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

February 10, 2022

Mr. Rod Penfield
Site Vice President
Energy Harbor Nuclear Corp.
Perry Nuclear Power Plant
10 Center Road,
Perry, OH 44081

SUBJECT: PERRY NUCLEAR POWER PLANT – INTEGRATED INSPECTION REPORT 05000440/2021004

Dear Mr. Penfield:

On December 31, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Perry Nuclear Power Plant. On January 27, 2022, 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.

No findings or violations of more than minor significance were identified during this inspection.

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,

Signed by Dickson, Billy
on 02/10/22

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

Docket No. 05000440
License No. NPF-58

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

Letter to Ron Penfield from Billy C. Dickson, Jr. dated February 10, 2022.

SUBJECT: PERRY NUCLEAR POWER PLANT – INTEGRATED INSPECTION REPORT 05000440/2021004

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number:	05000440
License Number:	NPF-58
Report Number:	05000440/2021004
Enterprise Identifier:	I-2021-004-0111
Licensee:	Energy Harbor Nuclear Corp.
Facility:	Perry Nuclear Power Plant
Location:	Perry, OH
Inspection Dates:	September 27, 2021 to December 31, 2021
Inspectors:	G. Hansen, Senior Emergency Preparedness Inspector V. Myers, Senior Health Physicist T. Ospino, Resident Inspector J. Steffes, Senior 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 Perry Nuclear Power 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

No findings or violations of more than minor significance were identified.

Additional Tracking Items

None.

PLANT STATUS

The plant began the inspection period at full power. On December 4, 2021, reactor power was lowered to 66 percent to perform a rod sequence exchange and returned to full power the same day. The Unit remained at or near full power for most of the inspection period, with a few exceptions. First, on a few occasions, power was reduced between 1 and 4 percent for less than a day in each instance due to environmental conditions. Additionally, on December 25, 2021, reactor power was reduced to 86 percent to facilitate the removal of the 5A feedwater heater. The Unit experienced issues with the 5A feedwater heater drain valve's inability to maintain feedwater heater level within control bands. The licensee determined that a heater tube leak from the condensate system was degrading and removed the heater from service. The Unit remained at or near 86 percent reactor 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 performed activities described in IMC 2515, Appendix D, “Plant Status,” conducted routine reviews using IP 71152, “Problem Identification and Resolution,” observed risk significant activities, and completed on-site portions of IPs. 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.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather Sample (IP Section 03.01) (1 Sample)

(1) Winter readiness activities on November 24 to December 8, 2021

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (4 Samples)

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

(1) "A" standby liquid control system while "B" train unavailable for maintenance on October 28, 2021
(2) "A" annulus exhaust gas treatment system on November 4, 2021
(3) "B" emergency service water system while the "A" emergency diesel generator was unavailable for maintenance on November 10 to 12, 2021
(4) "A" emergency closed cooling system on November 22, 2021

Complete Walkdown Sample (IP Section 03.02) (1 Sample)

(1) "A" residual heat removal system while the “B” and “C” trains were inoperable for planned work on December 6 and 7, 2021

71111.06 - Flood Protection Measures

Cable Degradation (IP Section 03.02) (1 Sample)

The inspectors evaluated cable submergence protection in:

(1) Inspection of the manhole #1 containing safety-related cables for the Division 3 diesel generator on November 30, 2021

71111.07A - Heat Sink Performance

Annual Review (IP Section 03.01) (1 Sample)

The inspectors evaluated readiness and performance of:

(1) "A" residual heat removal system heat exchanger

71111.11A - Licensed Operator Requalification Program and Licensed Operator Performance

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

(1) The inspectors reviewed and evaluated the licensed operator examination failure rates for the requalification annual operating tests and biennial written examinations administered from October 25 to December 9, 2021.

71111.11Q - Licensed Operator Requalification 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 rod sequence exchange evolution on December 4, 2021.

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

(1) The inspectors observed and evaluated licensed crew performance in the simulator on November 17, 2021.

71111.12 - Maintenance Effectiveness

Quality Control (IP Section 03.02) (1 Sample)

The inspectors evaluated the effectiveness of maintenance and quality control activities to ensure the following SSC remains capable of performing its intended function:

(1) Division 1 emergency diesel generator on November 19 to 23, 2021

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (1 Sample)

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) Plant risk assessment with the Unit 2 start up transformer out of service during transformer yard work on November 12, 2021

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (1 Sample)

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

(1) Division 1 emergency diesel generator noted staining on several cylinder lower skirts

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Inservice Testing (IP Section 03.01) (1 Sample)

(1) "A" Emergency Closed Cooling System on December 22, 2021

71114.02 - Alert and Notification System Testing

Inspection Review (IP Section 02.01-02.04) (1 Sample)

(1) The inspectors evaluated the following maintenance and testing of the alert and notification system:

- Annual siren inspection and maintenance records for the period from September 2019 to September 2021
- Monthly alert notification system (siren) tests for the period from September 2019 to September 2021

71114.03 - Emergency Response Organization Staffing and Augmentation System

Inspection Review (IP Section 02.01-02.02) (1 Sample)

(1) The inspectors evaluated the readiness of the Emergency Preparedness Organization.

71114.04 - Emergency Action Level and Emergency Plan Changes

Inspection Review (IP Section 02.01-02.03) (1 Sample)

(1) The inspectors evaluated the following submitted Emergency Action Level and Emergency Plan changes:

- The licensee did not make any changes to the site's Emergency Action Level procedures or Emergency Plan during the period of this inspection (July 1, 2020 through June 30, 2021). The NRC inspectors independently reviewed the revisions of the site's Emergency Action Level procedures and Emergency Plan that were current for the inspection period to verify no changes were made.

This evaluation does not constitute NRC approval.

71114.05 - Maintenance of Emergency Preparedness

Inspection Review (IP Section 02.01 - 02.11) (1 Sample)

(1) The inspectors evaluated the maintenance of the emergency preparedness program.

71114.06 - Drill Evaluation

Drill/Training Evolution Observation (IP Section 03.02) (1 Sample)

The inspectors evaluated:

(1) Emergency response organization training evaluation on October 21, 2021

RADIATION SAFETY

71124.02 - Occupational ALARA Planning and Controls

Radiological Work Planning (IP Section 03.01) (3 Samples)

The inspectors evaluated the licensee’s radiological work planning for the following activities:

(1) Reactor water clean up valve replacement activities
(2) In-vessel visual inspections
(3) Refueling activities

Verification of Dose Estimates and Exposure Tracking Systems (IP Section 03.02) (3 Samples)

The inspectors evaluated dose estimates and exposure tracking for the following activities:

(1) Reactor water clean up valve replacement activities
(2) In-vessel visual inspections
(3) Refueling activities

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS08: Heat Removal Systems (IP Section 02.07) (1 Sample)

(1) July 1, 2020 through June 30, 2021

MS09: Residual Heat Removal Systems (IP Section 02.08) (1 Sample)

(1) July 1, 2020 through June 30, 2021

MS10: Cooling Water Support Systems (IP Section 02.09) (1 Sample)

(1) July 1, 2020 through June 30, 2021

BI01: Reactor Coolant System (RCS) Specific Activity Sample (IP Section 02.10) (1 Sample)

(1) October 01, 2020 through September 30, 2021

BI02: RCS Leak Rate Sample (IP Section 02.11) (1 Sample)

(1) October 1, 2020 through September 30, 2021

OR01: Occupational Exposure Control Effectiveness Sample (IP Section 02.15) (1 Sample)

(1) October 01, 2020 through September 30, 2021

PR01: Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual Radiological Effluent Occurrences (RETS/ODCM) Radiological Effluent Occurrences Sample (IP Section 02.16) (1 Sample)

(1) October 01, 2020 through September 30, 2021

EP01: Drill/Exercise Performance (DEP) Sample (IP Section 02.12) (1 Sample)

(1) July 01, 2019 through June 30, 2021

EP02: Emergency Response Organization (ERO) Drill Participation (IP Section 02.13) (1 Sample)

(1) July 01, 2019 through June 30, 2021

EP03: Alert and Notification System (ANS) Reliability Sample (IP Section 02.14) (1 Sample)

(1) July 01, 2019 through June 30, 2021

71152 - Problem Identification and Resolution (PI&R)

Semiannual Trend Review (IP Section 02.02) (1 Sample)

(1) The inspectors reviewed the licensee's corrective action program for potential adverse trends in their maintenance practices that might be indicative of a more significant safety issue.

Annual Follow-Up of Selected Issues (IP Section 02.03) (4 Samples)

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

(1) Feedwater heater 5A level control issues on December 22 to 25, 2021
(2) Division 3 emergency diesel generator voltage regulator failure on June 1, 2021
(3) Reactor water cleanup system issues
(4) Tritium identified in underdrain system sample

INSPECTION RESULTS

Observation: Semi-Annual Trend Review	71152
The inspectors performed a semi-annual trend review of the licensee's corrective action program for the third and fourth quarters of 2021. The inspectors focused on whether any adverse trends existed related to maintenance performance, work instruction preparation, and equipment performance during the period of consideration and did not identify any concerns. The inspectors did not identify any problems or violations for issue identification, evaluation, or corrective actions associated with low-level licensee identified items.	

Observation: Feedwater Heater 5A Level Control Issues	71152
On December 22, 2021, the licensee noted issues with feedwater heater 5A's ability to maintain the level within its control band. The licensee identified that the feedwater heater 5A drain valve to the condenser was partially open due to the normal drain route to the 4A heater not maintaining the level in the band. Upon review, the inspectors determined that the erratic drain valve behavior started several days prior. Still, the oscillations were not significant enough to cause control room alarms or require the alternate level controller operation. Condition Report (CR) 2021-09655, "Heater 5A Level Controller Improper Operation," was generated to document and resolve the noted issue. Failure to control the feedwater heater level could lead to the feedwater heater's isolation, lowering of feedwater temperature, resulting in an unplanned increase in power. Due to the issue's relative importance, the licensee staffed the Outage Control Center and established limits for the operation of the feedwater, condensate, and hotwell systems. The inspector reviewed the licensee's actions in response to the feedwater heater level control issue, troubleshooting plan, and balance of plant trigger points and did not identify issues of concern. Field walkdowns performed by the licensee did not immediately identify any problems with the feedwater drain valve. Thus, the licensee suspected a feedwater tube leak into the heater had occurred. On December 25, 2021, the licensee noted an increase in condensate flow that exceeded a balance of plant trigger point and determined that the suspected tube leak had worsened and could challenge plant operation. The licensee lowered reactor power to 86 percent and removed the 5A feedwater heater from service.	

CR 2021-09695, "5A Feedwater Heater Removed from Service Due to a Suspected Tube Leak," was generated to document the condition worsening and associated decision-making.

The 5A feedwater heater remained isolated with the plant at or near 86 percent reactor power for the remainder of the inspection period. The inspectors continued to monitor licensee troubleshooting progress, Operation Decision-Making Issue development, plant operation, and adverse plant effects associated with the heater isolation. As a result of this inspection, the inspectors did not identify any findings or violations.

Observation: Reactor Water Cleanup System Issues	71152

On March 7, 2021, while cooling down following plant shutdown for refueling outage 1R18, the control room received the Hi Pump Temperature alarm while simultaneously, the "B" reactor water cleanup (RWCU) pump tripped off. Approximately 8 hours later, the "A" RWCU pump tripped off, and the plant continued cooldown using the residual heat removal system. One of the RWCU system's functions is to maintain reactor water quality through filtration and ion exchange, thus minimizing the corrosion products produced and activated during operation, and not challenging plant operation or radiation exposure. The licensee documented the trip of both "A" and "B" RWCU pump trips in CRs 2021-01573, "HI PUMP TEMP trip of RWCU pump B," 2021-01592, "RWCU Pump B Trip," and 2021-01595, "Reactor Water Clean-Up (RWCU) Pump A Tripped Due to High Temperature," respectively.

The inspectors reviewed licensee alarm response and continued cooldown actions for a loss of both RWCU pumps and did not identify any issues of concern. However, the proximity of both pump failures required further scrutiny by inspectors. The inspectors reviewed the licensee's common-mode failure analysis. The licensee determined that air intrusion in the internal cooling loop of both pump motor cans caused the loss of both RWCU pumps, which resulted in the interruption of cooling due to expansion and bearing failure due to lack of cooling. The failure modes analysis results were documented in CR 2021-01650, "Rollup Condition Report for Loss of Both RWCU Pumps – Common Mode Failure and Potential Consequences." The inspectors also reviewed several corrective actions put into place due to failures which included, but were not limited to; repair and replacement of both RWCU pumps, revision to the pump vibration monitoring plan, and lowering of the stator high-temperature trip setpoint to preclude bearing failure and changing the motor fill and vent procedure to eliminate air inclusion.

On December 12, 2021, the nuclear closed cooling (NCC) process radiation monitor spiked several times, indicating a leak had developed in one systems cooled by the NCC system. The licensee performed confirmatory chemistry samples, which revealed elevated amounts of sodium-24. As part of the troubleshooting plan, as documented in CR 2021-09436, "NCC Process Radiation Monitor Counts Continue to Rise," the licensee sampled various effluent points from cooled systems and determined the source of the radioactivity in-leakage was the "A" RWCU pump. Further confirmation of the source was determined once the "A" RWCU pump was secured, and samples revealed no further contribution to NCC radioactivity levels. The inspectors reviewed the licensee's operational decision-making issue summary and identified no issues of concern associated. The licensee operated the remainder of the inspection quarter with the "B" RWCY pump in operation and the "A" RWCU pump designated as available for emergency use only.

The inspectors continued to monitor licensee progress towards identification and corrective actions associated with the determined cause through the end of the inspection period. As a

result of this review, no findings or violations were identified.

Observation: Tritium Identified in Underdrain System Sample	71152

On December 16, 2021, during the performance of quarterly sampling, the licensee detected tritium in underdrain manhole number 20. The underdrain system ensures groundwater remains below plant elevation 590 feet below the nuclear island, thus not challenging safety-related systems due to hydrostatic loading from below. The groundwater that flows through this system is monitored for radioactivity as it is discharged to the lake. The inspectors determined that sample results obtained from manhole 20 were 1,750 pCi/L, with a confirmatory sample obtained the following day at 2,050 pCi/L. The licensee reported the sample results above 2,000 pCi/L to state and local authorities as required by procedure NOP-OP-4705, "Response to Contaminated Spills/Leaks." The inspectors reviewed sample results and determined values obtained by the licensee were below the federal reporting threshold of 20,000 pCi/L.

The inspectors reviewed the licensee's action plan to identify the source of tritium in the underdrain system as documented in CR 2021-09573, "Tritium Identified in Underdrain Manhole Number 20." The plan included a systematic walkdown of systems, structures, and not normally accessed areas of the plant, further sampling and monitoring of groundwater in the underdrain systems, and further expansion of system sampling internal to the plant. Following a review of historical effluent data associated with underdrain manhole 20, the inspectors determined that the system was functional and did not identify any spiking or rise above background values that could have reasonably led to issue identification before the December 16, 2021, sample.

The inspectors determined that while the licensee identified a few potential contributors to the tritium in the underdrain system, they had not yet found the source by the end of the inspection period. The inspectors continue to monitor licensee progress towards source identification, and as a result of this review, no findings or violations were identified.

Observation: Division 3 Emergency Diesel Generator Voltage Regulator Failure on June 1, 2021	71152

On June 1, 2021, during performance of SVI-E22-T1319, "Diesel Generator Start and Load Division 3," Revision 29, the licensee noted voltage oscillations during initial start of the diesel generator. The voltage oscillations were noted to occur for approximately 1 minute following the start, prior to applying load to the diesel generator. Diesel generators, during normal operation, have characteristic voltage oscillations known as "hunting" as the voltage regulator adjusts and maintains voltage at the setpoint during operation. In review, the inspectors noted that Division 3 diesel generator startups have typical voltage hunting for 10 to 15 seconds but remain within the Technical Specification required voltage band of 3900–4400 Volts AC (VAC). The licensee documented the surveillance performance noting the abnormalities in voltage oscillations in CR 2021-04371, "Division 3 Diesel Generator Voltage Oscillations Upon Start for SVI-E22-T1319," but initially believed that the voltages remained in band and maintained the diesel in an operable status. The licensee requested a Follow-up Operability Determination (FOD) to confirm their presumption of operability based on surveillance results.

In review of the licensee's FOD as documented in CR 2021-04432, "Division 3 Diesel Generator Follow-up Operability Determination (FOD) per CR 2021-04371," the inspectors noted that licensee analysis indicated voltage fell below the minimum required voltage to

3866 VAC for less than 0.5 second during diesel startup. As a result, the licensee declared the Division 3 diesel generator inoperable. The FOD also noted a similar condition had occurred on May 15, 2021, following the replacement of the Division 3 diesel generator voltage regulator. The licensee had replaced the voltage regulator as a part of the preventative maintenance program approximately 3 weeks prior to the failure on June 1, 2021.

The inspectors reviewed the associated condition report CR 2021-03974, "Division 3 Diesel Generator Voltage Regulator Oscillations Following Replacement," and noted that the voltage regulator replaced was a Basler Model SR8A2B15B3A card which displayed voltage oscillations upon start. In review, the inspectors noted that while the voltage regulator displayed oscillations, they appeared less erratic than those that occurred on June 1, 2021. As part of the post maintenance testing the licensee noted that the stability potentiometer (R4) did not appear to be set correctly from the manufacturer, which resulted in the oscillations observed. Following adjustment to the stability potentiometer, the licensee performed the surveillance run on the diesel and declared the Division 3 diesel generator operable.

During their review of FOD 2021-04432, the inspectors questioned the licensee to understand how the diesel generator was declared inoperable but remained available based on the results obtained during surveillance testing. The inspectors' review could not identify documentation associated with the previously mentioned condition reports that contained supporting information associated with Division 3 diesel generator remaining available. The licensee provided Engineering Evaluation Request 601335941, which provided analysis of Division 3 loads to a lower voltage limit of 3730 VAC, which is associated with the degraded voltage dropout limit. The inspectors determined that based on the associated calculations referenced within EER 601335941, it was reasonable that although voltage during the June 1, 2021, surveillance was less than the Technical Specification requirement, they remained above the engineering analyzed limit to perform their function.

The inspectors noted that the licensee failure modes analysis had identified a probable cause for the failure being associated with an internal failure on the voltage regulator card. The licensee replaced the voltage regulator card on June 4, 2021, tested, and Division 3 diesel generator was declared operable that same day. As a result of this inspection no findings or violations were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On January 27, 2022, the inspectors presented the integrated inspection results to Mr. R. Penfield, Site Vice President, and other members of the licensee staff.
- On September 30, 2021, the inspectors presented the emergency preparedness inspection results to Mr. R. Penfield, Site Vice President, and other members of the licensee staff.
- On December 2, 2021, the inspectors presented the radiation protection inspection results to Mr. C. Elliott, Plant Manager, and other members of the licensee staff.
- On December 10, 2021, the inspectors presented the Review of Annual Licensed Operator Requalification Program testing summary results inspection results to Mr. R. Torres, Perry Exam Team Lead, and other members of the licensee staff.
- On December 10, 2021, the inspectors presented the emergency preparedness inspection results to Mr. J. Archer, Emergency Response Supervisor, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Miscellaneous	Winter Work List	Winter Work List	12/08/2021
71111.04	Drawings	912-0605-00000	Reactor Building Annulus Exhaust Gas Treatment	Y
	Procedures	VLI- P45	Emergency Service Water System	11/12/2021
		VLI-C41	Standby Liquid Control System	10/28/2021
		VLI-E12	Valve Lineup Instruction Residual Heat Removal System	12/06/2021
		VLI-M15	Annulus Exhaust Gas Treatment System	4
		VLI-P42	Emergency Closed Cooling System	20
71111.06	Work Orders	200663040	Inspect Manholes 1 & 2 – Division 3	11/30/2021
71111.07A	Calculations	E12-106	RHR System Heat Exchanger "A" Loop Performance Test Evaluation	5
71111.11A	Miscellaneous	Requalification Program Annual Testing Summary Results	Licensed Operator Annual Examination Performance Records for 2021	12/09/2021
71111.11Q	Miscellaneous	Evolution Specific Reactivity Plan	December 2021 Sequence Exchange	0
		OT-3070-PC1E	Simulator Scenario	0
		OT-3070-PC5D	Simulator Scenario	0
71111.12	Corrective Action Documents	2021-08766	Division 1 Diesel Generator Swivel Pads Sticking	11/16/2021
		2021-08782	Division 1 Diesel Generator Subcover Indications	11/17/2021
	Procedures	NOP-CC-5740	Liquid Penetrant Examination Visible Dye, Solvent Removable, 40-125 Degrees	0
		PMI-0019	Division 1 and 2 Diesel Generator Rocker Arm and Valve Lifter Maintenance	9
	Work Orders	200770336	Dye Penetrant Subcover Pedestals Emergency Diesel Generator	11/21/2021
71111.13	Procedures	NOP-OP-1007	Risk Management	36
		PAP-1924	Risk-Informed Safety Assessment and Risk Management	9
71111.15	Corrective Action Documents	2021-08827	Division 1 Diesel Generator EDG, Cylinder Liner Visual Inspection	11/18/2021
71111.22	Procedures	SVI-P42-T2001A	Emergency Closed Cooling System A Pump and Valve Operability Test	16

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71114.02	Corrective Action Documents	CR-2020-07967	Test Siren L41 Chopper Sensor Fail	10/14/2020
	Miscellaneous		FEMA Approval of Perry Nuclear Power Plant Prompt Alert Siren System (PASS) Design Report Update	07/17/2015
			Federal Signal Models 2001-130, Equinox, and 508-128 Sirens Installation, Operation, and Service Manual	A5 0017
			Federal Signal DCB, DCFCB, and DCFCTB Models Battery Operated Mechanical Siren Control System Installation, Operation, and Service Manual	LO 1015
			Tempest T-112/ T-121 Omni-Directional Siren Installation, Operation, Maintenance and Parts Manual	H
			Perry EPZ Siren System PI Test Schedules	01/01/2019–12/31/2021
			Perry 2019 EPZ Siren Annual Maintenance Records	09/01/2019–08/31/2021
			Perry Nuclear Power Plant Prompt Alert Siren System (PASS) Design Report	0
	Procedures	NOBP-LP-5018	FENOC Siren Testing and Maintenance	4
		NOP-LP-5005	FENOC Siren Testing and Maintenance;	1
71114.03	Corrective Action Documents	CR-2020-08314	Eplan Staffing Concern	10/27/2020
		CR-2020-08532	ERO Member Missed Call in Test	11/03/2020
		CR-2020-08854	MS-C-20-11-24 Failure to Document Emergency Preparedness Equipment Deficiency in Accordance with Emergency Plan Requirements	11/16/2020
		CR-2020-08915	On-Call ERO Member Did Not Respond to Weekly Call-In Test	11/18/2020
	Miscellaneous		ERO Augmentation Quarterly Pager Test Records	09/01/2019–08/31/2021
			PNPP ERO On-Shift Staffing Analysis Report	12/18/2012
			Emergency Response Organization Roster	08/18/2021
	Procedures	EPI-B1	Emergency Notification System	37
		NOP-LP-5006	Emergency Response Organization Training Program	4
		PTI-GEN-P0003	Quarterly Testing of the Emergency Pager System	14
		PYBP-ERS-0037	Notification of Key Plant Personnel	3
71114.04	Procedures	EP	Emergency Plan for Perry Nuclear Power Plant	59

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		EPI-A1	Emergency Action Levels	30
		PSI-0019	Emergency Action Level (EAL) Bases Document	21
71114.05	Corrective Action Documents	CR-2019-07820	Loss of Quincy Substation Resulting in Loss of Both Meteorological Data Channels	09/14/2019
		CR-2019-09649	MS-C-19-11-24 Map-My-Learning Curricula Do Not Match ERO Position Training Plans	11/14/2019
		CR-2019-09686	MS-C-19-11-24: EP Inventory Discrepancies	11/15/2019
		CR-2020-02380	Annual Fire Brigade Drill Not Performed with Local Fire Department in 2019	03/18/2020
		CR-2020-03062	Emergency Notification System Phone (Red Phone) is Not Working	04/10/2020
		CR-2020-04281	Emergency Notification System Phone (Red Phone) is Not Working	05/15/2020
		CR-2020-04453	Emergency Notification System Phone (Red Phone) is Not Working	05/22/2020
		CR-2020-06808	Emergency Notification System Phone (Red Phone) is Not Working	08/31/2020
		CR-2020-08842	Emergency Notification System Phone (Red Phone) is Not Working	11/16/2020
	Miscellaneous		Emergency Preparedness Drill and Exercise Reports (Sample)	09/01/2019–08/31/2021
			Emergency Response Organization Training and Qualification Records (Sample 15 records)	09/29/2021
			2020 Report on Interface with State and Local Government	12/31/2020
			Monthly Testing of Emergency Response Telephone Systems Used in Onsite Emergency Response Facilities (Completed Survey Records)	09/01/2019–08/31/2021
			Quarterly Testing of Emergency Response Data System (ERDS) (Completed Survey Records)	09/01/2019–08/31/2021
			Emergency Operations Facility Equipment Checklists (Completed Survey Records)	09/01/2019–08/31/2021
			Operations Support Center Equipment Checklists (Completed Survey Records)	09/01/2019–08/31/2021
			Technical Support Center Equipment Checklists (Completed	09/01/2019–

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Survey Records)	08/31/2021
			Letters of Agreement with Agencies Supporting Emergency Preparedness	09/01/2019–08/31/2021
			2019 Report on Interface with State and Local Government	12/31/2019
		KLD TR-1111	Perry Nuclear Power Plant 2019 Population Update Analysis	09/26/2019
		KLD TR-1192	Perry Nuclear Power Plant 2020 Population Update Analysis	09/24/2020
		KLD TR-481	Perry Nuclear Power Plant Development of Evacuation Time Estimates	10/01/2012
		MS-C-19-11-24	Fleet Oversight Audit Report of Emergency Preparedness	12/13/2019
		MS-C-20-11-24	Fleet Oversight Audit Report of Emergency Preparedness	12/06/2020
	Procedures		Emergency Plan for Perry Nuclear Power Plant	59
		NOP-LP-2001	Corrective Action Program	48
		NOP-LP-5011	Emergency Response Drill and Exercise Program	14
71124.02	ALARA Plans	210443	1G33F0039 Valve Replacement Activities	0
		210903	Reactor Vessel IVVI Exams	0
		210907	Refueling Activities	0
	Corrective Action Documents	CR-2021-01929	IVVI Team Experienced Waiting Time on the Refuel Floor	03/17/2021
		CR-2021-01957	IVVI Initial Scope Projected Hours Did Not Align with What Was Realized During the Project	03/17/2021
	Miscellaneous		Station ALARA Committee Meeting Agenda and Minutes	03/15/2021
			Station ALARA Committee Meeting Agenda and Minutes	03/16/2021
	Procedures	NOP-OP-4107	Radiation Work Permit	19
	Radiation Work Permits (RWPs)	210443	1G33F0039	0
		210903	Reactor Vessel IVVI Exams	0
		210907	Refueling Activities	0
71151	Corrective Action Documents Resulting from Inspection	CR-2021-07276	NRC Identified – October 2020 ANS Performance Indicator Data Underreported	09/28/2021
	Miscellaneous		NRC Performance Indicator Data; Emergency Preparedness – Alert and Notification System Reliability	07/01/2020–06/30/2021
			NRC Performance Indicator Data; Emergency Preparedness – Drill/Exercise Performance	07/01/2020–06/30/2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			NRC Performance Indicator Data; Emergency Preparedness – ERO Readiness	07/01/2020–06/30/2021
		Performance Indicator Report Summary	Cooling Water System	12/02/2021
		Performance Indicator Summary	Reactor Coolant System Identified Leak Rate	12/03/2021
		Performance Indicator Summary Report	Heat Removal System	12/02/2021
		Performance Indicator Summary Report	Residual Heat Removal System	12/02/2021
71152	Corrective Action Documents	2021-06437	ECP Requires Revision to Correct Alignment of Gears on Containment Airlock Door	08/25/2021
		2021-06765	Typographical Errors Discovered in Work Order	09/07/2021
		2021-07082	Work Order Step Started without ATS Approval	09/02/2021
		2021-07706	Major Equipment Outage Windows Split	10/14/2021
		2021-07945	Reactor Water Cleanup Canned Motor Pumps - Lessons Learned	10/21/2021
		CR 2021-09838	Nuclear Closed Cooling System has Isotopic Activity	12/14/2021
	Corrective Action Documents Resulting from Inspection	2021-08939	ECC Loop "A" Sample Valve Leak by	11/22/2021