



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200  
ATLANTA, GEORGIA 30303-1200

November 8, 2022

Cheryl A. Gayheart  
Regulatory Affairs Director  
Southern Nuclear Operating Company, Inc.  
3555 Colonnade Parkway  
Birmingham, AL 35243

SUBJECT: EDWIN I. HATCH – INTEGRATED INSPECTION REPORT 05000321/2022003  
AND 05000366/2022003

Dear Cheryl A. Gayheart:

On September 30, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Edwin I. Hatch. On October 19, 2022, the NRC inspectors discussed the results of this inspection with Johnny Weissinger, Site Vice President, 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.

A licensee-identified violation which was determined to be of very low safety significance is documented in this report. We are treating this violation as an NCV consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violations or the significance or severity of the violations 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 II; the Director, Office of Enforcement; and the NRC Resident Inspector at Edwin I. Hatch.

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 II; and the NRC Resident Inspector at Edwin I. Hatch.

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

C. Gayheart

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Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

A handwritten signature in black ink, appearing to read 'A. Blamey', with a stylized flourish at the end.

Signed by Blamey, Alan  
on 11/08/22

Alan J. Blamey, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Docket Nos. 05000321 and 05000366  
License Nos. DPR-57 and NPF-5

Enclosure:  
As stated,

cc w/ encl: Distribution via LISTSERV

SUBJECT: EDWIN I. HATCH – INTEGRATED INSPECTION REPORT 05000321/2022003  
AND 05000366/2022003 dated November 8, 2022

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

Docket Numbers: 05000321 and 05000366

License Numbers: DPR-57 and NPF-5

Report Numbers: 05000321/2022003 and 05000366/2022003

Enterprise Identifier: I-2022-003-0018

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Edwin I. Hatch

Location: Baxley, GA

Inspection Dates: July 01, 2022 to September 30, 2022

Inspectors: A. Alen, Senior Project Engineer  
T. Fanelli, Senior Reactor Inspector  
J. Hickman, Resident Inspector  
M. Magyar, Reactor Inspector  
T. Morrissey, Senior Resident Inspector  
C. Safouri, Senior Project Engineer  
R. Smith, Senior Resident Inspector

Approved By: Alan J. Blamey, Chief  
Reactor Projects 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 Edwin I. Hatch, Units 1 and 2, 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. A licensee-identified non-cited violation (NCV) is documented in report section: 71111.05.

### List of Findings and Violations

Failure to Periodically Test Molded Case Circuit Breakers			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000321,05000366/2022003-01 Open/Closed	[H.14] - Conservative Bias	71152A
An NRC-identified Green NCV, involving two examples of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to implement corrective actions to periodically test molded case circuit breakers (MCCBs) in order to promptly identify and correct performance degradation, including potential age-related degradation, of MCCBs.			

### Additional Tracking Items

None.

## PLANT STATUS

Unit 1 began the inspection period at 100 percent rated thermal power (RTP). On September 3, 2022, the operators reduced power to 65 percent RTP for a rod pattern adjustment and quarterly turbine valve testing. On September 5, 2022, the operators returned the unit to 100 percent RTP. The unit operated there for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent RTP. On August 20, 2022, the operators reduced power to 75 percent RTP for a rod pattern adjustment and returned the unit to 100 percent RTP the same day. On September 10, 2022, the operators reduced power to 65 percent RTP for a rod pattern adjustment and quarterly turbine valve testing. On September 11, 2022, the operators returned the unit to 100 percent RTP. On September 23, 2022, the operators reduced power to 87 percent RTP for a rod pattern adjustment and returned the unit to 100 percent RTP the same day. The unit operated there 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," 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

### 71111.04 - 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) Unit 2 'C' emergency diesel generator (EDG) system following testing, using 34SO-R43-001-2, on August 22-24, 2022.
- (2) Unit 1 control rod drive (CRD) hydraulic system following repairs to the '1B' CRD pump seal leak, using 34SO-C11-005-1, on August 25-26, 2022.
- (3) Unit 2 'B' loop residual heat removal service water (RHRSW) system following the replacement of '2D' RHRSW pump and motor, using 34SO-E11-010-2, on September 26, 2022.

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

- (1) The inspectors evaluated system configurations during a complete walkdown of the Unit 2 core spray (CS) system from July 12 through 14, 2022.

## 71111.05 - Fire Protection

### Fire Area Walkdown and Inspection Sample (IP Section 03.01) (6 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) Intake structure on 111-foot elevation on July 18, 2022.
- (2) Unit 2 reactor building 158 and 164-foot elevations on July 20, 2022.
- (3) Unit 1 condensate storage tank, fire pump house, and units 1 and 2 service water valve pits on August 4, 2022.
- (4) Unit 1 reactor building 185-foot elevation on August 12, 2022.
- (5) Control building 147-foot elevation, including units 1 and 2 cable spreading room and plant computer room on August 18, 2022.
- (6) Unit 2 radiological waste building 132-foot elevation on September 16, 2022.

## 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) Units 1 and 2 reactor buildings emergency core cooling corner rooms, units 1 and 2 west cable way, and a review of licensee actions to NRC-issued information notices addressing internal flooding at nuclear plants.

## 71111.07SIX - Heat Exchanger/Sink Performance

### Ultimate Heat Sink Containment Device and Dam (IP Section 03.05) (1 Sample)

The inspectors evaluated the ultimate heat sink performance containment device and dam on the following:

- (1) Service water intake structure and Altamaha River

## 71111.07T - Heat Exchanger/Sink Performance

### Heat Exchanger (Service Water Cooled) (IP Section 03.02) (3 Samples)

The inspectors evaluated heat exchanger performance on the following:

- (1) Unit 1 'A' high pressure coolant injection (HPCI) pump room cooler (1T41B005A)
- (2) Unit 2 'B' residual heat removal (RHR) heat exchanger (2E11B001B)
- (3) Unit 2 'B' reactor core isolation cooling (RCIC) system room cooler (2T41B004B)

### Ultimate Heat Sink (IP Section 03.04) (1 Sample)

The inspectors evaluated the ultimate heat sink performance on the following:

- (1) Service water intake structure and Altamaha River

## 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 main control room during a unit 2 rod pattern adjustment, on August 20, 2022.

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

- (1) The inspectors observed and evaluated licensed operators respond to License Operator Regualification Program scenario H-LT-AF-CPE-00112, "Crew Performance Evaluation Design – Electrohydraulic Control, Reactor Feed Pump Turbine Oil Temperature Controller, Condenser Vacuum, Adjustable Speed Drive Cell, Scram Discharge Volume, and Anticipated Transient Without Scram," on July 11, 2022.

## 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 remain capable of performing their intended function:

- (1) Unit 2 hydrogen/oxygen analyzer system, P33-01, due to maintenance rule condition monitoring events being exceeded, on August 2, 2022.
- (2) Review of Hatch's 'living' (i.e., continuous) 10CFR50.65 a(3) documentation package with emphasis on unit 1 'A' plant service water pump, unit 2 primary containment isolation valves, and containment cooling system being monitored under 10CFR50.65 under a(1) status, on August 1, 2022.

## 71111.13 - Maintenance Risk Assessments and Emergent Work Control

### Risk Assessment and Management Sample (IP Section 03.01) (5 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 due to HPCI system maintenance, on July 14, 2022.
- (2) Units 1 and 2 elevated risk due to performance of fire main system surveillance with existing system failures, on July 22, 2022.
- (3) Unit 2 elevated risk due to the 'A' CS system maintenance outage, on August 30, 2022.
- (4) Unit 1 elevated risk due to emergency lighting relay fire in main control room, on September 14, 2022.
- (5) Units 1 and 2 elevated risk due to Hurricane Ian, the week of September 26, 2022.



## 71111.15 - Operability Determinations and Functionality Assessments

### Operability Determination or Functionality Assessment (IP Section 03.01) (8 Samples)

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

- (1) Condition report (CR) 10897512, loud knocking sound in bay 12 of unit 2 torus potentially caused by leak-by of the 'E' safety relief valve.
- (2) CR 10899243, unit 2 "Diesel Gen B Loading Timer Failure," resulting in potential inoperability of the 1B (swing) EDG for a loss of coolant accident (LOCA) or loss of offsite power (LOSP) or LOCA/LOSP.
- (3) CR 10895096, unit 1 torus to drywell vacuum breaker, 1T48-F323F, would not close during testing.
- (4) CR 10895145, unit 1 RHRSW pump seal water piping detaching; and CRs 10898218 and 10898626 for units 1 and 2 RHRSW piping degradation.
- (5) CR 10899388, unit 2 RHRSW pump flow dropped from 4300 gallons per minute (gpm) to 2700 gpm during torus cooling operations.
- (6) CR 10905959, unit 1 'B' EDG relays exceeded 10-year replacement criteria.
- (7) CR 10905054, unit 1 reactor pressure low analog transmitter trip system (ATTS) instrument failed to the lower end of the scale.
- (8) CR 10910753, unit 2 RHR minimum flow valve, 2E11-F007B, did not operate properly.

## 71111.18 - Plant Modifications

### Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Temporary modification to install a temporary supplemental cooling on the unit 2 CRD piping supplying the seal purge flow to the shaft seal cavity of the 2B reactor recirculation pump.

## 71111.19 - Post-Maintenance Testing

### Post-Maintenance Test Sample (IP Section 03.01) (7 Samples)

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

- (1) 57SV-SUV-012-1, "ATTS Panel 1H11-P926 Channel FT&C," following the replacement of the HPCI exhaust diaphragm high pressure ATTS card, on July 28, 2022.
- (2) 34SO-R42-001-2, "125 Volts Direct Current (VDC) and 125/250 VDC System," following cleaning, calibration, and fan replacement of the unit 2 division II station service battery charger 'F', on July 29, 2022.
- (3) 57SV-R43-001-2, "Testing the LOCA/LOSP Timer Card," following replacement of the 2R43N782B card, on August 11, 2022.

- (4) 42SP-07-20-22-RS-1-1, "Diesel Fire Pump Engine Replacement Functional Test," following the replacement of the 1X43-C002B engine, the weeks of August 15, 22, and 29, 2022.
- (5) 34SO-E21-001-2, "Core Spray System", section 4.3.1, 'B' loop CS manual startup, following unit 2 'A' CS system maintenance outage, on August 31, 2022.
- (6) 57SV-R43-001-2, "Testing The LOCA/LOSP Timer Cards," following the K7 relay replacement on the unit 2 'B' EDG loading timer, on September 2, 2022.
- (7) Work Order SNC1340018, computer processing unit replacement in the unit 2 'B' recirculation adjustable speed drive, on September 10, 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) 34SV-P41-001-1, "Plant Service Water Pump Operability," Version 15.3 (section 7.2, "PSW 'A' Loop"), on July 12, 2022.
- (2) 34SV-E11-004-2, "RHR Service Water Pump Operability", Version 19.2, on September 7, 2022.

#### Inservice Testing (IP Section 03.01) (1 Sample)

- (1) 34SV-E51-002-1, "RCIC Pump Operability," Version 29.2 (sections 4.2, "Operability Test" and 4.3, "RCIC IST Test"), on July 6, 2022

#### 71114.06 - Drill Evaluation

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

- (1) Emergency preparedness off-year exercise involving a LOCA, on July 26, 2022.

### **OTHER ACTIVITIES – BASELINE**

#### 71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

#### MS06: Emergency AC Power Systems (IP Section 02.05) (2 Samples)

- (1) Unit 1 (July 1, 2021–June 30, 2022)
- (2) Unit 2 (July 1, 2021–June 30, 2022)

#### MS07: High Pressure Injection Systems (IP Section 02.06) (2 Samples)

- (1) Unit 1 (July 1, 2021–June 30, 2022)
- (2) Unit 2 (July 1, 2021–June 30, 2022)

MS08: Heat Removal Systems (IP Section 02.07) (2 Samples)

- (1) Unit 1 (July 1, 2021–June 30, 2022)
- (2) Unit 2 (July 1, 2021–June 30, 2022)

71152A - Annual Follow-up Problem Identification and Resolution

Annual Follow-up of Selected Issues (Section 03.03) (1 Sample)

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

- (1)
  - Testing and replacement schedule for safety related molded case circuit breakers were not being followed in accordance with Institute of Electrical and Electronics Engineers (IEEE) 308-1971 standards (CR 10625944).

**INSPECTION RESULTS**

Licensee-Identified Non-Cited Violation	71111.05
This violation of very low safety significance was identified by the licensee and has been entered into the licensee corrective action program (CAP) and is being treated as a non-cited violation (NCV), consistent with Section 2.3.2 of the Enforcement Policy.	
<p>Violation: The licensee identified an NCV of Technical Specification 5.4.1.a which required applicable procedures per Regulatory Guide 1.33 Appendix A section 1.I, shall be established, implemented, and maintained covering Fire Protection Program activities. Contrary to this, prior to identifying the issue on August 19, 2022, the licensee failed to establish and maintain fire protection program procedure 42SV-FPX-021-0, "Surveillance Of Swinging Fire Doors," Revision 1.20, for inspecting fire doors. Specifically, the licensee's procedure did not ensure the flush bolts for the inactive leaf of a double fire door were properly engaged. As a result, the unit 2 'A' emergency diesel generator (EDG) room door, 1L48-D135, was identified as non-functional on August 17, 2022. The licensee initiated hourly roving fire watches for this fire door and placed the door in their corrective maintenance process to restore the affected fire door. The issue was placed in the CAP on August 19, 2022.</p> <p>Significance/Severity: Green. The inspectors assessed the significance of the finding using guidance in IMC 0609, Appendix F, "Fire Protection Significance Determination Process," and determined the finding to be of very low safety significance because there was an adequate automatic suppression system inside the EDG room.</p> <p>Corrective Action References: Condition reports (CRs) 10901837, 10902255</p>	

Failure to Periodically Test Molded Case Circuit Breakers			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000321,05000366/2022003-01 Open/Closed	[H.14] - Conservative Bias	71152A

An NRC-identified Green non-cited violation (NCV), involving two examples of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to implement corrective actions to periodically test molded case circuit breakers (MCCBs) in order to promptly identify and correct performance degradation, including potential age-related degradation, of MCCBs.

Description: The updated final safety analysis report (UFSAR) for Hatch's unit 1 (Section 8.3.7) and unit 2 (Section 8.3.1.2.1.C Part 3) states that periodic equipment tests (applicable to MCCBs) are performed at scheduled intervals to detect deterioration of the system toward an unacceptable condition and to demonstrate that standby power equipment and other components that are not exercised during normal operation of the station are operable. Additionally, the licensee committed to (in the UFSAR for unit 2) testing and surveillances of MCCBs in accordance with the Institute of Electrical and Electronics Engineers (IEEE) standards 308-1971, "IEEE Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations." Sections 5.2.2 and 5.3.2 for alternating current and direct current distribution systems, respectively, specify in part, that the distribution systems shall be monitored to the extent that it is shown to be ready to perform its intended function. Also, Section 5.4, "Vital Instrumentation and Control Power Systems," specifies in part, that dependable power supplies are required for the vital instrumentation and control systems of the unit(s), and Section 6, "Surveillance Requirements," specifies in part, that tests shall demonstrate that the equipment operates within design limits and that the system is operational and can meet its performance specifications. Testing can reveal whether degradation has occurred or is occurring that could potentially impact the operability of the load served by the MCCB. Additionally, testing can also identify age-related degradation of the MCCB, such as the potential for hardening of the lubricant used internally to the MCCB as identified by industry operating experience.

Example 1:

In March 2012, during an engineering assessment, the licensee identified that it did not have a test program for the majority (approximately 750 breakers) of its safety-related MCCBs in accordance with the UFSAR and IEEE standards identified above. Many breakers were beyond their 20-year life expectancy, installed in the early 1970s during initial construction, and had not been tested since installation. The licensee identified this issue as a condition adverse to quality (i.e., nonconformance condition) and captured it in the corrective action program (CAP) under condition report (CR) 431380. The licensee initiated a corrective action technical evaluation (TE) 351918 where it documented corrective action plans to replace obsolete breakers and then replace breakers periodically instead of testing. This TE was subsequently closed in May 2012 to a new TE (TE413574) to track and initiate activities to replace the affected breakers. In April 2015, during a second engineering self-assessment, the licensee initiated CR10059075 after identifying that the corrective actions from 2012 (CR431380 and TE413574) were not implemented. The licensee initiated a series of new TEs to establish a testing program, establish PMs to perform the testing, and replace obsolete breakers and distribution panels. TE 930308 tracked actions to ensure all safety related MCCBs located in motor control centers (MCC) were tested within 6 years (complete by 2021), TEs 939734 and 939740 tracked the development of maintenance instructions to test MCCBs in both MCCs and distribution panels, and TE 930309 tracked the replacement of distribution panels planned to begin in 2017. In July 2019, during a third engineering self-assessment, the licensee identified that the corrective actions from 2015 had not been implemented, specifically, no preventive maintenance testing or work orders (WOs) had been created and no replacement distribution panels had been designed or procured. The licensee again entered the failure to take corrective actions in their CAP under CR 10625944. The

inspectors determined that between 2012 and 2019 the licensee failed to develop and implement a test program (i.e., corrective actions) for MCCBs. These were corrective actions the licensee acknowledged and documented were needed after identifying the periodic testing nonconformance in 2012 and again in 2015.

Example 2:

The inspectors reviewed the licensee's progress towards restoring compliance with the MCCB test requirements since it last identified it in 2019. The inspectors noted that as of September 2022 the licensee had only tested 33 (of approximately 750) 'in-service' MCCBs. When the licensee began testing in 2019 it deferred testing of in-service MCCBs due to a high number of 'spare' MCCB failures (WOs SNC898390, SNC900113, SNC915932). These failures meant that replacements were not available for in-service MCCB test failures. Although the licensee determined that the cause of the spare failures may not affect the in-service failure rate, which was not as high as the spares (December 2021 - CR 10845767), the licensee stopped testing in-service MCCBs despite having adverse trend data suggesting MCCBs were in an age degraded state due to being in operation far beyond their design life. The licensee resumed testing in 2022 after determining the cause of the high failure rate of the spare MCCBs. However, the inspectors noted that in subsequent testing, documented in WOs: SNC900103, SNC900100, and SNC900095, the licensee continued to defer testing of in-service MCCBs. Specifically, 9 out of 35 MCCBs scheduled to be tested in the referenced WOs were not tested due to not having a replacement available.

The licensee's Quality Assurance Program is described in topical report SNC-1, "Quality Assurance Topical Report (QATR)". The QATR describes the quality assurance program and administrative control requirements established to meet 10 CFR 50 Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants." In establishing provisions for corrective action, and compliance with Criterion XVI of 10 CFR Appendix B, SNC commits to comply with Basic Requirement 16, "Corrective Action," of ASME NQA-1-1994, "Quality Assurance Requirements for Nuclear Facility Applications." Basic Requirement 16 requires, in part, that conditions adverse to quality shall be identified promptly and corrected as soon as practical. The inspectors determined that deferring MCCB testing due to parts availability (particularly considering the long-standing nature and awareness of this issue) was inadequate and inconsistent with correcting a CAQ (lack of testing) as soon as practical.

Corrective Actions: The licensee entered the issue into their CAP as CR 10915674 to ensure testing is conducted regardless of breaker replacement availability. Also, CR10915161 was initiated to create WOs to test MCCBs for which testing has been deferred. Lastly, TE 1112637 will develop and support a test plan to ensure MCCBs are tested at the next available opportunity.

Corrective Action References: CRs 10915674, 10915161, 10916115, and TE 1112637

Performance Assessment:

Performance Deficiency: The failure to implement corrective actions to test MCCBs in accordance with IEEE 308 standards in order to promptly identify and correct degradation, including aging degradation, of MCCBs was 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. The failure to establish a test program and use it to detect and correct degradation in safety related MCCBs adversely affects the reliability and availability of mitigating systems and could cause undesirable consequences.

Significance: Although the MCCBs associated with this performance deficiency affected systems and components in both the Mitigating Systems and the Containment Barrier Cornerstones, the number of mitigating systems affected was significantly higher than the systems associated with the Containment Barrier; therefore, the Mitigating Systems Cornerstone was used to evaluate the significance of the finding. In accordance with NRC Inspection Manual Chapter (IMC) 0609, Attachment 4, "Initial Characterization of Findings," the inspectors assessed the significance of the finding using the mitigating systems screening questions from Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power." The finding screened as very low safety significance (Green) because the finding was a qualification deficiency that did not result in loss of operability or functionality. Specifically, the licensee determined it had reasonable assurance of operability (CR10852218) regarding untested MCCBs based on results of MCCB tested to-date, operating experience, and the determination that the cause for the high failure rate of spare breakers did not impact in-service breakers.

Cross-Cutting Aspect: H.14 - Conservative Bias: Individuals use decision making-practices that emphasize prudent choices over those that are simply allowable. A proposed action is determined to be safe in order to proceed, rather than unsafe in order to stop. The licensee's decision making did not act prudently to ensure MCCBs were tested to be safe to use in order to proceed, rather they allowed the use of untested MCCBs, which were beyond their design life, simply because spares were unavailable and work instructions allowed it.

#### Enforcement:

Violation: 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," requires in part, that measures shall be established to assure that conditions adverse to quality, such as a nonconformances, are promptly identified and corrected.

In SNC-1, "Quality Assurance Topical Report (QATR)," Version 25.0, the licensee committed to implement Basic Requirement 16, "Corrective Action," of the American Society of Mechanical Engineers (ASME) NQA-1-1994, "Quality Assurance Requirements for Nuclear Facility Applications," to comply with 10 CFR 50, Appendix B, Criterion XVI. Basic Requirement 16, "Corrective Action," of ASME NQA-1-1994 requires in part, that conditions adverse to quality shall be identified promptly and corrected as soon as practical.

Contrary to the above, since March 2012, the licensee identified a condition adverse to quality associated with the lack of MCCB testing, a nonconforming condition, but failed to implement measures to assure the condition was promptly identified and corrected. Specifically, as identified in 2015 and 2019, the licensee repeatedly failed to establish a test program for MCCBs. Furthermore, since the licensee began testing in 2019, the deferral to test MCCBs, which were beyond their service life, due to parts availability was inadequate and inconsistent with correcting the nonconformance as soon as practical. Approximately 10 years after the licensee identified (March 2012) the nonconforming condition only a small population of MCCBs have been tested.

Enforcement Action: This violation is being treated as an NCV, 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 July 27, 2022, the inspectors presented the heat sink performance inspection results to Johnny Weissinger, Site Vice President (SVP) and other members of the licensee staff.
- On October 19, 2022, the inspectors presented the integrated inspection results to Johnny Weissinger, SVP, and other members of the licensee staff.

## DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.04	Corrective Action Documents	Condition Reports (CR)	10628284, 10632635, 10635610, 10644674, 10661058, 10694204, 10695300, 10705032, 10706311, 10706501, 10709640, 10713284, 10713434, 10713709, 10714302, 10729116, 10733813, 10734322, 10739735, 10755977, 10756457, 10767210, 10771203, 10772070, 10773140, 10773366, 10774313, 10774993, 10776756, 10776800, 10776816, 10777640, 10778063, 10778614, 10778614, 10778635, 10778819, 10778940, 10778979, 10779210, 10780003, 10782516, 10782790, 10785605, 10786941, 10786942, 10789793, 10801026, 10803252, 10807247, 10808377, 10826311, 10829392, 10831704, 10839522, 10846527, 10847035, 10861205, 10871869, 10877955, 10885863, 10887149, 10889038, 10889039	
71111.04	Corrective Action Documents	Condition Reports (CR)	10823143, 10835132, 10835365, 10838266, 10840019, 10847448, 10847489, 10847705, 10848122, 10855525, 10866214, 10868463, 10868678, 10868924, 10869381, 10869482, 10869566, 10869866, 10870090, 10870117, 10870147, 10870156, 10870165, 10876258, 10876581, 10879799, 10884793, 10892133, 10896398	
71111.04	Drawings	H-24739	Unit 2 Core Spray System Logic Diagrams Sheet 1 of 3	6.0
71111.04	Drawings	H-24740	Unit 2 Core Spray System Logic Diagrams Sheet 2 of 3	5
71111.04	Drawings	H-26018	Unit 2 Core Spray System P&ID	40.0
71111.04	Drawings	H-26046	Reactor & Radwaste Buildings - Condensate Storage & Transfer System Diagram	50.0
71111.04	Drawings	H16065	Control Rod Drive Hydraulic System P&ID Sheet 2	50.0



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71111.04	Procedures	34SO-C11-005-1	Control Rod Drive Hydraulic System	34.0
71111.04	Procedures	34SO-E11-010-2	Residual Heat Removal System	45.0
71111.04	Procedures	34SO-E21-001-2	Core Spray System	26.6
71111.04	Procedures	34SO-R43-001-2	Diesel Generator Standby AC System	30.8
71111.04	Procedures	NMP-ES-012-001	Inspection of Heat Exchangers (2R43-B002C - 2C EDG Lube Oil Heat Exchanger)	2.1
71111.04	Work Orders	Work Orders (SNC)	1145215, 1145516, 1078706	
71111.05	Corrective Action Documents Resulting from Inspection	Condition Report (CR)	10895572	
71111.05	Fire Plans	NMP-ES-035-019-GL02-F03	Control Building 147-foot Elevation	1.0
71111.05	Fire Plans	NMP-ES-035-019-GL02-F15	Unit 1 Reactor Building 185' Elevation	1.0
71111.05	Fire Plans	NMP-ES-035-019-GL02-F31	U2 Reactor Building El. 158/164	1.0
71111.05	Fire Plans	NMP-ES-035-019-GL02-F35	Unit 2 Rad Waste Building 132' elevation	1.0
71111.05	Fire Plans	NMP-ES-035-019-GI02-F52	U1 Condensate Storage Tank	1.0
71111.05	Fire Plans	NMP-ES-035-019-GL02-F70	Fire Pump House	1.0
71111.05	Fire Plans	NMP-ES-035-019-GL02-F84	Service Water Valve Pits	1.0
71111.05	Procedures	NMP-ES-035-017	Fleet Fire Doors Functional Inspection Governance and Acceptance Criteria	1.1
71111.06	Calculations	SMNH 99-014 (REV 1)	Water Hammer Evaluation for Fire Protection Piping	06/25/2012
71111.06	Corrective Action Documents Resulting from Inspection	Condition Reports (CR)	10904792, 10904824	
71111.06	Drawings	H-16039	Leak Detection System-Instrument & Drainage Sump P&ID	8.0

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71111.06	Drawings	H-16110	Types of Penetration Seals For Non Fire Rated Wall Pipe & Duct	12.0
71111.06	Drawings	H-16176	Radwaste System P&ID	42.0
71111.06	Engineering Evaluations	LR-REG-001-1098	SER 3-98 Recurring Events Flooding of ECCS Rooms Caused by Fire Protection System Water Hammer	10/05/1998
71111.06	Engineering Evaluations	REA HT98703	Hatch Nuclear Plant - Units 1 & 2- Water Hammer Analysis for Fire Protection	02/17/2000
71111.06	Engineering Evaluations	Technical Evaluations (TE)	390614, 78139	
71111.06	Miscellaneous	Response to NRC IN 2007-001	Recent Operating Experience Concerning Hydrostatic Barriers	04/18/2007
71111.06	Miscellaneous	Response to NRC IN-2003-008	Potential Flooding through Unsealed Concrete Floor Cracks	09/16/2003
71111.06	Miscellaneous	Response to NRC IN-2005-011 and IN-2005-30	Internal Flooding/Spraying-Down of Safety-Related Equipment Due to Unsealed Equipment Hatch Floor Plugs and/or Blocked Floor Drains Safe Shutdown Potentially Challenged by Unanalyzed Internal Flooding Events and Inadequate Design	06/29/2005
71111.06	Procedures	34AB-T22-003-1/2	Secondary Containment Control	5.18/4.5
71111.06	Procedures	34AB-T23-004-1/2	Torus Water Level	1.2/1.4
71111.06	Procedures	34AR-657-901-1/2	ARP's For Control Panel 1H11-P657 (2H11-P657)	25.18/23.10
71111.11Q	Miscellaneous		Emergency Preparedness Observation Form	07/11/2022
71111.11Q	Miscellaneous	H-LT-AF-CPE-00112	CPE Design - EHC, RFPT Oil Temperature Controller, Condenser Vacuum, ASD Cell, SDV, ATWS	1.0
71111.11Q	Procedures	NMP-RE-008-F02	Simplified Reactivity Management Plan (Hatch - Unit 2 Cycle 27, H2C27-082022-040	2.1
71111.12	Corrective Action Documents	Condition Reports (CR)	10895237, 10889783, 10627699, 10636561, 10644291, 10648471, 10649056, 10644291, 10649128, 10653060, 10661059, 10665465, 10671968, 10683877, 10698757, 10700915, 10702813, 10702936, 10707324, 10709100, 10709104, 10709119, 10716168, 10717046,	

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			10723279, 10723451, 10726191, 10727321, 10729088, 10730446, 10730448, 10730527, 10733168, 10733904, 10734223, 10735427, 10737276, 10741057, 10742768, 10743777, 10743835, 10750160, 10753242, 10764198, 10767536, 10771598, 10774779, 10776884, 10779262, 10779523, 10780594, 10781036, 10781693, 10782597, 10782937, 10783554, 10786049, 10786052, 10790129, 10791368, 10791498, 10793147, 10794840, 10800016, 10803039, 10803106, 10803107, 10807477, 10814592, 10814961, 10814961, 10815628	
71111.12	Engineering Evaluations	Technical Evaluations (TE)	1107681, 1075210	
71111.12	Miscellaneous	H-1(2) - P33 - Sampling	Primary Containment Hydrogen and Oxygen Analyzers	
71111.12	Miscellaneous	P33-01 Sampling	Hydrogen and Oxygen Analyzers (Maintenance Rule Function Scoping Sheet)	
71111.13	Calibration Records	Condition Report (CR)	10910325	
71111.13	Corrective Action Documents Resulting from Inspection	Condition Reports (CR)	10910484, 10910972, 10910974	
71111.13	Miscellaneous		Hatch Unit 2 R8 On-Line Configuration Risk Monitor Current Risk Summary Report	08/30/2022
71111.13	Miscellaneous		Hatch U1 R8 On-Line Configuration Risk Monitor - Current Risk Summary Report	07/14/2022
71111.13	Procedures	NMP-GM-031-001	Online Maintenance Rule (a)(4) Risk Calculations	8.0
71111.13	Procedures	NMP-OS-010-002	Hatch Protective Equipment Logs	12.2
71111.13	Procedures	NMP-OS-010-002	Hatch Protected Equipment Logs	11.1
71111.13	Procedures	NMP-OS-017	Severe Weather	3.0
71111.13	Procedures	NMP-OS-017	Severe Weather (Attachments 1 through 9 for Site	09/27/2022

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			Preps for Hurricane Ian)	
71111.15	Corrective Action Documents	Condition Report (CR)	10895096	
71111.15	Corrective Action Documents	Condition Reports (CR)	10899243, 10627205	
71111.15	Corrective Action Documents	Condition Reports (CR)	10895145, 10898218, 10898626, 10901485	
71111.15	Drawings	H-26833	RHR Service Water at River Intake Structure - Isometric	4.0
71111.15	Drawings	S-00768, 00769, 00770	RHR Service Water system E-11-HGR-1, E-11-HGR-2, E-11-HGR-3	2.0/1.0/3.0
71111.15	Engineering Evaluations	DOEJ-HRSNC1358910-S001	Minimum Pipe Wall Thickness for 18 Inch RHRSW Piping Structures at the Intake	08/08/2022
71111.15	Engineering Evaluations	NMP-AD-012-F01	Operability Determination Support Bases (CRs 10898218, 10898626, 10895145)	08/18/2022
71111.15	Engineering Evaluations	Prompt Determination of Operability (CR 10730343)	Unit 2 RHRSW Division 2 Pumps	08/17/2020
71111.15	Miscellaneous	1-LCO-22-00152	1T48-F323F Vacuum Breaker Failure to Close	
71111.15	Procedures	34AB-P41-001-2	Loss of Plant Service Water	13.13
71111.15	Procedures	34AR-652-207-2	Diesel Gen B Loading Timer Failure Alarm	3.3
71111.15	Procedures	34SO-T48-002-1	Containment Atmosphere Control and Dilution System	26.4
71111.15	Work Orders	Work Orders (WO)	1358911, 1358154	
71111.18	Engineering Changes	SNC1334334	Design Equivalent Change Package for the 2B Recirculation Pump Seal Purge Supplemental Cooling	06/06/2022
71111.18	Miscellaneous	NMP-OS-028	Adverse Condition Monitoring and Contingency Plan for the 2B Recirculation Seal Monitoring	07/06/2022
71111.19	Corrective Action Documents	Condition Report (CR)	10897221	
71111.19	Corrective Action Documents	Condition Report (CR)	10897312	
71111.19	Drawings	DECP SNC1225505J001	Fire Protection P&ID	1.0
71111.19	Drawings	DECP	Program Fire Protection House Equipment	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		SNC125505E100_FCR004		
71111.19	Drawings	H-58109	Fire Pump Diesel Engine Mounting Details (1X43-C002A and 1X43-C002B)	1.0
71111.19	Miscellaneous	S-78101	Installation and Maintenance Manual for Diesel Engine Fire Pump Controllers Model GPD	2.0
71111.19	Procedures	34SO-R42-001-2	125 VDC and 125/250 VDC System	20.3
71111.19	Procedures	42SP-07-20-22-RS-1-1	Diesel Fire Pump Engine Replacement Functional Test	1.0
71111.19	Work Orders	Work Order (SNC)	1359845	08/11/2022
71111.19	Work Orders	Work Order (SNC)	1356086	07/28/2022
71111.19	Work Orders	Work Orders (SNC)	1012444, 1012446, 1356128, 1295880, 1296244, 1342764, 1368174, 1366668, 1321585, 1323434, 1323466, 1297079, 1302202, 1297079, 1302202, 1303107, 1304289, 1305582, 1325361, 1325378, 1325378, 1325787, 1326726, 1328511, 1329001, 1337341, 1345820, 1352434	07/29/2022
71111.22	Corrective Action Documents	Condition Reports	10892714, 10892718	
71111.22	Drawings	H-16334	RCIC System P&ID (Sheet No. 1)	51.0
71111.22	Drawings	H-16335	RCIC System P&ID (Sheet No. 2)	36.0
71111.22	Miscellaneous	34SV-E51-002-1S	1E51-C001 Existing Reference Data Page	3.0
71111.22	Procedures	34SV-E51-002-1	RCIC Pump Operability, completed on	7/6/2022
71111.22	Procedures	34SV-P41-001-1	Plant Service Water Pump Operability	15.3
71114.06	Corrective Action Documents	Condition Reports (CR)	10897008, 10897010, 10897011	
71114.06	Miscellaneous		Classification Evaluation for Hatch Off Year Exercise 2022	
71114.06	Miscellaneous		Hatch Off Year Exercise 2022	07/26/2022
71114.06	Miscellaneous		Emergency Preparedness Observation Form	07/26/2022
71114.06	Procedures	NMP-EP-142-F10	Alert/Site Area/General Area Emergency Public Address Announcement Scripts (July 26, 2022)	2.0
71114.06	Procedures	NMP-EP-303-F05	Drill and Exercise Objectives (Section E.1 - Off-Site Notification)	7.0
71152A	Corrective Action	Corrective Action Report	292959	03/20/2022

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Documents	Determination		