



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, ILLINOIS 60532-4352

May 12, 2021

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

SUBJECT: PALISADES NUCLEAR PLANT – INTEGRATED INSPECTION REPORT
05000255/2021001

Dear Mr. Corbin:

On March 31, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Palisades Nuclear Plant. On April 22, 2021, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

One finding of very low safety significance (Green) is documented in this report. This finding involved a violation of NRC requirements. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or the significance or severity of the violation documented in this inspection report, 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 copies to the Regional Administrator, Region III; the Director, Office of Enforcement; and the NRC Resident Inspector at Palisades Nuclear Plant.

If you disagree with a cross-cutting aspect assignment 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 U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region III; and the NRC Resident Inspector at Palisades Nuclear Plant.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Billy C. Dickson, Jr., Chief
Branch 2
Division of Reactor Projects

Docket No. 05000255
License No. DPR-20

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

Letter to Darrell Corbin from Billy C. Dickson, Jr., dated May 12, 2021.

SUBJECT: PALISADES NUCLEAR PLANT – INTEGRATED INSPECTION REPORT
05000255/2021001

DISTRIBUTION:

Jessie Quichocho
Mark Haire
RidsNrrPMPalisades Resource
RidsNrrDorLpl3
RidsNrrDroIrib Resource
John Giessner
Kenneth O'Brien
Jamnes Cameron
Allan Barker
DRPIII
DRSIII
ROPreports.Resource@nrc.gov

ADAMS ACCESSION NUMBER: ML21132A222

<input checked="" type="checkbox"/> SUNSI Review		<input checked="" type="checkbox"/> Non-Sensitive <input type="checkbox"/> Sensitive		<input checked="" type="checkbox"/> Publicly Available <input type="checkbox"/> Non-Publicly Available	
OFFICE	RIII	RIII			
NAME	RRuiz:ve via email	BDickson via email			
DATE	5/10/2021	5/12/2021			

OFFICIAL RECORD COPY

**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Number: 05000255

License Number: DPR-20

Report Number: 05000255/2021001

Enterprise Identifier: I-2021-001-0043

Licensee: Entergy Nuclear Operations, Inc.

Facility: Palisades Nuclear Plant

Location: Covert, MI

Inspection Dates: January 01, 2021 to March 31, 2021

Inspectors: R. Baker, Senior Operations Engineer
J. Hanna, Senior Reactor Analyst
P. Laflamme, Senior Resident Inspector
V. Meghani, Reactor Inspector
C. St. Peters, Resident Inspector

Approved By: Billy C. Dickson, Jr., Chief
Branch 2
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Palisades Nuclear Plant, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

List of Findings and Violations

Failure to Follow Procedure Resulted in Cotter Pin Misalignment			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000255/2021001-01 Open/Closed	[H.12] - Avoid Complacency	71152
A self-revealed Green finding and associated non-cited violation (NCV) of Technical Specification (TS) 5.4.1a was identified for failure to follow the procedure for coupling valve CV-0826, "Component Cooling Water (CCW) Heat Exchanger E-54B Service Water Outlet" to its Bettis actuator. Specifically, the licensee failed to insert the cotter pin through the coupling and connecting shaft in accordance with SOP-15 "Service Water System" step 5.2g.			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000255/2020-001-00	LER 2020-001-00 for the Palisades Nuclear Plant Service Water System Inoperable for Longer than Allowed by Technical Specifications	71153	Closed

PLANT STATUS

The plant began the inspection period at rated thermal power and remained at or near rated thermal power for the remainder of the inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the Coronavirus Disease 2019 (COVID-19), resident inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time, the resident inspectors performed periodic site visits each week; conducted plant status activities as described in IMC 2515, Appendix D, "Plant Status"; observed risk-significant activities; and completed on-site portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or portions of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and on-site. The inspections documented below met the objectives and requirements for completion of the IP.

REACTOR SAFETY

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) 1-2 emergency diesel generator (EDG) starting air system on January 8, 2021.
- (2) 7 A service water system on January 28, 2021.
- (3) Station battery number 2 system on February 3, 2021.

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Fire Area 9; screen house/intake structure on January 28, 2021.

- (2) Fire Area 13 A: auxiliary building corridor 590' elevation on February 1, 2021.
- (3) Fire Area 11: battery room on March 26, 2021.
- (4) Fire Area 26: southwest cable penetration room on March 29, 2021.

Fire Brigade Drill Performance Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the on-site fire brigade training and performance during an unannounced fire drill on January 21, 2021.

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Auxiliary feedwater (AFW) room 570' elevation on February 11, 2021.

71111.11 A - Licensed Operator Regualification Program and Licensed Operator Performance

Regualification Examination Results (IP Section 03.03) (1 Sample)

- (1) The inspectors reviewed and evaluated the licensed operator examination failure rates for the regualification annual operating and biennial written examinations administered from January 6, 2021 through February 10, 2021.

71111.11Q - Licensed Operator Regualification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the Control Room during RO-145 A AFW testing on March 10, 2020.

Licensed Operator Regualification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated NRC simulator scenarios SES-245 and SES-250 on February 10, 2021.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (2 Samples)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) CCW on January 26, 2021.
- (2) Service water system on March 11, 2021.

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) Elevated risk due to planned maintenance and testing on P-66B, high pressure safety injection (HPSI) pump, on January 13, 2021.
- (2) Yellow risk due to planned maintenance and testing of P-52B CCW and AFW system on January 25, 2021.
- (3) Elevated risk due to 1-2 EDG planned maintenance on February 18, 2021.
- (4) Elevated risk due to planned Safety Injection actuation testing on February 24, 2021.

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (6 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) Primary coolant pump 50B lower seal on January 13, 2021.
- (2) E-54 A CCW heat exchanger (HX) south end bell evaluation on January 15, 2021.
- (3) Station battery number 2 cell cover evaluation on February 9, 2021.
- (4) Station battery number 1 cracked jar evaluation on February 11, 2021.
- (5) Bus 1C 2400 V Z-phase over current evaluation on March 17, 2021.
- (6) Direct current (DC) bus 2 ground detection evaluation on March 30, 2021.

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (2 Samples)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Engineering Change (EC) 86031; Primary Coolant System (PCS) Uncontrolled Bleed-off Lines Modification on January 27, 2021.
- (2) EC 89080; Station Battery #2 Temporary Modification on February 23, 2021.

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (6 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) Left train HPSI valve testing following planned breaker maintenance on January 6, 2021.
- (2) P-55 A charging pump test following suction and discharge accumulator checks, on January 7, 2021.

- (3) P-8B turbine driven AFW pump steam supply valve maintenance and testing on February 9, 2021.
- (4) EDG 1-2 testing following relay maintenance on February 18, 2021.
- (5) EDG 1-1 turbocharger support weld repair on March 9, 2021.
- (6) Control Room heating, ventilation, and air conditioning B Train following maintenance on March 24, 2021.

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (3 Samples)

- (1) QO-14B: Service Water Pump P-7B Surveillance, on January 15, 2021.
- (2) RO-145B: P-8B AFW Comprehensive Pump Test on February 9, 2021.
- (3) QO-16 A P-54 A Containment Spray Pump Test, on February 22, 2021.

Inservice Testing (IP Section 03.01) (1 Sample)

- (1) QO-19B: P-66B HPSI Inservice Test Surveillance, on January 27, 2021.

RCS Leakage Detection Testing (IP Section 03.01) (1 Sample)

- (1) Daily PCS Leak Rate Surveillance on February 2, 2021.

71114.06 - Drill Evaluation

Select Emergency Preparedness Drills and/or Training for Observation (IP Section 03.01) (1 Sample)

- (1) The inspectors observed and evaluated an Emergency Preparedness (EP) drill on March 2, 2021.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

IE01: Unplanned Scrams per 7000 Critical Hours Sample (IP Section 03.01) (1 Sample)

- (1) Unit 1 (January 1, 2020 – December 31, 2020)

IE04: Unplanned Scrams with Complications (USwC) Sample (IP Section 03.03) (1 Sample)

- (1) Unit 1 (January 1, 2020 – December 31, 2020)

MS08: Heat Removal Systems (IP Section 03.07) (1 Sample)

- (1) Unit 1 (January 1, 2020 – December 31, 2020)

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (IP Section 02.03) (2 Samples)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) Causal evaluation for service water to CCW heat exchanger cotter pin misalignment as documented in CR-PLP-2020-02365 on January 12, 2021.
- (2) Causal evaluation for P-50B primary coolant pump seal pressure changes as documented in CR-PLP-2021-00080 on March 25, 2021.

71153 – Follow-up of Events and Notices of Enforcement Discretion

Event Report (IP Section 03.02) (1 Sample)

The inspectors evaluated the following licensee event reports (LERs):

- (1) LER 0000255/2020-01-00, *Service Water System Inoperable for Longer than Allowed by Technical Specifications* (ADAMS Accession No. [ML20269A166](#)). The inspectors determined that it was not reasonable to foresee or correct the cause discussed in the LER therefore no performance deficiency was identified. The inspectors did not identify a violation of NRC requirements.

INSPECTION RESULTS

Failure to Follow Procedure Resulted in Cotter Pin Misalignment			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000255/2021001-01 Open/Closed	[H.12] - Avoid Complacency	71152
A self-revealed Green finding and associated NCV of TS 5.4.1 a was identified for failure to follow the procedure for coupling valve CV-0826, "Component Cooling Water (CCW) Heat Exchanger E-54B Service Water Outlet" to its Bettis actuator. Specifically, the licensee failed to insert the cotter pin through the coupling and connecting shaft in accordance with SOP-15 "Service Water System" step 5.2g.			
<u>Description:</u> On July 27, 2020, while the unit was in Mode 1, the licensee received Alarm EK-1170, "Component CLG EX-54 A HI-LO TEMP," due to higher service water temperatures as a result of elevated Lake Michigan bulk temperature. In response, control room operators adjusted HIC-0826, "Instrument Air Regulator for CV-0826." The operators then attempted to cycle CV-0826 to the open position from the control room. However, the operators observed while attempting to open the valve remotely that the corresponding expected pressure changes to the service water system had not occurred but noted the light indication for valve CV-0826 had changed from green to red, indicating the valve had opened. Upon investigating locally, the licensee observed the Bettis actuator was rotating, but the valve was not moving. The non-movement of the valve occurred because the cotter pin was not			

inserted in the Bettis operator alignment position. Instead, the cotter pin had been installed through the shaft gap that provided adequate collar engagement during previous strokes until July 27, 2020. In response, operators realigned the collar and cotter pin for CV-0826 to the Bettis operator. Following the realignment, the operators successfully opened the valve from the control room.

As a result of the misalignment issue, the licensee performed a causal evaluation which the inspectors reviewed in-depth. In their review, the inspectors noted that operators placed CV-0826 on its manual handwheel operator supporting maintenance on the CCW system during the 1R26 refueling outage in the fall of 2018. Later, following completion of CCW system maintenance, on November 9, 2018, licensee staff attempted to place CV-0826 on its Bettis actuator following step 5.2g of SOP-15, which stated in part, "insert the cotter pin through the coupling and connecting shaft in order to retain coupling in place." However, instead of inserting the cotter pin in the shaft alignment hole that would securely align the Bettis operator to CV-0826, the licensee inserted the cotter pin through the shaft gap. This configuration allowed for sufficient Bettis operator engagement via shaft and collar alignment during quarterly inservice test (IST) stroke tests from November 9, 2018, until May 27, 2020, allowing successful surveillance test completion each quarter. Specifically, the licensee stated the coupling was mated to both the Bettis and valve shafts enough that the valve stem was sufficiently engaged to allow remote operation. The licensee noted that over time, the Bettis actuator became disengaged from the valve shaft. As a result, the licensee determined that the CV-0826 misalignment issue had rendered the A train of service water inoperable from May 27, 2020, until July 28, 2020, when the operators successfully realigned the valve and the Bettis operator.

The site submitted LER 0000255/2020-01-00, Service Water System Inoperable for Longer than Allowed by TSS, for this event. The inspectors' review of LER 0000255/2020-01-00 is documented in report section 71153 of this inspection report.

Corrective Actions: The licensee coupled valve CV-0826 to its Bettis actuator. The licensee performed an apparent cause analysis and generated corrective actions from the results. These corrective actions included revising procedure SOP-15 and reviewing the condition with all site nuclear plant operators.

Corrective Action References: CR-PLP-2020-02365

Performance Assessment:

Performance Deficiency: The inspectors determined that the licensee's failure to insert the cotter pin through the coupling in accordance with SOP-15 step 5.2g was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Human Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to follow procedure resulted in the cotter pin not being properly inserted.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors screened the finding against the Mitigating Systems screening questions in Exhibit 2 and answered

"YES" to Question 3. Based on this screening, a detailed risk evaluation was required. A regional Senior Reactor Analyst used the Palisades Simplified Plant Analysis Risk model and calculated the impact of the performance deficiency by setting the basic event for the valve equal to True. An exposure time of 62 days was used, which was the duration since the prior successful surveillance test. The dominant sequence was a Loss of DC Bus-20 leading to a primary coolant pump seal loss-of-coolant accident. The analyst added the fire results the licensee provided from their fire probabilistic risk assessment model and the resultant increase in Core Damage Frequency (Δ CDF) for this condition was 7.1×10^{-7} , therefore, this condition should be treated as a green finding. External Events and Large Early Release Frequency were considered qualitatively and determined to have negligible impact on the result.

Cross-Cutting Aspect: H.12 - Avoid Complacency: Individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Individuals implement appropriate error reduction tools. Specifically, the licensee failed to recognize the cotter pin could be inserted in the space between the CV-0826 valve shaft and the Bettis actuator valve shaft.

Enforcement:

Violation: TS Section 5.4.1a requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February, 1978.

NRC Regulatory Guide 1.33, Revision 2, Appendix A, Section 3 addresses "Procedures for Startup, Operation, and Shutdown of Safety-Related PWR Systems" and subparagraph m, addresses "Service Water System." The licensee established Procedure SOP 15, Revision 70 to address operating the service water system. Procedure SOP-15, Revision 70, Step 5.2 g requires the licensee to insert cotter pin through coupling and connecting shaft in order to retain coupling in place.

TS Limiting Condition for Operability 3.7.8 requires that two service water system (SWS) trains shall be operable in Modes 1, 2, 3, and 4. Condition A. requires that with one or more SWS trains inoperable, restores train(s) to operable status within 72 hours. If the required action in Condition A is not met, required action in B.1 states be in Mode 3 within 6 hours and the required action in B.2 states be in Mode 5 in 36 hours.

Contrary to the above, from November 9, 2018, to July 28, 2020, the licensee failed to implement Step 5.2g of procedure SOP-15. Specifically, the licensee did not insert the cotter pin through the coupling and connecting shaft on the Bettis actuator shaft for valve CV-0826. Consequently, from May 27, 2020, to July 28, 2020, when the SWS left train was last surveilled and the cotter pin inserted correctly, the SWS train was inoperable for a period greater than the TS allowed outage time of 72 hours and the required actions in TS 3.7.8.B.1 and TS 3.7.8.B.2 were not followed. The reactor was in Mode 1 during the time the SWS left train was inoperable.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Observation: Causal Evaluation Review: Seal Pressure Changes on Primary Coolant Pump P-50B	71152
<p>The inspectors reviewed the associated causal evaluation, failure mode analysis, the extent of condition, and corrective actions taken for the sudden differential pressure reduction across the lower seal stage on Primary Coolant Pump (PCP) P-50B that occurred on January 13, 2021. The inspectors noted that the licensee attributed the direct cause to seat leakage across CK-CRW402, Primary Coolant Pump Seal Leakage Check Valve. This seat leakage that allowed backpressure from the Primary System Drain Tank (PSDT) to reach and affect the lower stage of P-50B and consequential reduction in differential pressure. Specifically, normal and expected bleed-off (referred to as uncontrolled bleed-off by design) of primary system coolant travels from the PCP seal stages to the PSDT, which flows through CK-CRW402, a non-safety related component. Due to identified valve seat leakage across CK-CRW402, backpressure from the PSDT communicated with P-50B, which resulted in a sudden differential pressure reduction across the lower seal stage during a planned evolution that momentarily raised PSDT pressure slightly as expected per design. Since the resultant pressure drop was not significant enough to impact seal performance, the associated PCP was not adversely impacted. For corrective actions, the licensee rerouted the normal uncontrolled bleed-off piping directly to the containment sump, bypassing communication with the PSDT and removing CK-CRW402 from the flow path entirely. The inspectors concluded that the licensee completed the causal evaluation, the extent of condition, and subsequent modification bypassing original PSDT communication timely and effectively, commensurate with safety significance. No issues of significance were identified.</p>	

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On April 22, 2021, the inspectors presented the integrated inspection results to Mr. D. Corbin, Site Vice President Operations, and other members of the licensee staff.
- On February 18, 2021, the inspectors presented the licensed operator requalification program annual operating and biennial written test results inspection results to Mr. F. Korfias, Simulator and Training Support Superintendent, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.04	Corrective Action Documents	CR-PLP-2021-00845	DC Bus #2 Ground Volt Indicator Reading out of Specification	03/26/2021
	Corrective Action Documents Resulting from Inspection	CR-PLP-2021-00282	NRC Senior Resident Inspector Identified Debris in the #19, #22, #31, and #39 Battery Cells	02/03/2021
	Engineering Changes	89170	NRC Identified Condition - EC Reply for ED-02 Cell 19, 22 I 31, and 39 Plastic Shavings	0
	Procedures	SOP-15	Service Water System	71
		SOP-22	Emergency Diesel Generators	80
71111.05	Corrective Action Documents	CR-PLP-2021-00529	Small Puddle of Coolant on the Floor that had Leaked from P-41 D Diesel Driven Cooling Tower Fire Water PP	02/27/2021
		CR-PLP-2021-00534	P-41 Diesel Driven Cooling Tower Fire Water PP Seemingly to be Excessively Warm	02/28/2021
		CR-PLP-2021-00846	Puddle of Diesel Fuel Oil on Floor Near P-9B, Diesel Driven Fire Pump	03/28/2021
	Fire Plans	Pre-Fire Plan 13A	Main Corridor - North & South/Elevation 590	5
		Pre-Fire Plan 9	Screen House/Intake Structure/Elevation 590	5
71111.06	Corrective Action Documents Resulting from Inspection	CR-PLP-2021-00079	NRC Resident Identified Ladder Station #7 Sign Needed to be Re-Attached and Water on the Floor Along the West Wall Under MV-FW765A (AFW Pump P-8C to E-50B Line Drain)	01/13/2021
	Procedures	DBD 1.03	Auxiliary Feedwater System	10
71111.11 A	Miscellaneous		Palisades Licensed Operator Requalification Annual Examination Summary Results for 2021	02/18/2021
71111.11Q	Corrective Action Documents	CR-PLP-2021-00367	A Senior Reactor Operator Failed the LOR NRC Biennial Written Exam	02/10/2021
	Miscellaneous	SES-245	NRC Simulator Scenarios	1
		SES-250	NRC Simulator Scenarios	1
	Procedures	RO-145 A	Comprehensive Pump Test Procedure Auxiliary Feedwater Pumps P-8 A, P-8B, and P-8C	24
71111.12	Corrective Action	CR-PLP-2021-	NRC Identified: Critical Service Water (CSW) System	03/25/2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Documents Resulting from Inspection	00833	Maintenance Rule Functional Failures (MRFFs) not Listed in CSW System Health Report for 4Q 2020	
	Miscellaneous		System Health Report - CCS (Component Cooling)	10/01/2018 – 12/31/2018
			System Health Report - CCS (Component Cooling)	04/01/2019 – 06/30/2019
			System Health Report - CCS (Component Cooling)	10/01/2019 – 12/31/2019
			System Health Report - CCS (Component Cooling)	04/01/2020 – 06/30/2020
			System Health Report - CCS (Component Cooling)	10/01/2020 – 12/31/2020
			System Health Report - CSW (Critical Service Water)	10/01/2018 – 12/31/2018
			System Health Report - CSW (Critical Service Water)	04/01/2019 - 06/30/2019
			System Health Report - CSW (Critical Service Water)	04/01/2019 - 06/30/2019
			System Health Report - CSW (Critical Service Water)	10/01/2019 - 12/31/2019
			System Health Report - CSW (Critical Service Water)	04/01/2020 – 06/30/2020
	System Health Report - CSW (Critical Service Water)	10/01/2020 – 12/31/2020		
71111.13	Corrective Action Documents	CR-PLP-2-21-00163	Phoenix Risk Updates for 01/25/2021	01/24/2021
	Corrective Action Documents Resulting from Inspection	CR-PLP-2-21-00593	NRC Identified a Leak on the East Side of the K-6A (Emergency Diesel Generator 1-1) Turbo Charger	03/04/2021
		CR-PLP-2021-00458	During Inspection of K-6A, 1-1 Diesel Generator, NRC Identified Cracking on the West Side of the South Vertical Turbocharger Support	02/18/2021
71111.15	Corrective Action Documents	CR-PLP-2-21-00085	WO#00504139-01 While Clean & Inspect 72-73 Found Loose X2 Wire	01/14/2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date		
		CR-PLP-2019-04060	VT Inspection of the Turbocharger Supports	10/09/2019		
		CR-PLP-2020-04401	NDE Examinations of the E-54 A Component Cooling Water Heat Exchanger South End Bell	10/27/2021		
		CR-PLP-2020-04494	P-50B Seal Degradation	11/05/2020		
		CR-PLP-2021-00030	PCP P-50C Temperature Element is not Providing a Proper Indication	01/06/2021		
		CR-PLP-2021-00199	While Conducting QE-35B Small Non-through Wall Cracks were Found at the Upper Corner of the Jar of Cells 48, 50, and 52	01/27/2021		
		CR-PLP-2021-00250	Primary System Drain Tank Level is on an Unexpected Lowering Trend	02/02/2021		
		CR-PLP-2021-00251	Fuel Oil Transfer Pump P-18 A Shut Off in Auto Prior to Entering the Expected Band	02/02/2021		
		CR-PLP-2021-00293	Z-Phase Time Over Current Timing Long	02/04/2021		
		CR-PLP-2021-00353	1Inch Jar Crack on the Positive Post Side of Battery 23, Closest to Battery 24	02/09/2021		
		CR-PLP-2021-00365	Bus 1C	02/10/2021		
		CR-PLP-2021-00858	DC Bus #2	03/29/2021		
		CR-PLP-2021-00864	Q-Level 4 Fuses were Found to be Installed in a Safety Related Application	03/30/2021		
		CR-PLP-2021-0199	ED-02 Cells 48, 50, and 52 Cracks in Jar Wall	01/27/2021		
		Miscellaneous			Vendor Manual "C&D Batter Co Standby Battery Flooded Cell Installation and Operating Instructions	11/29/1995
					Adverse Conditioning Monitoring and Contingency Plan; Primary Coolant Pump, P-50B, Rising Seal Pressure	0
Procedures		EN-OP-104	Operability Determination Process	16		
		EPS E-9	Use of Portable DC Ground Fault Detection System	10		
		CR-PLP-2021-	CK-CRW402 Primary Coolant Pumps Seal Leakage Check	02/24/2021		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		00503	has Failed	
		CR-PLP-2021-00587	MV-CRW281 PCP UCBO Isolation is Leaking by 50 mL/min	03/04/2021
	Engineering Changes	EC 89080	Temp Mod to Reinforce Station Batteries in the Event that Non-Through Wall Cracks are Found	0
	Miscellaneous		Failure Modes Analysis Worksheet for CR-PLP-2021-00090; Primary Coolant Pump P-50B Lower Seal Stage FMA	0
	Procedures	EN-DC-161	Control of Combustibles	23
		EN-MA-125	Troubleshooting Control of Maintenance Activities	25
71111.19	Corrective Action Documents	CR-PLP-2021-00023	The Control Circuit Fuse Ferrules were Noticed to be Loose	01/06/2021
		CR-PLP-2021-00042	Breaker 152-107 DIG 1-1 to Bus 1C, K-6A, Emergency Diesel Generator 1-1 and 1C Bus	01/07/2021
		CR-PLP-2021-00622	Crankcase Exhauster Drain Line Connection was Loose	03/05/2021
		CR-PLP-2021-00623	Electrical LB Above Cylinder 2R was Missing a Screw	03/15/2021
	Procedures	MO-7 A-2	Emergency Diesel Generator 1-2	02/18/2021
		QO-16 A	Inservice Test Procedure — Containment Spray Pumps	43
		QO-5	Valve Stroke Testing Data Sheet CV-3084, CV-3085, MO-3081, MO-3083, MO-3080, MO-3082	109
		SPS-E-23	Testing of AC or DC Molded Case Circuit Breakers Without Static Trip Devices	8
		WI-SPS-E-02	Megger Test Form	9
	Work Orders	00536579-02	52-2627 (V-26B); Remove OLX Coil Connection, Ops PMT	03/16/2021
		00536580-02	52-2629 (V-96); Remove MX & OLX Coil Connection, Ops PMT	03/16/2021
		00541951-03	3Y-10; New HGA Aux, Relay for V-26B (Ops PMT)	03/16/2021
		00547524-02	CV-1656; Ops PMT	03/16/2021
		52892251 03	52-2113 (MO-3081); PM Breaker/Starter *Ops PMT*	01/17/2021
		52896336 02	612-213X, Ops PMT	02/18/2021
52905233-03		V-26B Flow Control ("B" Train) (I&C PMT)	03/16/2021	
52923044-02 & -03		Megger/Greast V-26B and V-96 Motors, Ops PMT	03/16/2021	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		52927113 01	CK-CC944, Non-Intrusive Check Valve Test: I&C Support	02/12/2021
		52945986	P-55 A (T-105 A) Accumulator Pressure Test	12/28/2020
		52945987	P-55 A (T-106) Accumulator PM	12/28/2020
		52949008 01	MO-7 A-2 Emergency Diesel Generator 1-2 (K-6B)	02/18/2021
71111.22	Corrective Action Documents	CR-PLP-2021-00250	T-74, Primary System Drain Tank Level is on an Unexpected Lowering Trend	02/02/2021
		CR-PLP-2021-00353	ED-01, Station Battery Number 1	02/09/2021
		CR-PLP-2021-00509	CV-0944 A, CCW to SFP HXS, RW EVAPS, C-50'S/54 & NSSS did not Indicate Fully Open While Verifying Proper Operation per Step 5.2.12.c	02/24/2021
		CR-PLP-2021-00553	While Performing MO-7 A-1 Emergency Diesel Generator 1-1 Test the Service Water Flow was Recorder Low Out of Specs	03/02/2021
		CR-PLP-2021-00590	MV-CRW282 PCP UCBO Isolation and CK-CRW402 Primary Coolant Pumps Seal Leakage Check Leaking By	03/04/2021
		CR-PLP-2021-00662	Current Leakrate Trend	03/10/2021
		CR-PLP-2021-00759	The Last 4 Primary Coolant System Unidentified Leakage Numbers are Elevated	03/18/2021
	Engineering Changes	89239	EC Reply: Operability Acceptance for P-8B due to Overspeed Trip During RO-145B	0
	Engineering Evaluations	RO-145-CR-PLP-2014-05477	Preconditioning Evaluation, P-8B, Steam Driven Auxiliary Feedwater Pump	11/1/2014
	Procedures	DWO-1	Operator's Daily/Weekly Items Modes 1,2,3 and 4	Revision 111
		PCS Leakrate Snap-Shot	Daily Leak Rate Surveillance Calculation	02/02/2021
		Proc No 4.19	Parameter Monitoring for Unidentified PCS Leakage	6
		QO-14B	Inservice Test Procedure — Service Water Pumps	46
		QO-19B	Inservice Test Procedure — HPSI Pumps and ESS Check Valve Operability Test	44
71151	Miscellaneous		NRC Performance Indicator Data Unplanned Scrams with Complications (IE-04)	01/01/2020 – 12/31/2020
			NRC Performance Indicator Data MSPI: Heat Removal	01/01/2020 –

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Systems (AFW) (MS-08)	12/31/2020
			NRC Performance Indicator Data Unplanned Scrams Per 7,000 Critical Hours (IE-01)	01/01/2020 – 12/31/2020
71152	Corrective Action Documents	CR-PLP-2020-02365	CCW HX E-54B SW OUTLET Pinned Incorrectly	07/27/2020
		CR-PLP-2021-00080	Change to the P-50B, Primary Coolant Pump, Middle and Upper Seal Pressures	01/13/2021
	Procedures	QO-5	Valve Test Procedure (Includes Containment Isolation Valves)	109