedures, or drawings. Procedure EN-OP-104, "Operability Determination Process," a quality procedure, described the purpose of an Operability Evaluation. Step 5.5[1](c) of EN-OP-104 stated, in part, "document technical information to support the basis for the Reasonable Expectation of Operability when an SSC has a Degraded or Nonconforming Condition." Step 5.5[6](d)(1) stated, in part, "if margins are used to support Operability, ensure that the source of the margin is clearly described in the Operability Evaluation and that no additional actions (e.g., NRC approval) are required."

Contrary to the above, on December 5, 2013, the licensee approved an Operability Evaluation that did not document sufficient technical information to support the basis of Reasonable Expectation of Operability of the SFP storage system and did not clearly describe the source of all margins being used to support Operability. Because this violation was of very low safety significance and was entered into the licensee's CAP as CR-PLP-2014-04516, this violation is being treated as an NCV consistent with Section 2.3.2 of the NRC's Enforcement Policy. **(NCV 05000255/2014004-02, Spent Fuel Pool Region II Criticality Analysis)**

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors reviewed the following modifications:

- Removal of a T-Cold Channel from the Thermal Margin Monitor; and
- Use of Temporary Jumpers to Support EDG Operability.

The inspectors reviewed the configuration changes and associated 10 CFR 50.59 safety evaluation screening against the design basis, the UFSAR, and the TSs, as applicable, to verify that the modifications 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 modifications with operations, engineering, and training personnel to ensure that the individuals were aware of how the operation with the plant modifications in place could impact overall plant performance. Documents reviewed are listed in the Attachment.

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

b. Findings

(Open) Unresolved Item (URI): Failure to Evaluate the Adverse Effects of the Use of Non-Seismic Temporary Jumpers

Introduction: The inspectors identified an unresolved item associated with the lack of a written safety evaluation that provided a basis that the use of temporary alligator clip jumpers to maintain EDG operability during certain maintenance activities did not require

a license amendment. Specifically, the inspectors were concerned that the licensee did not adequately address the adverse effects of changes in Engineering Change (EC) 50310 and procedure SPS-E-1, "2400 Volt and 4160 Volt Allis Chalmers and Siemens Vacuum Circuit Breaker Auxiliary Switch Adjustments," Revision 34.

Description: On September 10, 2014, the inspectors observed a preventive maintenance activity on 2.4kV breaker 152-106, which supplied power from Startup Transformer 1-2 to the 1C safety bus. During the activity, the inspectors noted that the licensee planned to install a temporary jumper to maintain operability of the 1-1 EDG. There was a b-contact on the breaker 152-106 auxiliary switch that was part of the 1-1 EDG auto-start circuit, which allowed the 1-1 EDG to automatically close on the 1C safety bus if both offsite power feeder breakers were open. During the preventive maintenance activity, the auxiliary switch was manipulated and re-positioned several times, which prevented the 1-1 EDG from automatically closing onto the 1C safety bus, rendering the 1-1 EDG inoperable.

The licensee previously evaluated and approved a temporary modification, documented in EC 50310, for the use of temporary jumpers to maintain EDG auto-start circuit continuity, and therefore EDG operability, during preventive maintenance activities that manipulated the auxiliary switch for breaker 152-106 as well as six other breakers associated with the 1C and 1D safety buses. The evaluation acknowledged that the jumpers were being installed in seismically-qualified equipment and the jumpers should be installed using safety-related wire and ring tongue terminals. However, the evaluation also stated that, due to the design of each breaker, breakers 152-105 and 152-106 required the use of alligator clip jumpers, which was allowed by procedure EN-DC-136, "Temporary Modifications," Revision 10, provided the alligator clip jumpers were not left unattended.

The inspectors reviewed the process applicability determination (PAD) for the temporary modification documented in EC 50310. The licensee's PAD concluded that, while some aspects of the activity were covered under maintenance risk regulations in 10 CFR 50.65, the use of temporary jumpers to maintain EDG operability was covered under 10 CFR 50.59. The 10 CFR 50.59 screening was documented in the PAD and the licensee determined that there were no adverse effects from the change. Section VI.B of the PAD referred to Nuclear Energy Institute (NEI) 96-07, "Guidelines for 10 CFR 50.59 Implementation," Section 4.2, for guidance in screening issues through the 10 CFR 50.59 criteria.

The inspectors reviewed NEI 96-07, Section 4.2, and identified items that appeared to not be addressed by the licensee in the PAD. Section 4.2.1 contained a list of questions that illustrate the range of effects that may stem from a proposed activity. Two of the questions were as follows:

- Does the activity decrease the reliability of an SSC design function, including either functions whose failure would initiate a transient/accident or functions that are relied upon for mitigation?
- Does the activity degrade the seismic or environmental qualification of the SSC?

The PAD did not address either of these questions despite the knowledge that alligator clip jumpers were not seismically qualified, required constant attention per procedure for

that reason, and were being installed in seismically qualified equipment. The inspectors discussed the issue with 10 CFR 50.59 subject matter experts in the Region III Office, and collectively discussed the issue with the licensee. At the end of this inspection period, the licensee entered the concerns into their CAP as CR-PLP-2014-04859, NRC Identified 50.59 Issue, dated October 7, 2014. The inspectors were awaiting the licensee's corrective action plan and evaluation of the temporary modification through the 10 CFR 50.59 criteria to determine whether a license amendment would have been necessary. This issue is an Unresolved Item pending review of the additional information. **(URI 05000255/2014004-03, Failure to Evaluate the Adverse Effects of the Use of Non-Seismic Temporary Jumpers)**

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- QO-19B, "B" HPSI Pump following Maintenance;
- Implementation of Temporary Modification for Failed T-Cold Resistance Temperature Detector in Subcooled Margin Monitoring System;
- EDG Vent Fan Temperature Switch Replacements;
- QO-15B, "B" CCW Pump Following Maintenance;
- Left Train Control Room Ventilation System following Maintenance; and
- "C" Charging Pump following Block Replacement.

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.

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

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:

- T-302, 1-1 EDG Overspeed Test (Routine);
- QO-16, "A" Containment Spray Pump (Inservice Test (IST));
- American Society of Mechanical Engineers (ASME) OM Code-Required IST for Left Train AFW Flow Control Valves (IST);
- B.5.b Pump Surveillance Run (Routine);
- MO-7A-2, 1-2 EDG Monthly Surveillance (Routine); and
- RI-5B, Steam Generator Pressure Channel "B" Calibration (Routine).

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.

This inspection constituted four routine surveillance testing samples and two IST samples as defined in IP 71111.22, Sections–02 and–05.

b. Findings

A licensee-identified violation associated with these inspection activities is included in Section 4OA7 of this inspection report.

**Cornerstone: Emergency Preparedness**

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of routine licensee emergency drills on July 10, 2014, and September 30, 2014, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator control room to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critiques 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 these inspections, the inspectors reviewed the drill packages and other documents listed in the Attachment.

These emergency preparedness drill inspections constituted two samples as defined in IP 71114.06–05.

b. Findings

No findings were identified.

## 2. RADIATION SAFETY

### Cornerstones: Public Radiation Safety and Occupational Radiation Safety

#### 2RS4 Occupational Dose Assessment (71124.04)

This inspection constituted a partial sample as defined in IP 71124.04-05.

##### .1 Inspection Planning (02.01)

###### a. Inspection Scope

The inspectors reviewed the results of Radiation Protection Program audits related to internal and external dosimetry (e.g., licensee's quality assurance audits, self-assessments, or other independent audits) to gain insights into overall licensee performance in the area of dose assessment and focus the inspection activities consistent with the principle of "smart sampling."

The inspectors reviewed the most recent National Voluntary Laboratory Accreditation Program accreditation report on the vendor's most recent results to determine the status of the contractor's accreditation.

A review was conducted of the licensee's procedures associated with dosimetry operations, including issuance/use of external dosimetry (e.g., routine, multi-badging, extremity, neutron, etc.), assessment of internal dose (e.g., operation of whole body counter, assignment of dose based on derived air concentration-hours, urinalysis, etc.), and evaluation of and dose assessment for radiological incidents (e.g., distributed contamination, hot particles, loss of dosimetry, etc.).

The inspectors evaluated whether the licensee established procedural requirements for determining when external and internal dosimetry is required.

###### b. Findings

No findings were identified.

##### .2 External Dosimetry (02.02)

###### a. Inspection Scope

The inspectors evaluated whether the licensee's dosimetry vendor was National Voluntary Laboratory Accreditation Program accredited and if the approved irradiation test categories for each type of personnel dosimeter used were consistent with the types and energies of the radiation present and the way the dosimeter was being used (e.g., to measure deep dose equivalent, shallow dose equivalent, or lens dose equivalent).

The inspectors evaluated the onsite storage of dosimeters before their issuance, during use, and before processing/reading. The inspectors also reviewed the guidance provided to rad-workers with respect to care and storage of dosimeters.

The inspectors assessed whether non-National Voluntary Laboratory Accreditation Program accredited passive dosimeters (e.g., direct ion storage sight read dosimeters) were used according to licensee procedures that provide for periodic calibration,

application of calibration factors, usage, reading (dose assessment), and zeroing. The licensee does not use non-National Voluntary Laboratory Accreditation Program accredited passive dosimeters.

The inspectors assessed the use of active dosimeters (electronic personal dosimeters) to determine if the licensee uses a "correction factor" to address the response of the electronic personal dosimeter as compared to the passive dosimeter for situations when the electronic personal dosimeter must be used to assign dose. The inspectors also assessed whether the correction factor was based on sound technical principles.

The inspectors reviewed dosimetry occurrence reports or CAP documents for adverse trends related to electronic personal dosimeters, such as interference from electromagnetic frequency, dropping or bumping, failure to hear alarms, etc. The inspectors assessed whether the licensee identified any trends and implemented appropriate corrective actions.

b. Findings

No findings were identified.

.3 Internal Dosimetry (02.03)

Routine Bioassay (In Vivo)

a. Inspection Scope

The inspectors reviewed procedures used to assess the dose from internally deposited nuclides using whole body counting equipment. The inspectors evaluated whether the procedures addressed methods for differentiating between internal and external contamination, the release of contaminated individuals, the route of intake, and the assignment of dose.

The inspectors reviewed the whole body count process to determine if the frequency of measurements was consistent with the biological half-life of the nuclides available for intake.

The inspectors reviewed the licensee's evaluation for use of its portal radiation monitors as a passive monitoring system to determine if instrument minimum detectable activities were adequate to determine the potential for internally deposited radionuclides sufficient to prompt additional investigation.

The inspectors selected several whole body counts and evaluated whether the counting system used had sufficient counting time/low background to ensure appropriate sensitivity for the potential radionuclides of interest. The inspectors reviewed the radionuclide library used for the count system to determine its appropriateness. The inspectors evaluated whether any anomalous count peaks/nuclides indicated in each output spectra received appropriate disposition. The inspectors reviewed the licensee's 10 CFR Part 61 data analyses to determine whether the nuclide libraries included appropriate gamma-emitting nuclides. The inspectors evaluated how the licensee accounted for hard-to-detect nuclides in the dose assessment.

b. Findings

No findings were identified.

Special Bioassay (In Vitro)

a. Inspection Scope

There were no internal dose assessments obtained using in vitro monitoring for the inspectors to review. The inspectors reviewed and assessed the adequacy of the licensee's program for in vitro monitoring (i.e., urinalysis and fecal analysis) of radionuclides (i.e., tritium, fission products, and activation products), including collection and storage of samples.

The inspectors reviewed the vendor laboratory Quality Assurance Program and assessed whether the laboratory participated in an industry recognized Cross-Check Program, including whether out-of-tolerance results were resolved appropriately.

b. Findings

No findings were identified.

Internal Dose Assessment – Airborne Monitoring

a. Inspection Scope

The inspectors reviewed the licensee's program for airborne radioactivity assessment and dose assessment, as applicable, based on airborne monitoring and calculations of derived air concentration. The inspectors determined whether flow rates and collection times for air sampling equipment were adequate to allow lower limits of detection to be obtained. The inspectors also reviewed the adequacy of procedural guidance to assess internal dose if respiratory protection was used.

b. Findings

No findings were identified.

Internal Dose Assessment – Whole Body Count Analyses

a. Inspection Scope

The inspectors reviewed several dose assessments performed by the licensee using the results of whole body count analyses. The inspectors determined whether affected personnel were properly monitored with calibrated equipment and that internal exposures were assessed consistent with the licensee's procedures.

b. Findings

No findings were identified.

.4 Special Dosimetric Situations (02.04)

Declared Pregnant Workers

a. Inspection Scope

The inspectors assessed whether the licensee informed workers, as appropriate, of the risks of radiation exposure to the embryo/fetus, the regulatory aspects of declaring a pregnancy, and the specific process to be used for (voluntarily) declaring a pregnancy.

The inspectors selected individuals who had declared pregnancy during the current assessment period and evaluated whether the licensee's Radiological Monitoring Program (internal and external) for declared pregnant workers was technically adequate to assess the dose to the embryo/fetus. The inspectors reviewed exposure results and monitoring controls employed by the licensee and with respect to the requirements of 10 CFR Part 20.

b. Findings

No findings were identified.

Shallow Dose Equivalent

a. Inspection Scope

The inspectors reviewed shallow dose equivalent dose assessments for adequacy. The inspectors evaluated the licensee's method (e.g., VARSKIN or similar code) for calculating shallow dose equivalent from distributed skin contamination or discrete radioactive particles.

b. Findings

No findings were identified.

Neutron Dose Assessment

a. Inspection Scope

The inspectors evaluated the licensee's Neutron Dosimetry Program, including dosimeter types and/or survey instrumentation.

The inspectors reviewed neutron exposure situations (e.g., independent spent fuel storage installation operations or at-power containment entries) and assessed whether: (a) dosimetry and/or instrumentation was appropriate for the expected neutron spectra; (b) there was sufficient sensitivity for low dose and/or dose rate measurement; and (c) neutron dosimetry was properly calibrated. The inspectors also assessed whether interference by gamma radiation had been accounted for in the calibration and whether time and motion evaluations were representative of actual neutron exposure events, as applicable.

b. Findings

No findings were identified.

.5 Problem Identification and Resolution (02.05)

a. Inspection Scope

The inspectors assessed whether problems associated with occupational dose assessment 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 involving occupational dose assessment.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (71124.07)

This inspection constituted one complete sample as defined in IP 71124.07-05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the annual radiological environmental operating reports and the results of any licensee assessments since the last inspection to assess whether the Radiological Environmental Monitoring Program (REMP) was implemented in accordance with the TSs and Offsite Dose Calculation Manual (ODCM). This review included reported changes to the ODCM with respect to environmental monitoring, commitments in terms of sampling locations, monitoring and measurement frequencies, land use census, Inter-Laboratory Comparison Program, and analysis of data.

The inspectors reviewed the ODCM to identify locations of environmental monitoring stations.

The inspectors reviewed the UFSAR for information regarding the environmental monitoring program and meteorological monitoring instrumentation.

The inspectors reviewed quality assurance audit results of the program to assist in choosing inspection "smart samples." The inspectors also reviewed audits and technical evaluations performed on the vendor laboratory, if used.

The inspectors reviewed the annual effluent release report and the 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste," report to determine if the licensee was sampling, as appropriate, for the predominant and dose-causing radionuclides likely to be released in effluents.

b. Findings

No findings were identified.

## Site Inspection (02.02)

### a. Inspection Scope

The inspectors walked down select air sampling stations and dosimeter monitoring stations to determine whether they were located as described in the ODCM and to determine the equipment material condition. Consistent with smart sampling, the air sampling stations were selected based on the locations with the highest X/Q, D/Q wind sectors, and dosimeters were selected based on the most risk-significant locations (e.g., those that have the highest potential for public dose impact).

For the air samplers and dosimeters selected, the inspectors reviewed the calibration and maintenance records to evaluate whether they demonstrated adequate operability of these components. Additionally, the review included the calibration and maintenance records of select composite water samplers.

The inspectors assessed whether the licensee initiated sampling of other appropriate media upon loss of a required sampling station.

The inspectors observed the collection and preparation of environmental samples from different environmental media (e.g., ground and surface water, milk, vegetation, sediment, and soil) as available to determine if environmental sampling was representative of the release pathways as specified in the ODCM and if sampling techniques were in accordance with procedures.

Based on direct observation and review of records, the inspectors assessed whether the meteorological instruments were operable, calibrated, and maintained in accordance with guidance contained in the UFSAR, NRC Regulatory Guide 1.23, "Meteorological Monitoring Programs for Nuclear Power Plants," and licensee procedures. The inspectors assessed whether the meteorological data readout and recording instruments in the control room and, if applicable, at the meteorological tower were operable.

The inspectors evaluated whether missed and/or anomalous environmental samples were identified and reported in the annual environmental monitoring report. The inspectors selected events that involved a missed sample, inoperable sampler, lost dosimeter, or anomalous measurement to determine if the licensee had identified the cause and had implemented appropriate corrective actions. The inspectors reviewed the licensee's assessment of any positive sample results (i.e., licensed radioactive material detected above the lower limits of detection) and reviewed the associated radioactive effluent release data that was the source of the released material.

The inspectors selected SSCs that involved or could reasonably involve licensed material for which there was a credible mechanism for licensed material to reach ground water, and assessed whether the licensee had implemented a Sampling and Monitoring Program sufficient to detect leakage of these SSCs to ground water.

The inspectors evaluated whether records, as required by 10 CFR 50.75(g), of leaks, spills, and remediation since the previous inspection were retained in a retrievable manner.

The inspectors reviewed any significant changes made by the licensee to the ODCM as the result of changes to the land census, long-term meteorological conditions (3-year average), or modifications to the sampler stations since the last inspection. The inspectors reviewed technical justifications for any changed sampling locations to evaluate whether the licensee performed the reviews required to ensure that the changes did not affect their ability to monitor the impact of radioactive effluent releases on the environment.

The inspectors assessed whether the appropriate detection sensitivities with respect to TS/ODCM were used for counting samples (i.e., the samples meet the TS/ODCM required lower limits of detection). The licensee used a vendor laboratory to analyze the REMP samples, so the inspectors reviewed the results of the vendor's Quality Control Program, including the inter-laboratory comparison, to assess the adequacy of the vendor's program.

The inspectors reviewed the results of the licensee's Inter-Laboratory Comparison Program to evaluate the adequacy of environmental sample analyses performed by the licensee. The inspectors assessed whether the inter-laboratory comparison test included the media/nuclide mix appropriate for the facility. If applicable, the inspectors reviewed the licensee's determination of any bias to the data and the overall effect on the REMP.

b. Findings

No findings were identified.

Identification and Resolution of Problems (02.03)

a. Inspection Scope

The inspectors assessed whether problems associated with the REMP were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP. Additionally, the inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involved the REMP.

b. Findings

No findings were identified.

#### 4. OTHER ACTIVITIES

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

#### 4OA1 Performance Indicator Verification (71151)

##### .1 Safety System Functional Failures

###### a. Inspection Scope

The inspectors sampled licensee submittals for the Safety System Functional Failures (MS05) performance indicator (PI) for the period from the third quarter 2013 through the second quarter 2014. The inspectors used PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," definitions and guidance to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance WOs, CRs, event reports, and NRC Integrated Inspection Reports for the period of July 1, 2013, through June 30, 2014, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's CR 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.

This inspection constituted one safety system functional failures sample as defined in IP 71151-05.

###### b. Findings

No findings were identified.

##### .2 Mitigating Systems Performance Index - High Pressure Injection Systems

###### a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI) - High Pressure Injection Systems (MS07) PI for the period from the third quarter 2013 through the second quarter 2014. The inspectors used PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's operator narrative logs, CRs, MSPI derivation reports, event reports, and NRC Integrated Inspection Reports for the period of July 1, 2013, through June 30, 2014, to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, whether the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's CR 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.

This inspection constituted one MSPI high pressure injection system sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.4 Mitigating Systems Performance Index - Residual Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI - Residual Heat Removal System (MS09) PI for the period from the third quarter 2013 through the second quarter 2014. The inspectors used PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's operator narrative logs, CRs, MSPI derivation reports, event reports and NRC Integrated Inspection Reports for the period of July 1, 2013, through June 30, 2014, to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, whether the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's CR 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.

This inspection constituted one MSPI residual heat removal system sample as defined in IP 71151-05.

.5 Radiological Effluent Technical Specification/Offsite Dose Calculation Manual  
Radiological Effluent Occurrences

a. Inspection Scope

The inspectors sampled licensee submittals for the radiological effluent TS/ODCM radiological effluent occurrences (PR01) PI for the period from the fourth quarter 2013 through the second 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 CR database and selected individual reports generated since this indicator was last reviewed to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors reviewed gaseous effluent summary data and the results of associated offsite dose calculations for selected dates to determine if indicator results were accurately reported. The inspectors also reviewed the licensee's methods for quantifying gaseous and liquid effluents and determining effluent dose. Documents reviewed are listed in the Attachment.

This inspection constituted one Radiological Effluent TS/ODCM radiological effluent occurrences sample as defined in IP 71151-05.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

.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 whether identification of the problem was complete and accurate; whether timeliness was commensurate with safety significance; whether the 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 whether 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.

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 CR 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 Annual Sample: Review of Operator Workarounds

a. Inspection Scope

The inspectors evaluated the licensee's implementation of their process used to identify, document, track, and resolve operational challenges. Inspection activities included, but were not limited to, a review of the cumulative effects of the operator workarounds on system availability and the potential for improper operation of the system, for potential impacts on multiple systems, and on the ability of operators to respond to plant transients or accidents.

The inspectors performed a review of the cumulative effects of operator workarounds. The documents listed in the Attachment were reviewed to accomplish the objectives of the inspection procedure. The inspectors reviewed both current and historical operational challenge records to determine whether the licensee was identifying operator challenges at an appropriate threshold, had entered them into their CAP, and proposed or implemented appropriate and timely corrective actions which addressed each issue. Reviews were conducted to determine if any operator challenge could increase the possibility of an Initiating Event, if the challenge was contrary to training, required a change from long-standing operational practices, or created the potential for inappropriate compensatory actions. Additionally, all temporary modifications were reviewed to identify any potential effect on the functionality of Mitigating Systems, impaired access to equipment, or required equipment uses for which the equipment was not designed. Daily plant and equipment status logs, degraded instrument logs, and operator aids or tools being used to compensate for material deficiencies were also assessed to identify any potential sources of unidentified operator workarounds.

This review constituted one operator workaround annual inspection 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 (LER) 255/2014-003-00: Two Axial Indications Identified in a Dissimilar Metal Weld Between a Pressurizer Nozzle and a Nozzle Safe-End Flange

On February 5, 2014, while performing an in-service inspection ultrasonic examination of a dissimilar metal weld located between the pressurizer safety relief nozzle and safe-end flange, the licensee identified two axial indications in the root area of the weld. The root weld indications identified were indicative of primary water stress corrosion cracking (PWSCC). The licensee removed the susceptible weld metal encompassing the indications and repaired the area in accordance with the requirements of ASME Section XI, IWA-4000, "Repair/Replacement Activities;" Code Case N-638-4, "Similar and Dissimilar Welding Using Ambient Temperature Machine GTAW Temper Bead Technique;" and NRC approved relief request RR 4-19, "Proposed Alternative to the Requirements of ASME Code Case N-638-4." The repair was completed on March 8, 2014, using a material not susceptible to PWSCC and the licensee verified the weld was acceptable by performing the required post-weld radiograph on March 9, 2014.

Extent of condition exams were performed as required by 10 CFR 50.55a in accordance with Code Case N-770-1 on six additional welds. All extent of condition examinations were completed satisfactorily without any additional weld flaws identified. The inspectors reviewed the LER and did not identify any additional findings or violations of NRC requirements. Documents reviewed are listed in the Attachment. This LER is closed.

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

.2 (Closed) LER 2013-004-00: Discovery of Latent Design Deficiency Results in Non-Compliance with 10 CFR 50 Appendix R

On November 7, 2013, during a review of industry operating experience, the licensee identified a latent design deficiency in which fire-induced cable faults could result in a fire in two different fire areas. Specifically, fire-induced cable faults in station battery ammeter wiring could result in current flow in excess of the cable rating. As a result, the wires could overheat and damage nearby wires or initiate a fire somewhere along the path of the wire. The licensee reported this condition to the NRC on January 6, 2014, in accordance with 10 CFR 50.73(a)(2)(ii)(B).

The underlying technical issue was inspected at the time of discovery and a licensee-identified violation was documented in Section 4OA7 of NRC Inspection Report 05000255/2013-005.

The LER was reviewed. No additional 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.

4OA6 Management Meetings

.1 Exit Meeting Summary

On October 15, 2014, the inspectors presented the inspection results to Mr. A. Vitale, Site Vice President, 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 areas of Radiological Environmental Monitoring and Radiological Effluent Technical Specification/Offsite Dose Calculation Manual Radiological Effluent Occurrences Performance Indicator Verification with Mr. A. Williams, General Manager Plant Operations, on July 10, 2014.
- The inspection results for the area of Occupational Dose Assessment with Mr. D. Corbin, Operations Manager/Acting General Manager Plant Operations, on August 15, 2014.

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

#### 40A7 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.

Title 10 CFR 50.55a(f)(4) requires, in part, that pumps and valves classified as ASME Code Class 1, 2, or 3 must meet the IST requirements set forth in the ASME OM Code and addenda, to the extent practical within the limitations of design, geometry, and materials of construction of the components. Contrary to that requirement, the licensee failed to test left train AFW flow control valves CV-0727 and CV-0749 in accordance with the ASME OM code requirements or the NRC-approved Valve Relief Request (VRR-18), for a period of approximately 6 years. In June 2013, the licensee identified that the alternate method for testing the AFW flow control valves, approved in 2007 by VRR-18 for the current 10-year IST interval, was not being performed. The approved alternate method for testing the regulating capability of these valves was to validate that the 'A'/B' AFW pump flow rates were within TS limits during the quarterly pump surveillance test. However, the quarterly surveillance test methodology was revised after the VRR was submitted to no longer provide AFW flow to the steam generators during testing, instead flowing water in a recirculation loop, and therefore not testing the regulating capability of the flow control valves. The licensee identified the issue during a focused self-assessment of the IST program and entered the issue into their CAP as CR-PLP-2013-2522, Alternate Testing Not Being Performed as Approved by Valve Relief Request for CV-0727 and CV-0749, on June 6, 2013. The valves were stroke time tested, in accordance with the ASME OM Code requirements, in November 2013, and every quarter thereafter, using the quarterly technical specification surveillance valve test procedure.

The inspectors determined that the performance deficiency was more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems Cornerstone and adversely impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee did not perform Code-required timed valve strokes for several years, which adversely affected the ability to verify that the valves would operate as required. The inspectors evaluated the significance of the finding using IMC 0609, Appendix A, "The Significance Determination Process for Findings at Power," Exhibit 2, "Mitigating Systems Screening Questions," and answered 'Yes' to Question 1: "If the finding is a deficiency affecting the design or qualification of a mitigating SSC, does the SSC maintain its operability or functionality?" Therefore, the issue was determined to be of very low safety significance.

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  
O. Gustafson, Director of Regulatory and Performance Improvement  
D. Watkins, Radiation Protection Manager  
T. Mulford, Assistant Operations Manager  
J. Fontaine, Radiation Protection Supervisor  
A. Gennrich, Chemistry Specialist  
M. Ginzel, Radiation Protection Specialist  
J. Miller, Chemistry Manager

#### Nuclear Regulatory Commission

E. Duncan, Chief, Reactor Projects Branch 3

## LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

### Opened

05000255/2014004-01	NCV	Inadequate Procedure for Protection against High Winds (Section 1R01.2)
05000255/2014004-02	NCV	Spent Fuel Pool Region II Criticality Analysis (Section 1R15.1)
05000255/2014004-03	URI	Failure to Evaluate the Adverse Effects of the Use of Non-Seismic Temporary Jumpers (Section 1R18)

### Closed

05000255/2014004-01	NCV	Inadequate Procedure for Protection against High Winds (Section 1R01.2)
05000255/2014004-02	NCV	Spent Fuel Pool Region II Criticality Analysis (Section 1R15.1)
05000255/2014-003-00	LER	Weld Defect in Pressurizer Nozzle to Nozzle Safe-End Flange (Section 4OA3.1)
05000255/2013-004-00	LER	Discovery of Latent Design Deficiency Results in Non-Compliance with 10 CFR 50 Appendix R (Section 4OA3.2)
05000255/2014002-03	URI	Spent Fuel Pool Region II Criticality Analysis (Section 1R15.1)

### 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 2
- AOP-38, Acts of Nature Basis, Revision 2
- CR-PLP-2014-04155, NRC Questioned Entry into AOP-38, August 20, 2014
- EN-FAP-EP-010, Severe Weather Response, Revision 1
- Murray & Trettel, Inc., Thunderstorm/Lightning/Rain Warning, August 29, 2014
- National Oceanic and Atmospheric Administration's National Weather Service Glossary, Severe Thunderstorm Warning, August 20, 2014
- National Oceanic and Atmospheric Administration's National Weather Service Glossary, High Wind Warning, August 20, 2014
- National Weather Service Severe Thunderstorm Warning Text, August 19, 2014
- National Weather Service Special Marine Warning Text, August 19, 2014

### 1R04 Equipment Alignment

- CR-PLP-2009-05533, Component Cooling Water Pumps Lack Adequate Inservice Testing Margin, December 3, 2009
- CR-PLP-2012-00582, CV-0915 CCW Surge Tank Vent Valve Found to Have Binding in Valve Body, January 24, 2014
- CR-PLP-2014-03846, MV-CVC2047 Requires Repair or Replacement, July 24, 2014
- CR-PLP-2014-04631, CV-3037 Did Not Open During HPA Calibrations, September 24, 2014
- CR-PLP-2014-04633, Gasket Coming Out of Floor Plug in East Safeguards Ceiling, September 24, 2014
- CR-PLP-2014-02847, P-52B, Component Cooling Water Pump, Inboard Motor Bearing is Losing Oil at a Rate of 1.8 mL/hour, May 1, 2014
- CR-PLP-2014-03881, Wrong Oil Used to Fill CCW P-52B Inboard Pump Bearing Reservoir, July 28, 2014
- CR-PLP-2014-03882, Pin Used for 3-Way Manifold on Bypass Valve Body was Unable to Be Reinstalled, July 28, 2014
- CR-PLP-2014-03916, P-52B, Component Cooling Water Pump, Inboard Pump Bearing Oiler Leaks at Approximately 10 mL/hour, July 30, 2014
- CR-PLP-2014-03933, Found X-Phase Relay High Drop Out Pickup Above Acceptance Criteria for P-52B, July 31, 2014
- CR-PLP-2014-03951, Bypass/Equalizing Valves in Component Cooling Water System Differential Pressure Indicator Manifolds are Not Restrained Against Inadvertent Loosening as Designed, August 1, 2014
- CR-PLP-2014-03957, Nonsafety Related Fasteners Installed in Component Cooling Water Pump, P-52A, Motor Coupling, August 1, 2014
- CR-PLP-2014-03959, Extent of Condition Review for CR-PLP-2014-3957 Revealed Nonsafety Related Fasteners Installed in Component Cooling Water Pump, P-52B, Motor Coupling, August 1, 2014
- DBD-1.05, Compressed Air Systems, Revision 4

- Design Basis Document-1.01, Component Cooling Water System, Revision 8
- EA-GAK-98-003, CCW Heat Exchangers (E-54A/B) Testing, Maintenance and Operation Basis, Revision 1
- EC-43719, Replacement of Component Cooling Water Surge Tank (T-3) Three-Way Vent Valve CV-0915 (and Operator VOP-0915); Including Reassignment of Associated Pressure Control Valve, PCV-0915, Revision 0
- EC-52240, Acceptability of Fasteners Currently Installed in the Component Cooling Water Pumps', P-52A and P-52B, Pump to Motor Couplings
- ECR 17649, During Performance of WO #377488 to Install New Bypass Valve Discovered Pin Used on 3-Way Manifold to Secure Bypass Valve was Unable to Be Reinstalled
- EN-DC-159, System Monitoring Program, Revision 6
- EN-DC-600, Long Term Asset Management Plan, Revision 0
- EN-MP-120, Material Receipt, Revision 7
- EN-OP-104, Operability Determination Process, Revision 7
- M-202, Piping & Instrument Diagram Chemical & Volume Control System, Sheet 1, Revision 76
- M-202, Piping & Instrument Diagram Chemical & Volume Control System, Sheet 1B, Revision 59
- M-202, Piping & Instrument Diagram Chemical & Volume Control System, Sheet 1A, Revision 63
- M-203, Piping & Instrument Diagram, Safety Injection, Containment Spray and Shutdown Cooling System, Sheet 2, Revision 27
- M-204 Piping & Instrument Diagram, Safety Injection, Containment Spray and Shutdown Cooling system, Sheet 1A, Revision 43
- M-204, Piping & Instrument Diagram, Safety Injection, Containment Spray and Shutdown Cooling System, Sheet 1, Revision 84
- M-209, Piping & Instrumentation Diagram Component Cooling System, Sheet A, Revision 9
- M-209, Piping & Instrumentation Diagram Component Cooling System, Sheet 1, Revision 68
- M-209, Piping & Instrumentation Diagram Component Cooling System, Sheet 2, Revision 33
- M-209, Piping & Instrumentation Diagram Component Cooling System, Sheet 3, Revision 55
- M-213, Piping & Instrumentation Diagram, Service Water, Screen Structure and Chlorinator, Revision 95
- M-221, Piping & Instrumentation Diagram Spent Fuel Pool Cooling System, Sheet 2, Revision 58
- SOP-15, Attachment 2, Service Water System Checklist 15. 1, Revision 57
- SOP-15, Service Water System, Revision 57
- SOP-16, Component Cooling Water System, Revision 43
- SOP-19, Nitrogen/Air Backup Stations, Revision 60
- SOP-2B, Checklist CL 2.1 CVC System Checklist, Revision 47
- SOP-3, Attachment 18, Engineered Safeguards Administrative Control Verification, Revision 95
- SOP-3, Safety Injection and Shutdown Cooling system, Revision 95
- System Health Report for Component Cooling, 2<sup>nd</sup> Quarter 2014
- WO 304075, CV-0915; Binding Within Valve Body
- WO 377488, MV-CC625C, Packing Leak on DPI-0919, Replace Valve, July 29, 2014
- WO 381702, EMA-1208, P-52B Inboard Motor Bearing Leak
- WO 383489, P-52C, CCW Pump Inboard Mechanical Seal Leaks 15 mL/min
- WO 390324, P-52A, 'A' Component Cooling Water Pump; Replace Coupling Bolts
- WO 390325, P-52B, 'B' Component Cooling Water Pump; Replace Coupling Bolts

## 1R05 Fire Protection

- Admin-4.02, Control of Equipment, Revision 70
- CR-PLP-2013-00815, Fire Hydrant #3 Leak, February 23, 2013
- CR-PLP-2014-01484, Fire Hose Station #5 Access Doors Blocked, February 17, 2014
- CR-PLP-2014-02534, MV-FP650, VRS and Hose Station #20 FPS Isolation, Valve Has Leak at Packing, April 10, 2014
- FPIP-4, Fire Protection Systems and Fire Protection Equipment, Revision 32
- FPSP-SO-4, Fire Suppression Water System Post Indicator Valve Operation, Revision 4
- M-216, Piping & Instrumentation Diagram: Fire Protection System, Sheet 2, Revision 68
- Palisades Nuclear Plant Fire Hazards Analysis, Revision 7
- Pre-Fire Plan for Battery Room #1, Fire Area 12
- Pre-Fire Plan for Battery Room #2, Fire Area 11
- Pre-Fire Plan for Spent Fuel Pool, Fire Area 17
- Pre-Fire Plan for West Engineered Safeguards Room, Fire Area 28

## 1R06 Flood Protection

- Admin 4.02, Control of Equipment, Revision 69
- ARP-1, Turbine Condenser and Feedwater Scheme EI-01 (C-11), Revision 72
- ARP-8, Safeguards Safety Injection and Isolation Scheme Ei-13 (EC-13), Revision 75
- CR-PLP-2014-03704, Three Slits Found in the Floor Boot Seal in East Engineering Safeguards and Two Slits in the Boot Seal in West Engineering Safeguards, July 14, 2014
- CR-PLP-2014-03718, Loose Nut Found During Annual Inspection on Expansion Joint 5, July 15, 2014
- CR-PLP-2014-03719, Discovered Penetration in Segment B to C During Inspection of Watertight Walls, July 15, 2014
- CR-PLP-2014-03917, Minor Cracking on Expansion Joints on East Wall in West Engineered Safeguards, July 30, 2014
- CR-PLP-2-14-03714, Leakage on the West Wall of West Safeguards, July 15, 2014
- DBD-7.08, Appendix F, NRC Guidelines for Protection From Flooding of Equipment Important to Safety, Revision 6
- DBD-7.08, Plant Protection Against Flooding, Revision 6
- DBD-7.08, Plant Protection Against Flooding, Revision 6
- DBD-7.08, Table 9-2, Evaluation of Equipment Postulated to be Submerged by Internal Flooding, Revision 6
- FSAR 9.1, Auxiliary Systems, Revision 25
- FSAR Table 5.4-1, Safety-Related Equipment that Requires Protection from Flooding Due to Failures of Non-Class 1 Systems, Revision 30
- FSAR-5.4, Design of Structures, Systems and Components, Revision 24
- MSM-M-16, Expansion Joint Inspection Sheet, Revision 17
- MSM-M-16, Inspection of Watertight Barriers, Revision 17
- SOP-3, Attachment 13, Checklist CL 3.4, Plant Flood Door System Checklist, Revision 95
- WO 52499033-01, Annual Inspection of Watertight Barriers, May 19, 2014
- WO 52499033-06, Annual Inspection of Watertight Barriers (Expansion Joints), May 19, 2014
- WO 52499033-07, Annual Inspection of Watertight Barriers (Penetrations), May 27, 2014

## 1R11 Licensed Operator Requalification Program

- AOP-42, Response to Aircraft Threats, Revision 1
- AOP-7, Rapid Power Reduction, Revision 0

- Emergency Preparedness Drill Scenario, August 6, 2014
- EN-EP-306, Drills and Exercises, Revision 5
- EOP-1, Standard Post-Trip Actions, Revision 15
- EOP-2, Reactor Trip Recovery, Revision 13
- GOP-5, Power Escalation in Mode 1, Revision 44

#### 1R12 Maintenance Effectiveness

- CR-PLP-2011-01048, Personnel Air Lock Door Seals Elevated Leakage, March 3, 2011
- CR-PLP-2011-03574, Personnel Air Lock Door Seals Elevated Leakage, July 20, 2011
- CR-PLP-2011-07003, Personnel Air Lock Door Seals Elevated Leakage, December 21, 2011
- CR-PLP-2013-00563, Knocking Noise Coming from T-106B, P-55B Discharge Accumulator, February 9, 2013
- CR-PLP-2013-00871, P-55A Accumulator PM Checks Found Both Accumulator Pressures Out of Spec, February 26, 2013
- CR-PLP-2013-01516, T-106C, P-55C, Discharge Accumulator Had Low Pressure, April 4, 2013
- CR-PLP-2013-02068, Accumulator PMs for Charging Pumps Not Being Performed as Scheduled, May 8, 2013
- CR-PLP-2013-02706, T-106C As-Found Pressure Outside Acceptance Criteria, June 19, 2013
- CR-PLP-2013-02741, T-105B Suction Accumulator As-Found Pressure Out of Spec, June 21, 2013
- CR-PLP-2013-02920, Hole Found in Weld of Elbow Upstream of MV-CVC2211 on P-55B, July 3, 2103
- CR-PLP-2013-03311, T-105A As-Found Pressure Out of Spec, July 31, 2013
- CR-PLP-2013-03312, T-106A As-Found Pressure Out of Spec, July 31, 2013
- CR-PLP-2013-04097, T-105C As-Found Pressure Out of Spec, September 18, 2013
- CR-PLP-2013-04098, T-105B As-Found Pressure Out of Spec, September 18, 2013
- CR-PLP-2013-04099, T-106B As-Found Pressure Out of Spec, September 18, 2013
- CR-PLP-2013-04100, T-105A As-Found Pressure Out of Spec, September 18, 2013
- CR-PLP-2013-04101, T-106A As-Found Pressure Out of Spec, September 18, 2013
- CR-PLP-2013-04372, MV-CVC2211 Pump Side Weld Cracked, October 7, 2013
- CR-PLP-2013-04385, Leak Found on Discharge of P-55B and P-55A Tripped During Attempted Start, October 7, 2013
- CR-PLP-2013-04596, P-55A Tripped on Startup Due to Low Lube Oil Pressure, October 24, 2013
- CR-PLP-2013-04687, T-105B, Charging Pump P-55B Suction Accumulator, As-Found Pressure was Out of Specification High, October 30, 2013
- CR-PLP-2013-04747, T-105A As-Found Pressure Out of Spec, November 4, 2013
- CR-PLP-2013-04772, Three Functional Failures Performance Criteria Exceeded for CVC System, November 5, 2103
- CR-PLP-2013-04838, T-105C As-Found Pressure Out of Spec, November 8, 2013
- CR-PLP-2013-04863, Additional Functional Failure for Charging Pump P-55A, November 12, 2013
- CR-PLP-2013-05039, While Starting P-55A, Pump Tripped on Low Lube Oil Pressure, November 26, 2013
- CR-PLP-2014-02859, Personnel Air Lock Door Seals Elevated Leakage, May 2, 2014
- CR-PLP-2014-02562, Leak on Elbow Downstream of MV-CVC2212, P-55C Discharge Manifold Flush Inlet Valve, April 13, 2014
- CR-PLP-2014-02798, Leak Coming from Upstream of MV-CVC2212, 'C' Charging Pump Discharge Manifold Flush Inlet Valve, April 26, 2014

- CR-PLP-2014-03013, CVCS Maintenance Rule Repeat Functional Failure for Failed Socket Weld on P-55C and CVC System is Near (a)(1) Status, May 13, 2014
- CR-PLP-2014-03870, Shift Manager Observed Leak from Discharge Flush Line of P-55B Charging Pump Upstream of MV-CVC2211, July 26, 2014
- CR-PLP-2014-03893, P-55B Flowrate was Low During PMT, July 29, 2014
- CR-PLP-2014-03905, P-55B Discharge Manifold Flush Line was Vibrating Excessively, July 29, 2014
- CR-PLP-2014-03965, Erratic Charging Flow Noted with P-55B In-service, August 3, 2014
- CR-PLP-2014-03968, Small Leak Identified on P-55C Charging Pump Middle Plunger Cover on Valve Cylinder Assembly with Pump In-Service, August 3, 2014
- CR-PLP-2014-04182, Charging Pump P-55B Experienced a New Maintenance Rule Functional Failure, August 21, 2014
- CVC-M-22, Charging Pump Maintenance for P-55B and P-55C, Revision 20
- CVC-M-9, Charging Pump Suction and Discharge Accumulator Pressure Check, Revision 12
- Design Basis Document-1.04, Chemical and Volume Control System, Revision 6
- Design Basis Document-1.05, Compressed Air Systems, Revision 4
- EC-50606, Material Change for Charging Pump Suction Accumulator T-105A/B/C and Discharge Accumulator T-106A/B/C Internal Damper Bladders to Reduce Hydrogen Migration into the Bladders
- EGAD-EP-10, Palisades Maintenance Rule Scoping Document, Revision 0
- EN-DC-205, Maintenance Rule Monitoring, Revision 5
- EN-DC-206, Maintenance Rule (a)(1) Process, Revision 3
- Maintenance Rule (a)(1) Action Plan for Charging Pumps P-55A, P-55B, and P-55C, Revision 1
- Maintenance Rule (a)(1) Action Plan for Charging Pumps P-55A, P-55B, and P-55C associated with CR-PLP-2009-0043, Revision 10
- Maintenance Rule (a)(1) Evaluation of the Chemical and Volume Control System
- Operational Decision-Making Issue: Charging Pump P-55C Cracked Block and Leakage Degradation, Revision 0
- Procedure DWO-13, Local Leak Rate Tests for Inner and Outer Personnel Air Lock Door Seals, Revision 26
- SOP-2A, Chemical and Volume Control System, Revision 81
- System Health Report, Chemical Volume Control - Charging/Letdown, 2<sup>nd</sup> Quarter 2014
- System Health Report, Containment Integrity (Airlocks), Q4-2010, Q3-2011, Q4-2012, Q1-2014
- WO 00268626, MZ-19, Adjust Inner Door Seals, March 4, 2011
- WO 00284708, MZ-19, Excessive Leakage While Testing Containment Inner Door, July 20, 2011
- WO 300441, MZ-19, Adjust Inner Door Seals, December 21, 2011
- WO 381564, MZ-19 Inner Door Failed DWO-13 Local Leak Rate Test, May 2, 2014
- WO 364439, P-55A, Replace 3/16 x 3/16 Socket Welds
- WO 390218, Leak From Vertical Valve Assembly of P-55C Charging Pump, August 5, 2014
- WO 50083335, P-55C (T-106C) Discharge Accumulator PM
- WO 52450037, P-55C, 'C' Charging Pump Maintenance
- WO 52549241, P-55B (T-106B) Discharge Accumulator PM
- WO 52549242, P-55B (T-105B) Accumulator Pressure Test
- WO 52550716, P-55A (T-105A) Accumulator Pressure Test
- WO 52550717, P-55A (T-106A) Discharge Accumulator PM
- WO 52575120, P-55C (T-105C) Accumulator Pressure Test

### 1R13 Maintenance Risk Assessments and Emergent Work Control

- Admin 4.02, Attachment 3, Risk Management and Monitoring, Revision 70
- Admin 4.02, Attachment 8, Maintenance Rule 10 CFR 50.65(a)(4) Fire Risk Management Actions (RMAs), Revision 70
- Admin 4.02, Attachment 3, "Risk Management and Risk Monitoring," Revision 68
- Admin 4.02, Attachment 8, "Maintenance Rule 10 CFR 50.65(a)(4) Fuel Risk Management Actions," Revision 68
- CR-PLP-2014-02247, Errors in EOOS Qualitative Fire Risk Model, March 24, 2014
- CR-PLP-2014-03858, EN-WM-104 Online Risk Assessment Procedure Does Not Contain a Risk Category that Addresses Work on Protected Equipment the Procedure Classifies as High Risk, July 25, 2014
- CR-PLP-2014-03870, Leak Observed From Discharge Flush Line of P-55B, July 26, 2014
- CR-PLP-2014-03884, Scaffold Work Under Work Order 52556170 Task 4 Failed to Finish, July 28, 2014
- CR-PLP-2014-04318, P-55C Charging Pump Turned Many Fire Areas "Orange" After Main EOOS Program Update, September 3, 2014
- EN-MA-119, Material Handling Program, Revision 20
- EN-OP-112, Night and Standing Orders, Revision 1
- EN-OP-119, Protected Equipment Postings, Revision 6
- EN-WM-104, On Line Risk Assessment, Revision 9
- M-203, System Diagram, Safety Injection, Containment Spray & Shutdown Cooling System, Sheet A, Revision 7
- M-204, System Diagram, Safety Injection, Containment Spray & Shutdown Cooling System, Sheet A, Revision 8
- MSM-M-72, Movement of Heavy Loads in the Turbine Building, Revision 1
- Proc. 4.11, Safety Function Determination Program, Revision 6
- Proc. No. 4.02 Attachment 3, "Risk Management and Risk Monitoring," Revision 69
- WO 383488 03, L-2, Cracked Welds Above Girder Wheel Angle Plates, September 23, 2104
- WO 389547, P-55B Discharge Manifold; Repair Pin Hold Leaks in Piping Weld Joint, July 28, 2014
- WO 52556170, EEQ Maintenance - Component Cooling Valves SV-0944A, July 25, 2014

### 1R15 Operability Determinations

- CR-PLP-2014-03975, Administrative Barrier Needed to Prevent Future Installation of Safety-Related Equipment with Teflon, August 4, 2014
- CR-PLP-2014-04253, CV-0939 Shield CLG Surge TK T-62 Fill and CV-1358 Nitrogen Supply Containment Isolation Have Teflon Packing in the Valve, August 27, 2014
- CR-PLP-2014-04256, Emergency Escape Hatch MZ-50 has Teflon Packing Around the Hand Wheel Stem on the Inboard Side and Outboard Side Door, August 27, 2014
- CR-PLP-2014-04257, Conduct an Operability Evaluation of the Outboard Door of Emergency Escape Hatch, August 27, 2014
- CR-PLP-2014-04258, Emergency Escape Hatch MZ-50 has Teflon Packing Around the Hand Wheel Stem on the Inboard Door, August 27, 2014
- CR-PLP-2014-04401, Effectiveness Review for Higher Tier ACE CR-PLP-2012-5813 Determined that the Corrective Actions were Ineffective to Prevent Service Water Leaks Due to Cavitation, September 10, 2014
- CR-PLP-2014-04426, UT Measured Pipe Thickness on Downstream Elbow of MV-SW138 Fell Below the Screening Criteria, September 10, 2014

- CR-PLP-2014-04427, UT Measured Pipe Thickness on Upstream Elbow of FE-0882 Fell Below the Screening Criteria, September 10, 2014
- CR-PLP-2014-04456, UT Thickness Measurements Not Able to be Accurately Measured on Valve Body of MV-SW138, West Engineered Safeguards Room Cooler VHX-27B Outlet, September 11, 2014
- CR-PLP-2014-04533, UT Measured Pipe Thickness on Pipe Downstream of CV-0826 Fell Below the Screening Criteria, September 17, 2014
- CR-PLP-2014-04564, UT Measured Pipe Thickness of Tee Downstream of CV-0826 Fell Below the Screening Criteria, September 18, 2014
- EA-EC52671-01, Pipe Wall Thinning Structural Evaluation of Service Water Line HB-23-3" from Engineered Safeguards Cooler VHX-27B, Revision 0
- EA-EC52671-02, Pipe Wall Thinning Structural Evaluation of Service Water Line HB-23-16" Near CV-0826, Revision 0
- EA-EC52671-03, Pipe Wall Thinning Structural Evaluation of Service Water Line HB-23-24" Tee with HB-23-4" Near MV-SW136, Revision 0
- EA-EEQ-DOSE-01, Palisades Radiation Exposure Rates Due to Primary Coolant System Activity Corresponding to 1% Failed Fuel, Revision 0
- EA-EEQ-DOSE-05, Palisades Post-LOCA Beta and Gamma Radiation Absorbed Dose in Containment and Sump, Revision 0
- EA-EEQ-DOSE-06, Palisades Post-LOCA Gamma Radiation Absorbed Dose in the Auxiliary Building Due to Penetration Shine, Revision 0
- EA-EEQ-DOSE-08, Post-LOCA Gamma Dose from Containment Through Wall Shine, Revision 0
- ECR 52632, Calculation of Anticipated Dose to Outer Door Following a LOCA, Revision 0
- EN-CS-S-008-MULTI, Pipe Wall Thinning Structural Evaluation, Revision 0
- EN-OP-104, Operability Determination Process CR-PLP-2014-4258CA1, Revision 7
- SEP-SW-PLP-002, Service Water and Fire Protection Inspection Program, Revision 4
- VEN-C53, General Assembly Emergency Air Lock, Sheet 44, Revision 4
- VEN-M101, Service Water from Engineered Safeguards (Pipe Class HB-23), Sheet 2744, Revision 12
- VEN-M101, Service Water from Engineered Safeguards Cooler VHX-27B (Pipe Class HB-23), Sheet 2746, Revision 10

#### 1R18 Plant Modifications

- CR-PLP-2014-03615, Erratic and Low Readings on TI-0122CD, July 6, 2014
- CR-PLP-2014-04433, Work Associated with Preventive Maintenance on Breaker 152-106 Resulted in Delayed Exit of 72 Hour LCO, September 10, 2014
- Drawing E17 Sheet 13, Logic Diagram Diesel Generator Breakers, Revision 8
- EN-DC-136, Temporary Modifications, Revision 10
- EN-DC-136, Attachment 9.11, TE-0122CD, Disconnect Failing Cold Leg RTD, Revision 10
- EN-DC-136, Attachment 9.11, Temporary Modification Evaluation for Control Circuit Testing, Revision 10
- EN-LI-100, EC-51834 :Te-0122CD – Disconnect Failing Cold Leg RTD," Revision 15
- EN-LI-100, Process Applicability Determination #14-0084, Revision 0
- JL-130, Logic for Thermal Margin Monitor, Sheet 1, Revision 3
- MSE-E-12, Cable Terminations, March 21, 2013
- SPS-E-1, 2400 Volt and 4160 Volt Allis Chalmers and Siemens Vacuum Circuit Breaker Auxiliary Switch Adjustments, Revision 34
- WO 52424757, Preventive Maintenance 152-106 (To C Bus From 1-2 S/U XFRM), Printed September 10, 2014

## 1R19 Post-Maintenance Testing

- CR-PLP-2013-03590, V-24A, Diesel Generator Room Supply Fan Did Not Start Properly, August 15, 2013
- CR-PLP-2014-03981, RI-2B Primary System Temperature Calibration for Channel B, One Red Circle Noted on As Found Conditions, August 4, 2014
- CR-PLP-2014-03991, Several Requirements from EN-DC-136 Were Not Included in WO 387795, August 5, 2014
- CR-PLP-2014-04353, CVCO-4, Periodic Test Procedure – Charging Pumps Unsatisfactory on P-55C, September 5, 2014
- CR-PLP-2014-04354, Wiper Blade for Charging Pump P-55C is Not Wiping, September 5, 2014
- CR-PLP-2014-04356, Seepage after Restoring P-55C Charging Pump, September 5, 2014
- CR-PLP-2014-04357, P-55C Charging Pump Failed CVCO-4 Following Block Replacement, September 5, 2014
- CR-PLP-2014-04422, NRC Resident Inspector Questioned Direction of an Adjustment During Performance of WO 369973-01, September 10, 2014
- CR-PLP-2014-04545, P-52B, 'B' CCW Pump, Found Oil Level High on Inboard Bearing Assembly, September 18, 2014
- CR-PLP-2014-04571, 'B' Component Cooling Water Pump has an Oil Leak from the Inboard Pump Bearing, September 19, 2014
- CVCO-4, Periodic Test Procedure – Charging Pumps, Revision 5
- E-280, Schematic Diagram, Diesel Generator, Boiler Rooms and Auxiliary Building H & V, Sheet 1A, Revision 0
- EOP Supplement 42, Pre and Post RAS Actions, Revision 7
- M-218, P&ID HVAC, Miscellaneous Buildings, Sheet 5, Revision 33
- QO-15, Inservice Test – Component Cooling Water Pumps, Revision 33
- QO-19, Inservice Test Procedure – HPSI Pumps and ESS Check Valve Operability Test, Revision 35
- RI-2B, Primary System Temperature Channel B Calibrations, Revision 5
- RI-69D, Subcooled Margin Monitor SMM-0124 Surveillance, Revision 7
- SOP-22, Emergency Diesel Generators, Revision 64
- SOP-2A, Chemical and Volume Control System, Revision 81
- WO 3990697-01, P-55C, Replace Cylinder Block with New, August 22, 2014
- WO 369958-01, TS-1827, Replace EDG Room Ventilation Fan V-24A Standby Temperature Switch, September 9, 2014
- WO 369970-01, TS-1843, Replace EDG RM Vent Fan V-24B Standby Temperature Switch, September 10, 2014
- WO 369973-01, TS-1844, Replace EDG RM Vent Fan V-24B Auto Temperature Switch, September 10, 2014
- WO 387795, TI-0122CD, Reading Erratically and 20°F Lower Than Expected, August 4, 2014
- WO 52537818 01, P-55C, Perform Test CVCO-4, September 4, 2014
- WO 390324, P-52B; Replace Coupling Bolts Due to Being Q3 Bolts, September 18, 2014
- WO 390580, P-52B; Inboard Pump Bearing Leaks Oil Approximately 10 mL/hour, September 18, 2014
- WO 52479082, P-52B; Coupling PM, September 18, 2014
- WO 52555460, P-52B; Pump Bearing Oil Change, September 18, 2014

## 1R22 Surveillance Testing

- Admin 4.19, PCS Leak Rate Monitoring Program, Revision 6
- CR-PLP-2011-01115, Action Level 3 Exceeded Per Admin 4.19, March 8, 2011
- CR-PLP-2011-01167, Exceeded Action Level 2 of Admin 4.19, March 10, 2011
- CR-PLP-2011-01211, Exceeded Action Level 2 of Admin 4.19, March 13, 2011
- CR-PLP-2011-01241, Exceeded Action Level 3, March 15, 2011
- CR-PLP-2011-01297, Exceeded 7-Day Moving Average, March 17, 2011
- CR-PLP-2011-03860, Long Term Integrated Leak Rate Exceeded 50,000 Gallons, August 5, 2011
- CR-PLP-2013-05006, Exceeded Action Level 3 of Admin 4.19 for Total Integrated Leak Rate of 50,000 Gallons, November 23, 2013
- CR-PLP-2013-05428, Error Discovered in the Unidentified Leak Rate Data Analysis, December 30, 2013
- CR-PLP-2013-02522, Focused Self-Assessment of Inservice Test Program Identified that Alternate Testing Approved by Valve Relief Request No. 18 Not Being Performed as Approved for CV-0749 and CV-0727 (Left Train AFW Flow Control Valves), June 6, 2013
- CR-PLP-2014-00127, Emergency Diesel Generator 1-1 Failed to Start During Overspeed Trip Setpoint Verification, January 9, 2014
- CR-PLP-2014-04320, NO2 Concentration in Diesel Room Exceeded the Alarm Setpoint During Overspeed Trip Setpoint Verification, September 3, 2014
- CR-PLP-2014-04463, Elevated Primary Coolant System Leak Rate, September 12, 2014
- CR-PLP-2014-04807, Baseline Unidentified Leak Rate Management, October 2, 2014
- CR-PLP-2014-04198, During Quarterly Valve Stroke Testing, CV-0749 was Outside the Acceptance Band, August 24, 2014
- CR-PLP-2014-04215, No Post-Maintenance Stroke Time Test Performed After Work on CV-0749, August 25, 2014
- EN-DC-140, Air-Operated Valve Program, Revision 5
- Inservice Testing Program: 4<sup>th</sup> 10-Year Interval Update, March 24, 2006
- M-207, P&ID Feedwater System, Sheet 2, Revision 38
- MO-7A-2, Emergency Diesel Generator 1-2, Revision 86
- MO-33, Control Room Ventilation Emergency Operation, Revision 24
- Palisades Alternate Resource Document, Revision 8
- Primary Coolant System Leakrate Snap-Shot, September 12, 2014
- QO-16, Inservice Test Procedure – Containment Spray Pumps, Revision 35
- QO-21 Basis Document, Revision 15
- QO-21, Inservice Test Procedure – Auxiliary Feedwater Pumps, Revision 42
- QO-5 Basis Document, Revision 18
- QO-5, Valve Test Procedure, Revision 89
- RI-5B, Technical Specification Surveillance Procedure, Revision 6
- RO-127, Basis Document for Auxiliary Feedwater System, 18-Month Test Procedure, Revision 2
- RO-145, Basis Document for Comprehensive Pump Test Procedure Auxiliary Feedwater Pumps P-8A, P-8B, and P-8C, Revision 2
- SEP-AOV-PLP-001, Palisades Nuclear Plant Air-Operated Valve Program, Revision 1
- SEP-PLP-IST-101, Inservice Testing of Plant Valves, Revision 0
- T-302, Emergency Diesel Generator 1-1 Overspeed Trip Setpoint Verification, Revision 11

## 1EP6 Drill Evaluation

- AOP-42, Response to Aircraft Threats, Revision 1

- AOP-7, Rapid Power Reduction, Revision 0
- CR-PLP-2014-03689, DEP Failure, July 10, 2014
- CR-PLP-2014-03690, Reference Use for Placekeeping Not Used, July 14, 2014
- EN-EP-306, Drills and Exercises, Revision 5
- EOP-1, Standard Post-Trip Actions, Revision 15
- EOP-2, Reactor Trip Recovery, Revision 13
- EOP-9.0, Functional Recovery Procedure, Revision 22
- Emergency Preparedness Drill Scenario, July 10, 2014
- Emergency Preparedness Drill Scenario, September 30, 2014

#### 2RS4 Occupational Dose Assessment

- EN-RP-100, Radiation Worker Expectations, Revision 8
- EN-RP-202, Personnel Monitoring, Revision 9
- EN-RP-203, Attachment 9.10, EAD Alarm/Failure Evaluation, CR-PLP-2014-3833, July 23, 2014
- EN-RP-203, Attachment 9.10, EAD Alarm/Failure Evaluation, CR-PLP-2014-3861, July 24, 2014
- EN-RP-203, Attachment 9.3, Dosimetry Investigation Report, CR-PLP-2014-1263, February 11, 2014
- EN-RP-203, Attachment 9.3, Dosimetry Investigation Report, CR-PLP-2014-1264, February 11, 2014
- EN-RP-203, Attachment 9.5, Dose Assessment Calculation Worksheet, PCE# 2014-0089, February 28, 2014
- EN-RP-203, Dose Assessment, Revision 5
- EN-RP-204, Special Monitoring Requirements, Revision 6
- EN-RP-206, Dosimeter of Legal Record Quality Assurance, Revision 5
- EN-RP-308, Whole Body Counting/In Vitro Bioassay, Revision 6
- National Voluntary Laboratory Accreditation Program, Scope of Accreditation to ISO/IEC 17025:2005, NVLAP Lab Code 100518-0, January 1, 2014, through December 31, 2014
- Personnel Dosimetry Performance Testing, Test Standard: ANSI/HPS N13.11-2009, April 2, 2014
- Snapshot Assessment, LO-PLPLO-2014-119, In-Plant Airborne Radioactivity and Mitigation, Occupational Dose Assessment, July 22, 2014

#### 2RS7 Radiological Environmental Monitoring Program

- 2013 Radiological Environmental Operating Report, May 15, 2014
- CR-PLP-2013-04746, Revise CH 6.10 to Better Align with ODCM, November 4, 2013
- CR-PLP-2014-03621, Deteriorated Conditions Identified at 10GR Control Environmental Air Sampling Station, July 7, 2014
- Gas Meter Test and Repair, Meter Number 03036143, July 23, 2013
- Gas Meter Test and Repair, Meter Number 03038036, July 25, 2012
- Gas Meter Test and Repair, Meter Number 03038037, June 12, 2014
- Gas Meter Test and Repair, Meter Number 03039504, June 12, 2014
- Gas Meter Test and Repair, Meter Number 6142, July 25, 2012
- LO-PLPLO-2014-00012, Self-Assessment, Radiological Environmental Monitoring Program (REMP), May 28, 2014
- Palisades Meteorological Monitoring Semiannual Data Report, July 1, 2013 - December 31, 2013, and 2013 Annual Summary, January 15, 2014
- Procedure No CH 1.3, Chemistry Quality Assurance Program, Revision 16

- Procedure No CH 6.10, Radiological Environmental Monitoring Program, Revision 8
- WT-WTPLP-2013-00125, CA-00022, Evaluate Whether Composite Samples Could Be Losing Any Radioactive Material to the Container

#### 40A1 Performance Indicator Verification

- CR-PLP-2013-03523, Door-15 Equipment Room Missile Shield/Radiation Door, August 13, 2013
- LER 2013-003, Both Control Room Ventilation Filtration Trains Declared Inoperable, October 11, 2013
- NRC Indicator Mitigating Systems Performance Index, High Pressure Injection System (MS07), July 2013 through June 2014
- NRC Indicator Mitigating Systems Performance Index, Residual Heat Removal System (MS09) July 2013 through June 2014
- NRC Indicator RETS/ODCM Radiological Effluent Occurrences (PR01), January 6, 2014
- NRC Indicator RETS/ODCM Radiological Effluent Occurrences (PR01), April 2, 2014
- NRC Indicator RETS/ODCM Radiological Effluent Occurrences (PR01), July 1, 2014
- NRC Indicator Safety System Functional Failures (MS05), July 2013 through June 2014
- Palisades MSPi Basis Document, December 21, 2011

#### 40A2 Problem Identification and Resolution

- Compensatory Actions for Degraded Equipment, August 22, 2014
- CR-PLP-2014-02492, D-4, V-95 Discharge Damper Will Only Throttle Open, April 9, 2014
- CR-PLP-2014-02948, D-5, Air Filter Unit Fan V-26 A Discharge Damper Indicating Dual Position When Open, May 8, 2014
- CR-PLP-2014-03916, P-52B Component Cooling Water Pump Inboard Pump Bearing Oiler Leak, July 30, 2014
- CR-PLP-2014-03944, D-9, Air Handling Unit V-96 Outside Air Damper Had Dual Indication, August 1, 2014
- CR-PLP-2014-03965, Erratic Charging Flow Noted, August 3, 2014
- CR-PLP-2014-04194, Turbine Building sump High Level Control Room Alarms Trending Up, August 22, 2014
- EN-FAP-OP-006, Operator Aggregate Impact Index Performance Indicator, Revision 2
- EN-WM-100, Work Request Generation, Screening and Classification, Revision 10
- MO-33, Control Room Ventilation Emergency Operation, Revision 24
- On Call/Rapid Response List for Work Week 1433, August 28, 2014
- Procedure No 4.12, Operator Work-Around Program, Revision 7
- SOO-CRHV-01-R01, Heating, Ventilation and Air-Conditioning Control Room, Revision 1
- TIMM301-Task Completion Processing, V-95 Discharge Damper, D-4, Validate Damper Position, Prep, August 5, 2014

#### 40A3 Followup of Events and Notices of Enforcement Discretion

- Licensee Event Report 2013-004-00, Weld Defect in Pressurizer Nozzle to Nozzle Safe End Flange, March 27, 2014
- Licensee Event Report 2014-003-00, Discovery of Latent Design Deficiency Results in Non-Compliance with 10 CFR 50 Appendix R, January 6, 2014
- CR-PLP-2013-04817, Operating Experience Review, November 7, 2013
- EN-LI-102, Revision 23, Attachment 9.9, Long Term Corrective Action Classification Form, May 21, 2014

## LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
AFW	Auxiliary Feedwater
AOP	Abnormal Operating Procedure
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CCW	Component Cooling Water
CFR	Code of Federal Regulations
CR	Condition Report
EDG	Emergency Diesel Generator
EDT	Eastern Daylight Time
HPSI	High Pressure Safety Injection
IMC	Inspection Manual Chapter
IN	Information Notice
IP	Inspection Procedure
IR	Inspection Report
IST	Inservice Test
kV	Kilovolt
LER	Licensee Event Report
mph	Miles Per Hour
MSPI	Mitigating Systems Performance Indicator
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
NWS	National Weather Service
ODCM	Offsite Dose Calculation Manual
PAD	Process Applicability Determination
PARS	Publicly Available Records System
PCS	Primary Coolant System
PI	Performance Indicator
PWSCC	Primary Water Stress Corrosion Cracking
REMP	Radiological Environmental Monitoring Program
SDP	Significance Determination Process
SFP	Spent Fuel Pool
SSC	Systems, Structures and Components
SW	Service Water
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
VRR	Valve Relief Request
WO	Work Order

A. Vitale

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Sincerely,

*/RA/*

Eric Duncan, Chief  
Branch 3  
Division of Reactor Projects

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