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

April 26, 2022

Mr. David Rhoades
Senior Vice President
Constellation Energy Generation, LLC
President and Chief Nuclear Officer (CNO)
Constellation Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: LASALLE COUNTY STATION – INTEGRATED INSPECTION REPORT 05000373/2022001 AND 05000374/2022001

Dear Mr. Rhoades:

On March 31, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at LaSalle County Station and discussed the results of this inspection with Mr. J. Van Fleet, Plant Manager, 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 LaSalle County Station.

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 Riemer, Kenneth
on 04/26/22

Kenneth R. Riemer, Chief
Branch 1
Division of Reactor Projects

Docket Nos. 05000373 and 05000374
License Nos. NPF-11 and NPF-18

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

Letter to David Rhoades from Kenneth Riemer dated April 26, 2022.

SUBJECT: LASALLE COUNTY STATION – INTEGRATED INSPECTION REPORT 05000373/2022001 AND 05000374/2022001

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers:	05000373 and 05000374
License Numbers:	NPF-11 and NPF-18
Report Numbers:	05000373/2022001 and 05000374/2022001
Enterprise Identifier:	I-2022-001-0063
Licensee:	Constellation Nuclear
Facility:	LaSalle County Station
Location:	Marseilles, IL
Inspection Dates:	January 01, 2022 to March 31, 2022
Inspectors:	G. Edwards, Senior Health Physicist R. Elliott, Resident Inspector J. Park, Reactor Inspector W. Schaup, Senior Resident Inspector R. Zuffa, Illinois Emergency Management Agency
Approved By:	Kenneth R. Riemer, Chief Branch 1 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 LaSalle County Station, 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

Preventative Maintenance Schedule Failed to Prevent an Age-Related Breaker Failure			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000373,05000374/2022001-01 Open/Closed	None (NPP)	71153
The inspectors are documenting a self-revealed finding of very low safety significance (Green) and an associated non-citied violation (NCV) of TS 5.4.1.a, "Instructions, Procedures, and Drawings," for the licensee's failure to implement a preventative maintenance schedule developed to specify inspection or replacement of parts that have a specific lifetime. Specifically, the motor control center/molded case circuit breaker preventative maintenance schedule failed to identify degradation or replace parts that have a specified lifetime on the HPCS water leg pump breaker, resulting in an age-related failure of the breaker.			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000374/2021-001-00	LER 2021-001-00 for LaSalle County Station, Unit 2, High Pressure Core Spray Inoperable due to Water Leg Pump Breaker Cubicle Motor Contactor	71153	Closed

PLANT STATUS

Unit 1 began the inspection period at rated thermal power. On February 21, 2022, the unit was shut down to support refueling outage L1R19. The unit was returned to rated thermal power on March 18, 2022, and remained at or near rated thermal power for the remainder of the inspection period.

Unit 2 began the inspection period at rated thermal power. On January 2, 2022, the unit was down powered to approximately 60 percent to perform power suppression testing and to make a rod pattern adjustment. The unit was returned to rated thermal power on January 3, 2022, 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 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

Impending Severe Weather Sample (IP Section 03.02) (1 Sample)

(1) The inspectors evaluated the adequacy of the overall preparations to protect risk-significant systems from impending severe weather during a winter storm watch from February 1, 2022 to February 4, 2022.

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) Unit 1 Division 2B residual heat removal system shutdown cooling function on February 22, 2022
(2) Unit common diesel generator on February 24, 2022
(3) Unit 1 Division 1A residual heat removal system low pressure coolant injection function on March 3, 2022
(4) Unit 1 low pressure core spray system as the single source for inventory control on March 1, 2022

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) Unit 1 heater bays on February 24, 2022
(2) Unit 1 motor driven reactor feed pump room on February 24, 2022
(3) Unit 1 primary containment on March 9, 2022
(4) Unit 1 general area and suppression pool entrance on March 13, 2002

71111.07A - Heat Exchanger/Sink Performance

Annual Review (IP Section 03.01) (1 Sample)

The inspectors evaluated readiness and performance of:

(1) Unit 1B residual heat removal heat exchanger

71111.08G - Inservice Inspection Activities (BWR)

BWR Inservice Inspection Activities Sample - Nondestructive Examination and Welding Activities (IP Section 03.01) (1 Sample)

(1) The inspectors verified that the reactor coolant system boundary, reactor vessel internals, risk-significant piping system boundaries, and containment boundary are appropriately monitored for degradation and that repairs and replacements were appropriately fabricated, examined and accepted by reviewing the following activities from February 22, 2022 to March 7, 2022:

03.01.a - Nondestructive Examination and Welding Activities

1. Ultrasonic Testing (UT) of Component ID 1RH-1031-29 and -31, Augmented Cat. B
2. UT of Component ID 1HP-1001-02, Cat. R-A, Item 1.20-4
3. UT of Component ID 1B33-F060A-3, Flow Control Valve (FCV) cover studs, Cat. B-G-1
4. UT of Component ID 1B33-F060A-4, FCV body to bonnet studs, Cat. B-G-1
5. VT of Component ID 1B33-F060A, FCV, Cat. B-M-2
6. Liquid Penetrant Exam (PT) of Component ID 1B33-C001A, Cat. B-K, Item B10.30
7. Replacement of 1HP08C tee under Work Order 5008744-01, Weld No. 1, 2, 3, 4, 5, and 9

It is noted that there were no volumetric or surface exam records with relevant indications from the previous outage that had been accepted for continued service, and hence were not available for the inspector's review.

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 the Unit 1 shutdown on February 21, 2022, and during the Unit 1 reactor start up on March 17, 2022.

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 structures, systems, and components (SSCs) remains capable of performing its intended function:

(1) Unit 1 control rod drive blades installed during L1R19

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) Unit 1 elevated risk for shutdown cooling and lowered inventory during refueling outage L1R19 on February 22, 2022
(2) Unit 1 elevated shutdown risk for AC/DC power with Division 2 battery and battery charger out of service during refueling outage L1R19 on March 3, 2022
(3) Unit 1 elevated risk for lowered inventory during refueling outage L1R19 on March 9, 2022
(4) Unit 2 elevated risk due to Division 2 residual heat removal water leg pump replacement on March 28, 2022

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) Action Request 4477109, "LOS-DG-SR Complete with Portions Unsatisfactory"
(2) Action Request 4465253, "Unit 2, Division 3 Battery Cell 2 Voltage Trend"
(3) Action Request 4481815, "Trend IR-1B RHR HX Partition Plate"
(4) Action Request 4479961, "LOS-TG-SR2 BPV Performance/Indication Issues"
(5) Action Request 4475004, "1RH03CB - 12" UT Void Upstream of 1E12-F053B"
(6) Action Request 4484095, "Unit 1B Residual Heat Removal Heat Exchanger Failed Macrofouling Acceptance Criteria"

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (3 Samples)

The inspectors evaluated the following temporary or permanent modifications:

(1) temporary modification of the shutdown cooling system in accordance with LOP-RH-07, Attachment B, "Defeating Shutdown Cooling High Flow and High-Pressure Isolation in Modes 4 or 5 for the Unit 1 Refueling Outage"
(2) 1A/1B reactor recirculation pump motor tertiary oil modification for the Unit 1 refueling outage
(3) core standby cooling system 1DG06A line valve installation for Unit 1 refueling outage

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (10 Samples)

The inspectors evaluated the following post-maintenance testing (PMT) activities to verify system operability and/or functionality:

(1) PMT of the Unit 1A residual heat removal system on March 2, 2022
(2) PMT of the Unit 1B residual heat removal system on March 6, 2022
(3) PMT of the Unit 1B inboard main steam isolation valve 1B21-F022B after replacement on March 7, 2022
(4) PMT of the Unit 1 Division 2 125 Vdc battery on March 5, 2022
(5) PMT of the Unit 1B residual heat removal heat exchanger on March 6, 2022 and March, 9, 2022
(6) PMT of the Unit 1 reactor core isolation cooling system on March 17, 2022
(7) PMT of the Unit 1 safety relief valves on March 6, 2022
(8) PMT of Unit 1 new control rod drive mechanisms and new control rods installed during L1R19 on March 14, 2022
(9) PMT of the Unit 1B residual heat removal minimum flow bypass valve on February 7, 2022
(10) PMT of the Unit 1B reactor recirculation pump seal per Work Order 5108186

71111.20 - Refueling and Other Outage Activities

Refueling/Other Outage Sample (IP Section 03.01) (1 Sample)

(1) The inspectors evaluated refueling outage L1R19 activities from February 21, 2022 to March 18, 2022.

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance testing activities to verify system operability and/or functionality:

Surveillance Tests (other) (IP Section 03.01) (2 Samples)

(1) LOS-DG-110, "Integrated Division II Response Time Surveillance," on February 24, 2022
(2) LOS-NB-R1, "Reactor Vessel Leakage Test," on March 13, 2022

Containment Isolation Valve Testing (IP Section 03.01) (1 Sample)

(1) LTS-100-3, "Main Steam Isolation Valve Local Leak Rate Test 1B21-F022A/B/C/D, 1B21-F028A/B/C/D 1B21-67A/B/C/D," on February 21, 2022

RADIATION SAFETY

71124.01 - Radiological Hazard Assessment and Exposure Controls

Radiological Hazard Assessment (IP Section 03.01) (1 Sample)

(1) The inspectors evaluated how the licensee identifies the magnitude and extent of radiation levels and the concentrations and quantities of radioactive materials and how the licensee assesses radiological hazards.

Instructions to Workers (IP Section 03.02) (1 Sample)

(1) The inspectors evaluated how the licensee instructs workers on plant-related radiological hazards and the radiation protection requirements intended to protect workers from those hazards.

Contamination and Radioactive Material Control (IP Section 03.03) (2 Samples)

The inspectors observed/evaluated the following licensee processes for monitoring and controlling contamination and radioactive material:

(1) licensee surveys of potentially contaminated material leaving the radiologically controlled area (RCA) and workers exiting the RCA at the drywell control point during a refueling outage
(2) licensee surveys of potentially contaminated material leaving the RCA and workers exiting the RCA at the turbine building control point during a refueling outage

Radiological Hazards Control and Work Coverage (IP Section 03.04) (3 Samples)

The inspectors evaluated the licensee's control of radiological hazards for the following radiological work:

(1) safety relief valve replacement and installation
(2) reactor recirculation flow control valve repairs
(3) main steam isolation valves repairs and reassembly

High Radiation Area and Very High Radiation Area Controls (IP Section 03.05) (3 Samples)

The inspectors evaluated licensee controls of the following High Radiation Areas and Very High Radiation Areas:

(1) refuel floor reactor cavity work cavity work platform
(2) Unit 1 under vessel control rod drive exchange areas
(3) Unit 1 reactor water clean up areas

Radiation Worker Performance and Radiation Protection Technician Proficiency (IP Section 03.06) (1 Sample)

(1) The inspectors evaluated radiation worker and radiation protection technician performance as it pertains to radiation protection requirements.

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 02.01) (2 Samples)

(1) Unit 1 (January 1, 2021, through December 31, 2021)
(2) Unit 2 (January 1, 2021, through December 31, 2021)

IE03: Unplanned Power Changes per 7000 Critical Hours Sample (IP Section 02.02) (2 Samples)

(1) Unit 1 (January 1, 2021, through December 31, 2021)
(2) Unit 2 (January 1, 2021, through December 31, 2021)

IE04: Unplanned Scrams with Complications (USwC) Sample (IP Section 02.03) (2 Samples)

(1) Unit 1 (January 1, 2021, through December 31, 2021)
(2) Unit 2 (January 1, 2021, through December 31, 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 05000374/2021-001-00, High Pressure Core Spray Inoperable Due to Water Leg Pump Breaker Cubicle Motor Contactor (ADAMS Accession No. ML21049A048). The inspection conclusions associated with this LER are documented in this report under Inspection Results Section 71153.

INSPECTION RESULTS

Preventative Maintenance Schedule Failed to Prevent an Age-Related Breaker Failure			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000373,05000374/2022001-01 Open/Closed	None (NPP)	71153

The inspectors are documenting a self-revealed finding of very low safety significance (Green) and an associated non-citied violation (NCV) of TS 5.4.1.a, "Instructions, Procedures, and Drawings," for the licensee's failure to implement a preventative maintenance schedule developed to specify inspection or replacement of parts that have a specific lifetime. Specifically, the motor control center/molded case circuit breaker preventative maintenance schedule failed to identify degradation or replace parts that have a specified lifetime on the HPCS water leg pump breaker, resulting in an age-related failure of the breaker.

Description:

On December 23, 2020, the main control room operating crew received an alarm for the Unit 2 HPCS water leg pump stopping, followed shortly by a ground alarm for the associated electrical circuitry that cleared within 15 seconds. Field operators reported an acrid odor in the Division 3 switchgear room and found the breaker for the HPCS water leg pump in the closed position with the breaker cubicle being warm to the touch. The operating crew removed the HPCS water leg pump from service, declared the HPCS system inoperable, and entered TS 3.5.1 and performed the actions. This event was documented in the licensee's corrective action program as Action Request 4391800. The HPCS system was restored to operable the same day after replacing the HPCS water leg pump breaker cubicle control power transformer and motor contactor, and successful PMT of the breaker.

The licensee performed a failure analysis (LAS-86772) that found that the HPCS pump water leg pump breaker failure was the result of a "heating event" that began inside the contactor coil. During operation, the breaker is normally closed in to provide power to the continuously operating water leg pump, a weak spot in the contactor coil began to overheat. The overheating caused the coil wire insulation to melt that resulted in a turn-to-turn short to develop. The coil short increased current draw that consequently increased heat. A cascading event began where the increasing heat caused the short to propagate, drawing more current increasing heat. Eventually, the coil heated to the point that the coil wire melted, resulting in an open circuit in the coil and a complete loss of contactor function. Additionally, the increasing current flow through the contactor was also seen by the control power transformer. The increased current through the control power transformer also resulted in overheating of and consequential damage to the control power transformer.

The licensee's work history review for the HPCS water leg pump breaker and associated preventative maintenance showed no evidence of either the contactor or the control power transformer having been previously replaced.

The licensee concluded, based on the results of the failure analysis, the contactor being normally energized, and the contactor being original plant equipment (43 years old) that the likely cause of the water leg pump stopping was an age-related failure of the contactor.

LaSalle County Generating Station TS 5.4.1.a 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 9, provides recommendations for "Procedures for Performing Maintenance." Part b of Section 9, states, in part, that "preventative maintenance schedules should be developed to specify inspection or replacement of parts that have a specific lifetime."

The inspectors reviewed applicable station procedures, work orders, and corrective action documents for performing maintenance and identified the following.

Per station procedure ER-AA-200-2001, "Equipment Classification," Revision 6, the water leg pump breaker and components are critical equipment.

Step 4.1.6 states, "If the component is classified as critical, skip the Run-to-Maintenance(Failure) (RTM) analysis steps of this procedure" (i.e. critical components are not to be RTM)

Station procedure ER-AA-200, "Preventative Maintenance Program," Revision 6, states the following.

Step 2.8 states, "Expected service life is the amount of time that a component can reasonably operate in its installed environment, service condition, and duty cycle before the probability of failure starts to significantly increase due to aging, fatigue, wearing or other plausible stressors."

Step 2.12 states, "Maintenance strategy is a planned and scheduled group of activities that provides a cost effective method to ensure the components reliability commensurate with the business needs."

Step 2.18 states, "Performance centered maintenance templates are generic component or system templates that identify the specific tasks (condition monitoring, condition directed, time directed, or surveillances) and frequencies recommended for components to minimize consequential failures based on the criticality of the component, how often it is used, and the environment in which it operates."

Step 2.24 states, "Preventative maintenance is maintenance performed with the intent of preventing a component or sub-component from failing to perform its function."

Attachment 3, "Summary of Equipment Reliability Theory," states, in part, "The goal is to determine the appropriate and economic component life and when age-related failure would occur. This determination is used to schedule timely performance of the appropriate maintenance activity just prior to functional failure," and states, in part, "For equipment where an unexpected failure is undesirable, the goal is to change out the component before the 'late life' failures causes the curve to start increasing but not significantly before the increase in the 'late life' curve."

Attachment 5, step 3, states, in part, "Consider information in determining a reasonable change out frequency based on the expected service life of a component or sub-component."

Based upon the above information the inspectors determined that the licensee had established procedures as required by the TS and Regulatory Guide 1.33.

The inspectors next reviewed the licensee's performance-centered maintenance template for motor control centers/molded case circuit breakers to see how the licensee implemented it for the HPCS water leg pump breaker and identified the following.

A task for thermography was being performed on a yearly basis and did not detect the age-related degradation prior to the failure. A task for trip testing was being performed on the breaker every 8 years and did not detect the age-related degradation prior to the failure. Finally, a task to inspect the 480 Vac motor controller center breaker compartment every 8 years was being performed and did not detect the age-related degradation prior to the failure. Additionally, the template task for the inspection included the following information:

- Failures of coils and relays are difficult or impossible to test for individually, but rarely occur before 16 years.
- Insulation failure is influenced mainly by age.
- All the failure mechanisms discussed progress for a period of years before the failure point is reached. Preventative maintenance within this period can identify and intercept all the failure mechanisms except those due to design, manufacturing, installation defects, and maintenance error.

The template did not include any replacement strategy task for the breaker or associated components.

Based upon the above information the inspectors determined the following:

Contrary to Station procedures for the preventative maintenance program the water leg pump breaker, which is a critical component, was run-to-maintenance and should not have been run-to-maintenance and the licensee's preventative maintenance strategy failed to detect degradation of breaker components during preventative maintenance tasks or to have tasks that would replace breaker components before an age-related failure of the breaker occurred as required by the stations TS, Regulatory Guide 1.33, and the stations preventative maintenance procedures.

Corrective Actions: The HPCS system was restored to operable the same day after replacing the HPCS water leg pump breaker cubicle control power transformer and motor contactor, and PMT of the breaker.

Corrective Action References: Action Request 4391800

Performance Assessment:

Performance Deficiency: NRC Regulatory Guide 1.33, Revision 2, Appendix A, Section 9, provides recommendations for "Procedures for Performing Maintenance." Part b of Section 9, states, in part, that "preventative maintenance schedules should be developed to specify inspection or replacement of parts that have a specific lifetime." The inspectors determined that the licensee's preventative maintenance strategy failed to detect degradation of breaker components during preventative maintenance tasks or to have tasks that would

replace breaker components before an age-related failure of the breaker occurred and was therefore a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Equipment 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 breaker failure resulted in the HPCS pump water leg pump to stop running. With the water leg pump not running, the HPCS system had to be declared inoperable.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors determined that the finding was of very low safety significance (Green) because the finding was not a deficiency affecting the design or qualification of the system, did not represent a loss of the probabilistic risk assessment (PRA) function of a single train TS system for greater than its TS-allowed outage time, did not represent a loss of PRA function of two separate TS systems for greater than 24 hours, did not represent a loss of a PRA system and/or function as defined in the PRIB or licensee's PRA for greater than 24 hours, and did not represent a loss of the PRA function of one or more non-TS trains of equipment designated as risk-significant in accordance with the licensee's maintenance rule program for more than 3 days.

Cross-Cutting Aspect: Not Present Performance. No cross-cutting aspect was assigned to this finding because the inspectors determined the finding did not reflect present licensee performance.

Enforcement:

Violation: TS 5.4.1.a 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 9, provides recommendations for "Procedures for Performing Maintenance." Part b of Section 9, states, in part, that "preventative maintenance schedules should be developed to specify inspection or replacement of parts that have a specific lifetime."

Contrary to the above, on December 23, 2020, the licensee failed to implement preventative maintenance schedules developed to specify inspection or replacement of parts that have a specific lifetime. Specially, the motor control center/molded case circuit breaker preventative maintenance schedule failed to identify degradation or replace parts that have a specified lifetime on the HPCS water leg pump breaker resulting in an age-related failure of the breaker.

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

EXIT MEETINGS AND DEBRIEFS

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

- On March 31, 2022, the inspectors presented the integrated inspection results to Mr. J. Van Fleet, Plant Manager, and other members of the licensee staff.
- On March 4, 2022, the inspectors presented the radiation protection inspection results to Mr. P. Hansett, Site Vice President, and other members of the licensee staff.
- On March 9, 2022, the inspectors presented the inservice inspection inspection results to Mr. P. Hansett, Site Vice President, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Miscellaneous		Maintenance Snow and Ice Removal Plan	12/28/2021
	Procedures	CC-AA-118	Diverse and Flexible Coping Strategies (FLEX), Sent Fuel Pool Instrumentation (SFPI) and Hardened Containment Vent System (HVCS) Program Document	7
		LAP-100-44	Inclement Weather Guidance	4
		OP-AA-102-102	General Are Checks and Operator Field Rounds	18
		OP-AA-108-111-1001	Severe Weather and Natural Disaster Guidelines	24
		SA-AA-2114	Winter Safety	3
		SY-AA-101-146	Severe Weather Preparations and Response	3
		WC-AA-107	Seasonal Readiness	24
71111.04	Drawings	M-87	Core Standby Cooling System Equipment Cooling Water System, Sheet 2	BL
	Procedures	LOP-DG-01	Preparation for Standby Operation of the Diesel Generators	41
		LOP-DG-03E	Diesel Generator Electrical Checklist	8
		LOP-DG-03M	Diesel Generator Mechanical Checklist	10
		LOP-DG-08E	Diesel Generator Cooling System Electrical Checklist	0
		LOP-DG-08M	Diesel Generator Cooling Water Mechanic Checklist	5
		LOP-LP-01E	Unit 1 Low Pressure Core Spray Electrical Checklist	6
		LOP-LP-01M	Unit 1 Low Pressure Core Spray Mechanical Checklist	13
		LOP-RH-01E	Residual Heat Removal Electrical Checklist	
		LOP-RH-1	Preparation for Standby Operation of Low-Pressure Coolant Injection (LPCI) System	30
		LOP-RHSW-1AM	Unit 1A RHR Service Water System Mechanical Checklist	3
		LOP-RHWS-1BM	Unit 1B RHR Service Water System Mechanical Checklist	7
	Work Orders	WO 5186983	LOS-LP-Q1 U1 LPCS, Att 1A	12/07/2021
71111.05	Fire Plans	FZ 2G	Rx Bldg. 710'-6" Elevation U1 General Area and Suppression Pool Entrance	2
		FZ 2J	RX Bldg. 673'-4" to 843'-6" Elevation U1 Primary Containment	2
		FZ 5B1	TB BLDG 663' to 768' Elevations, Unit 1 Heater Bays	1

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		FZ 5B9	TB BLDG 731' Elevation Unit1 Motor Driven Reactor Feed Pump Room	2
71111.07A	Engineering Changes	EC 623376	Evaluation of the Unit 1B Residual Heat Removal Heat Exchanger Eddy Current Testing	0
	NDE Reports	Unit 1 Eddy Current Results: 2022-02 Project	1B Residual Heat Exchanger EPN: 1E12-B001B	0
	Procedures	ER-AA-340	GL 89-13 Program Implementing Procedure	11
		ER-AA-340-1001	GL 89-13 Program Implementation Instructional Guide	12
		ER-AA-340-1002	Service Water Heat Exchanger Inspection Guide	11
		ER-AA-340-1002 Attachment 1 (For Unit 1 B residual heat removal heat exchanger L1R19)	Heat Exchanger Inspection Report	0
71111.08G	Corrective Action Documents	AR 4379968	Localized Corrosion Spots Identified On 1HP54A Piping	10/27/2020
		AR 4395742	FM Found Inside 1RE005A Check Valve	01/13/2021
		AR 4462761	IEMA Identified 2-3 DPS Leak On 1B DG Cooling Water Piping	11/23/2021
		AR 4481044	FM As-Found Results for 1B33-F060B Valve Internal Inspection	02/27/2022
		AR 4481202	L1R19 Critical Path Delay of 77 hrs	02/28/2022
		AR 4481202	L1R19 Critical Path Delay - RR RCV Welding	03/03/2022
		AR 4481633	ISI Exam Results 1B RHR Heat Exchanger 1RH-HX1B-9A	03/01/2022
		AR 4482252	L1R19 Shroud UT Indications Exhibit Slight Change	03/03/2022
		AR 4482363	1B33-F060B Rework	03/03/2022
		AR 4482656	L1R19 Radiography of 1HP08C-TEE	
	Corrective Action Documents Resulting from Inspection	AR 4481063	Documentation Error - Radiography NDE Report 22-034	
	Engineering Changes	EC 632877	1HP54A Structural Integrity Evaluation Using Code Case N-513	0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Miscellaneous	1-50C	Procedure Qualification Record	01/03/1984
		A-001	Procedure Qualification Record	10/19/1998
		A-002	Procedure Qualification Record	03/09/1999
	NDE Reports	22-030	Radiographic Examination Interpretation Report	02/15/2022
		22-034	Radiographic Examination Interpretation Report	02/22/2022
		22-035	Radiographic Examination Interpretation Report	02/22/2022
		22-039	Radiographic Examination Interpretation Report	03/04/2022
		22-042	Radiographic Examination Interpretation Report	03/04/2022
		22-043	Radiographic Examination Interpretation Report	03/06/2022
		22-044	Radiographic Examination Interpretation Report	03/06/2022
		L1R19-PT-001	Liquid Penetrant Examination	02/24/2022
		L1R19-UT-004	UT Calibration/Examination	02/24/2022
		L1R19-UT-005	UT Calibration/Examination	02/25/2022
		L1R19-UT-006	UT Calibration/Examination	02/25/2022
	Procedures	ER-AA-335-002	Liquid Penetrant (PT) Examination	12
		ER-AA-335-004	Radiographic (RT) Examination	8
		ER-AA-335-017	VT-3 Visual Examination of Pump and Valve Internals	11
		GEH-PDI-UT-1	PDI Generic Procedure for the Ultrasonic Examination of Ferritic Pipe Welds	12.1
		GEH-PDI-UT-2	PDI Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds	13
		GEH-PDI-UT-5	PDI Generic Procedure for Straight Beam Ultrasonic Examination of Bolts and Studs	12.1
		WPS 1-1-GTSM-PWHT	ASME Welding Procedure Specification Record	5
	Work Orders	WO 5008744-01	Replace 1HP08C-Tee; Low Wall Thickness	02/16/2022
71111.15	Calculations	L-002404	CSCS Cooling Water System "Road Map" Calculation	5
	Corrective Action Documents	AR 4109860	1B RHR Heat Exchanger Partition Plate Needs Repair	03/01/2018
		AR 4465253	Unit 2 Division 3 Battery Cell 2 Voltage Trend	12/07/2021
		AR 4477109	LOS-DG-SR5 Complete with Portions Unsatisfactory	02/09/2022
		AR 4479779	Unit 2 Division 3 Battery Cell 2 Post Equalize Voltage	02/21/2022
		AR 4479961	LOS-TG Bypass Valve Performance/Indication Issues	02/22/2022
		AR 4481815	Trend IR-1B RHR Heat Exchanger Plate	03/02/2022

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		AR 4484095	Unit 1B Residual Heat Removal Heat Exchanger Failed Macrofouling Acceptance Criteria	03/10/2022
	Engineering Changes	EC 365168	Evaluation of Impact of Unit 2B RHR Heat Exchanger Bypass Flow on Thermal Performance	0
		EC 372452	GL2008-01 Void Calculation and Acceptance Criteria	3
		EC 622290	Evaluation of Unit 1B Residual Heat Removal Heat Exchanger Thermal Performance Data Using Alternate (EPRI) Methodology	0
71111.18	Corrective Action Documents	AR 4484542	1B RR Pump Oil Addition Starting Point	03/13/2022
		AR 4484559	1B RR Tertiary Oil Mod Solenoid Plumbed in Reverse	03/13/2022
		AR 4484710	1A RR Tertiary Oil Mod Solenoid Plumbed in Reverse	03/14/2022
	Procedures	LOP-RH-07, Attachment B	Defeating Shutdown Cooling High Flow and High-Pressure Isolation in Modes 4 or 5 or Defueled	82
	Work Orders	WO 5180658	EC 633845 - 1A RR Pump Motor Tertiary Oil Reservoir	03/06/2022
		WO 5180686	EC 633845 - 1B RR Pump Motor Tertiary Oil Reservoir	03/05/2022
71111.19	Procedures	LMP-RI-02	Reactor Core Isolation Cooling Turbine Maintenance	25
		LOP-RH-25	Residual Heat Removal Flow Test Operation	7
		LOS-MS-R7	Main Steam Safety Relief Valve Operability	11
		LOS-ND-R1	Unit 1 Reactor Vessel Leakage Test	30
		LOS-PC-Q2 (Section E MSIV testing)	Primary Containment Isolation Valves Operability and Inservice Inspection for Modes 4, 5, or Defueled	64
		LOS-RI-R3, Attachment 1A	Unit 1 RCIC Operability Test	36
		LTS-100-3	Main Steam Isolation Valve Local Leak Rate Test 1(2) B21-F022A/B/C/D, 1(2)B21-F028A/B/C/D, 1(2) B21-F067A/B/C/D	29
	Work Orders	WO 4763977	Operations LOS-RI-R3 RCIC Operability, Attachment 1A	03/17/2022
		WO 5011466	Operations Perform LOS-PC-Q2 Main Steam Isolation Valves	02/14/2022
		WO 5013653	Operations Perform LOS/MS-R7 Unit 1 Main Steam Safety Relief Valve Operability Test	02/05/2022
		WO 5021478	Post Maintenance Test Division 2 Residual Heat Removal System Functional and Leak Check (RH-Q1-1E)	02/27/2022

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		WO 5021482	Post Maintenance Test 1B Residual Heat Removal System Functional and Leak Check (Q1-1B) and F027B(Q1-1B/1F)	02/27/2022
		WO 5021549	Operations Perform Unit 1 Scram Time All Rods during Hydro	03/14/2022
		WO 5021700	Mechanical Maintenance Perform 1E51-C002 RCIC Turbine Overhaul	08/12/2021
		WO 5108186	Replace 1B RR Pump Seal	03/02/2022
		WO 5158113	Operations Post-Maintenance Test 1B21-F022B As-Left LLRTMSIV Overhaul	03/04/2022
		WO 5161504	Unit 1 Division 2 DC Restoration Post-Maintenance Testing	02/28/2022
		WO 5188113	Mechanical Maintenance Replace the Inboard 1B21-F022B Main Steam Isolation Valve Stem/Disc	11/16/2021
		WO 5227722	OP PMT: Perform LOS-RH-Q2 5B for 1E12-F064B RHR Pump Min Flow Bypass Valve	02/06/2022
		WO 5234459	Flow Test Required for 1B Residual Heat Removal	03/04/2022
71111.20	Corrective Action Documents	AR 4484577	Fatigue Assessment to Cover ERO Responsibilities	03/13/2022
		AR 4484615	RM- L1R19 LOS-RD-SR12 - Rod 46-35 Within 90% of TS Limit	03/13/2022
		AR 4484656	L1R19 Hydro Leak from Ceiling of RB 710'	03/13/2022
		AR 4484685	RM- CRD 46-19 Missing Multiple Position Indications	03/14/2022
		AR 4484714	Unit 1 Drywell Personnel Airlock Shaft Seal Was Above Limit	03/14/2022
		AR 4484723	Work Week Exceptions 3/7/2022 (2210)	03/13/2022
	Corrective Action Documents Resulting from Inspection	AR 4484490	NRC Closeout Inspection of U1 Drywell Upper Elevations	03/13/2022
	Miscellaneous		Current Installed Protected Pathway List	03/10/2022
		Significant Operating Experience Report 09-1	SOER 09-01, Shutdown Safety	08/31/2009
		Tagout 01-B33-ARRBKRS-002	1A RR PP Bkr/Relay Work/Electrical Boundary	02/21/2022
		Tagout 01-FP-	Repair More Leaks on the FP Line	03/09/2022

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		1FP077-002		
		Tagout 01-N62-F015B-001	1N62-F015B Indication Repair	03/09/2022
		Unit 1 Shutdown Safety Plan for L1R19	Section 12, Protected Paths, Sheet 3, Shutdown Cooling and Lowered Inventory	0
	Work Orders	WO 5021511	Unit 1 Core Verification	03/02/2022
71111.22	Corrective Action Documents	AR 4480454	UV Relay Trace not Captured during Unit 1 Division 2 Response Time Testing	03/24/2022
		AR 4480605	Flow Test Required for 1B Residual Heat Removal System	02/24/2022
		AR 4484688	Vessel Temp Ind Invalid for LOS-NB-R1 Monitoring	03/14/2022
	Procedures	LOP-AP-142X	Preparation Procedure for De-Energizing Unit 1 Bus 142X, Bus 132X, Bus 132Y, and/or Bus 138	19
		LOS-DG-110	Unit 1 Integrated Division II Response Time Surveillance	30
		LOS-NB-R1	Reactor Vessel Leakage Test	30
	Work Orders	WO 1640254	LOD-DG-SR1 U1 D/G Simultaneous Start, Att. A1 and A2	02/23/2022
		WO 5007871	Operations LLRT 1B21-F022A, 1B21-F028A, 1B21-F067A per LTS-100-3	01/20/2022
		WO 5007872	Operations LLRT 1B21-F022B, 1B21-F028B, 1B21-F067B per LTS-100-3	01/20/2022
		WO 5007873	Operations LLRT 1B21-F022C, 1B21-F028C, 1B21-F067C per LTS-100-3	01/20/2022
		WO 5007874	Operations LLRT 1B21-F022D, 1B21-F028D, 1B21-F067D per LTS-100-3	01/20/2022
		WO 5021658	Reactor Vessel Leakage Test	03/05/2022
		WO 5060875	Integrated Division II ECCS Response Time Testing	03/08/2022
		WO 5060877	1A DG Start and Load Acceptance	02/23/2022
		WO 5209932	LOS-RH-Q1 1B RHR System, Att 1B	02/06/2022
71124.01	ALARA Plans	LA-01-22-00513	Under Vessel Control Rod Drive Activities; 50% Work in Progress Review	02/27/2022
	Corrective Action Documents	AR 4444940	Radworker Behavior Day Observation Roll-Up	09/07/2021
		AR 4451779	RP Trend - Site Rad Safety Observations	10/08/2021
	Procedures	NISP-RP-002	Radiation and Contamination Surveys	1

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		NISP-RP-004	Radiological Posting and Labeling	1
	Radiation Surveys	2022-118217	Drywell 740' Main Steam Isolation Valve Survey	02/26/2022
		2022-118280	Drywell 740' 60A Flow Control Valve Platform Survey	02/27/2022
	Radiation Work Permits (RWPs)	LA-01-22-0054	L1R19: Drywell 1B33-F060 A & B Flow Control Valves, All Activities	1
		LA-01-22-00601	L1R19: Reactor Building Reactor Water Clean Up System Maintenance Activities	1
		LA-01-22-0080	L1R19: Moisture Separator Work Activities	1
	Self-Assessments	NOSA-LAS-21-0	Radiation Protection Audit Report	11/12/2021
71153	Corrective Action Documents	AR 4391800	Loss of Unit 2 Division 3 Water Leg Pump	12/23/2020
	Miscellaneous	PMS Template for Motor Control Centers / Molded Case Circuit Breakers	None	7
	Procedures	ER-AA-200	Preventative Maintenance Program	6
		ER-AA-200-1001	Equipment Classification	6
		ER-AA-200-1004	PMC Templates	1