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

December 16, 2025

EAF-NMSS-2025-0212
EA-NMSS-2023-0002
EAF-RII-2025-0235

Eric S. Carr
President, Nuclear Operations and Chief Nuclear Officer
Dominion Energy
5000 Dominion Blvd, Floor: IN-3SE
Glen Allen, VA 23060-6711

SUBJECT: VIRGIL C. SUMMER – INTEGRATED INSPECTION REPORT 05000395/2025003 AND 07201038/2024001 AND APPARENT VIOLATION AND EXERCISE OF ENFORCEMENT DISCRETION

Dear Eric S. Carr:

On September 30, 2025, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Virgil C. Summer. On November 24, 2025, the NRC inspectors discussed the results of this inspection with Beth Jenkins, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

Due to the temporary cessation of government operations, which commenced on October 1, 2025, the NRC began operating under its Office of Management and Budget-approved plan for operations during a lapse in appropriations. Consistent with that plan, the NRC operated at reduced staffing levels throughout the duration of the shutdown. However, the NRC continued to perform critical health and safety functions and make progress on other high-priority activities associated with the ADVANCE Act and Executive Order 14300. On November 13, 2025, following the passage of a continuing resolution, the NRC resumed normal operations. Due to the 43-day lapse in normal operations, the Office of Nuclear Reactor Regulation granted the Regional Offices an extension on the issuance of the calendar year 2025 inspection reports that should have been issued by November 13, 2025, to December 31, 2025. The NRC resumed the routine cycle of issuing inspection reports on November 13, 2025.

The NRC identified a violation of 10 CFR 72.48, paragraphs (c)(1), (c)(2), and (d)(1), and provisions of 10 CFR 72.212 that resulted from a Certificate of Compliance (CoC) holder's failure to comply with 10 CFR 72.48 for a CoC holder-generated design change to its multi-purpose canister (MPC) fuel basket, known as the continuous basket shim (CBS) variant, which altered the structural configuration from welded to bolted shims. However, an Interim Enforcement Policy (IEP) issued in August 2025 is applicable to this violation. Specifically, Enforcement Policy Section 9.4, "Enforcement Discretion for General Licensee Adoption of Certificate of Compliance Holder-Generated Modifications under 10 CFR Part 72.48," provides enforcement discretion to not issue an enforcement action for this violation. The licensee will be expected to comply with 10 CFR 72.212 provisions after the NRC dispositions the noncompliance for a CoC holder-generated change that affects the General Licensee.

Section 71111.12 of the enclosed report discusses a finding with an associated apparent violation for which the NRC has not yet reached a preliminary significance determination. This finding involved a failure to properly pre-plan and perform maintenance on the turbine-driven emergency feedwater pump overspeed trip device.

We intend to issue our final safety significance determination and enforcement decision, in writing, within 90 days from the date of this letter. The NRC's significance determination process is designed to encourage an open dialogue between your staff and the NRC; however, neither the dialogue nor the written information you provide should affect the timeliness of our final determination. We ask that you promptly provide any relevant information that you would like us to consider in making our determination. We are currently evaluating the significance of this finding and will notify you in a separate correspondence once we have completed our preliminary significance review. You will be given an additional opportunity to provide additional information prior to our final significance determination unless our review concludes that the finding has very low safety significance (i.e., Green).

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 Virgil C. Summer.

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 Fannon, Matthew
on 12/16/25

Matthew S. Fannon, Chief
Projects Branch 2
Division of Operating Reactor Safety

Docket Nos. 05000395, 07201038
License No. NPF-12

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

SUBJECT: VIRGIL C. SUMMER – INTEGRATED INSPECTION REPORT 05000395/2025003 AND 07201038/2024001 AND APPARENT VIOLATION AND EXERCISE OF ENFORCEMENT DISCRETION DATED DECEMBER 16, 2025.

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| X SUNSI Review | | X Non-Sensitive<br>☐ Sensitive | | X Publicly Available<br>☐ Non-Publicly Available | |
| OFFICE | RII/DORS | RII/DORS | RII/RCB | RII/DORS | |
| NAME | A. Wilson | M. Read | J. Rivera-Ortiz | M. Fannon | |
| DATE | 12/16/2025 | 12/16/2025 | 12/10/2025 | 12/162025 | |

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

| | |
|---|---|
| Docket Numbers: | 05000395, 07201038 |
| License Number: | NPF-12 |
| Report Number: | 05000395/2025003 and 07201038/2024001 |
| Enterprise Identifiers: | I-2025-003-0030 and I-2024-001-0124 |
| Licensee: | Dominion Energy South Carolina |
| Facility: | Virgil C. Summer |
| Location: | Jenkinsville, SC |
| Inspection Dates: | July 01, 2025 to September 30, 2025 |
| Inspectors: | J. Bundy, Senior Operations Engineer<br>P. Cooper, Senior Reactor Inspector<br>K. Dials, Resident Inspector<br>V. Furr, Senior Operations Engineer<br>B. Griman, Resident Inspector<br>M. Read, Senior Resident Inspector |
| Approved By: | Matthew S. Fannon, Chief<br>Projects Branch 2<br>Division of Operating Reactor Safety |

Enclosure

## SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Virgil C. Summer, 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 is documented in report section: 71111.15.

## List of Findings and Violations

| Inadequate Maintenance Strategy Resulting in Turbine-Driven Emergency Feedwater Pump Inoperability | | | |
|---|---|---|---|
| Cornerstone | Significance | Cross-Cutting Aspect | Report Section |
| Mitigating Systems | Pending<br>AV 05000395/2025003-01<br>Open<br>EAF-RII-2025-0235 | None (NPP) | 71111.12 |
| A self-revealed apparent violation of Technical Specification 6.8.1, "Procedures and Programs," was identified when the licensee failed to implement a preventative maintenance procedure to ensure the reliability of the overspeed trip (OST) device for the turbine-driven emergency feedwater (TDEFW) pump, which resulted in the inoperability and unplanned unavailability of the pump. | | | |

| Inadequate Refurbishment of Circuit Breaker Resulting in Inoperability of a Service Water Booster Pump | | | |
|---|---|---|---|
| Cornerstone | Significance | Cross-Cutting Aspect | Report Section |
| Mitigating Systems | Green<br>NCV 05000395/2025003-02<br>Open/Closed | None (NPP) | 71111.15 |
| A self-revealed Green finding and associated non-cited violation (NCV) of Technical Specification 6.8.1.a was identified when the licensee failed to perform 480-volt circuit breaker refurbishment in accordance with a written procedure. The circuit breaker eventually failed during testing of the 'A' service water booster pump, resulting in the pump being inoperable. | | | |

## Additional Tracking Items

| Type | Issue Number | Title | Report Section | Status |
|---|---|---|---|---|
| EDG | EAF-NMSS-2025-0212 | IEP associated with the Continuous Basket Shim | 60855 | Closed |
| LER | 05000395/2025-003-00 | LER 2025-003-00 for V.C. Summer Nuclear Station, Unit 1, Potential Condition Prohibited by Technical Specifications | 71153 | Closed |
| LER | 05000395/2025-002-00 | LER 2025-002-00 for V.C. Summer Nuclear Station, Unit 1, Automatic Actuation of an Emergency Diesel Generator | 71153 | Closed |

## PLANT STATUS

The unit began the inspection period at rated thermal power. On August 20, 2025, the unit was down powered to 93% to replace a feedwater booster pump motor. The unit was returned to rated thermal power on August 25, 2025, 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," 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

71111.11B - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Requalification Program (IP Section 03.04) (1 Sample)

(1) Biennial Requalification Written Examinations

The inspectors evaluated the quality of the licensed operator biennial requalification written examination administered on August 14, 2025.

Annual Requalification Operating Tests

The inspectors evaluated the adequacy of the facility licensee's annual requalification operating test.

Administration of an Annual Requalification Operating Test

The inspectors evaluated the effectiveness of the facility licensee in administering requalification operating tests required by 10 CFR 55.59(a)(2) and that the facility licensee is effectively evaluating their licensed operators for mastery of training objectives.

Requalification Examination Security

The inspectors evaluated the ability of the facility licensee to safeguard examination material, such that the examination is not compromised.

Remedial Training and Re-examinations

The inspectors evaluated the effectiveness of remedial training conducted by the licensee, and reviewed the adequacy of re-examinations for licensed operators who did not pass a required requalification examination.

Operator License Conditions

The inspectors evaluated the licensee's program for ensuring that licensed operators meet the conditions of their licenses.

Control Room Simulator

The inspectors evaluated the adequacy of the facility licensee's control room simulator in modeling the actual plant, and for meeting the requirements contained in 10 CFR 55.46.

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 power escalation activities on August 25, 2025, and response to the 'B' circulating water pump motor fire on September 2, 2025.

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

(1) The inspectors observed and evaluated simulator scenario O-LOR-SIM-SA-089.2R on August 6, 2025.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (3 Samples)

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

(1) Turbine-driven emergency feedwater pump governor and overspeed trip device, review completed on August 28, 2025
(2) Periodic 10 CFR 50.65(a)(3) self-assessment report, review completed on September 2, 2025
(3) Charging and high head safety injection, review completed on September 12, 2025

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) 'A' and 'C' circulating water pumps during 'B' motor replacement activities on September 3, 2025

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (5 Samples)

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

(1) Condition Report (CR) 1295145, 'A' service water booster pump failed to start, review completed on July 7, 2025
(2) CR1296724, 'A' chiller electrical cable degradation, review completed on July 28, 2025
(3) CR1294969, multiple components failed on battery charger XBC1A control board, review completed on July 29, 2025
(4) CR1298245, 'A' emergency diesel generator autostart on undervoltage condition, review completed on August 13, 2025
(5) CR1298105, inverter XIT5936 failure, review completed on September 4, 2025

71111.24 - Testing and Maintenance of Equipment Important to Risk

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

Post-Maintenance Testing (PMT) (IP Section 03.01) (3 Samples)

(1) SOP-211, emergency feedwater system, following 'A' motor-driven pump and circuit breaker preventative maintenance on July 7, 2025
(2) SOP-115, residual heat removal system, following preventative maintenance on the 'B' residual heat removal pump, motor, breaker, and valve 8809B on August 6, 2025
(3) MMP-460.038, repairs and testing of the reactor building cooling unit leak detection flow meter following bearing replacement on August 12, 2025

Surveillance Testing (IP Section 03.01) (1 Sample)

(1) STP-220.002, turbine-driven emergency feedwater pump and valve test, on August 19, 2025

71114.06 - Drill Evaluation

Required Emergency Preparedness Drill (1 Sample)

(1) Emergency preparedness drill simulating a loss of offsite power, small break loss of coolant accident, loss of one emergency diesel generator, and large break loss of coolant accident resulting in escalation to a General Emergency on July 23, 2025

Additional Drill and/or Training Evolution (1 Sample)

The inspectors evaluated:

(1) Emergency preparedness drill simulating a loss of A/C power, a steam generator tube rupture, and a radiation release escalating to a General Emergency on September 17, 2025

**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) (1 Sample)

(1) MS06: Unit 1 (July 1, 2024, through June 30, 2025)

MS07: High Pressure Injection Systems (IP Section 02.06) (1 Sample)

(1) MS07: Unit 1 (July 1, 2024, through June 30, 2025)

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

(1) MS09: Unit 1 (July 1, 2024, through June 30, 2025)

71153 - Follow-Up of Events and Notices of Enforcement Discretion

Event Report (IP Section 03.02) (2 Samples)

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

(1) LER 05000395/2025-002-00, Automatic Actuation of an Emergency Diesel Generator (ADAMS Accession No. ML25268A017) The inspectors determined that the cause of the condition described in the LER was not reasonably within the licensee's ability to foresee and correct, and therefore was not reasonably preventable. No performance deficiency nor violation of NRC requirements was identified. This LER is Closed.
(2) LER 05000395/2025-003-00, Potential Condition Prohibited by Technical Specifications (ADAMS Accession No. ML25290A333) The inspection conclusions associated with this LER are documented in this report under Inspection Results Section 71111.12. This LER is Closed.

**OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL**

60855 - Operation of an Independent Spent Fuel Storage Installation

Inspections were conducted using the appropriate portions of the 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) 2690, “Inspection Program for Storage of Spent Reactor Fuel and Reactor-Related Greater-than-Class C Waste at Independent Spent Fuel Storage Installations (ISFSI) and for 10 CFR Part 71 Transportation Packagings."

Operation of an Independent Spent Fuel Storage Installation (1 Sample)

(1) The inspector conducted a periodic in-office follow-up that focused on the review of the licensee's implementation of the 10 CFR 72.48 process and associated corrective actions related to ISFSI activities. The review included:
- 72.48 Evaluations and Screenings: The inspectors reviewed the licensee's 72.48 process and associated evaluation associated with the adoption of the continuous basket shim (CBS) basket variant.
- Corrective Action Program: The inspectors reviewed CRs related to the design change of the CBS basket variant.

**INSPECTION RESULTS**

| | | |
|---|---|---|
| Enforcement Discretion | Enforcement Action EAF-NMSS-2025-0212: IEP associated with the Continuous Basket Shim | 60855 |

Description: Holtec International (also referred to as the Certificate of Compliance (CoC) holder) implemented a design change to its multi-purpose canister (MPC) fuel basket, known as the continuous basket shim (CBS) variant, which altered the structural configuration from welded to bolted shims. This change resulted in a departure from the method of evaluation (MOE) described in the final safety analysis report (FSAR) used to establish the design basis for tip-over events. Holtec did not fully evaluate the cumulative impact of the MOE changes or apply them consistently within the licensing basis. As a result, the NRC issued three Severity Level IV violations to Holtec for noncompliance with 10 CFR 72.48 requirements (see NRC Inspection Reports 07201014/2022-201, Holtec International (ML23145A175) and 07201014/2022-201, Holtec International, Inc. – Notice of Violation (ML24016A190)).

When the licensee (also referred to as a General Licensee) chooses to adopt a change the CoC holder made pursuant to a CoC holder's change authority under 10 CFR 72.48 (referred to herein as a "CoC holder-generated change"), the licensee must perform a separate review using the requirements of 10 CFR 72.48(c). Accordingly, when the licensee chooses to adopt a CoC holder-generated change, and that change results in a non-conforming cask, there is a violation of 10 CFR 72.48 and certain provisions of 10 CFR 72.212 by the licensee, in addition to a CoC holder violation of 10 CFR 72.48.

In support of the 2022 loading campaign, the licensee adopted Holtec's generic design change, as documented in the V.C. Summer Nuclear Station's External 72.48 Evaluation Suitability Review (CM-AA-400 Attachment 10 for ECO-5018-122-REV 0), and subsequently loaded casks using the CBS basket design. Because the CoC holder-generated change was found to be noncompliant by the NRC, the loaded casks at the V.C. Summer Nuclear Station were also rendered non-conforming.

Corrective Actions: The licensee entered this into their corrective action program with actions to restore compliance with the 10 CFR 72.212 provisions that require each cask to conform to the terms, conditions, and specifications of a CoC or an amended CoC listed in 10 CFR 72.214.

Corrective Action References: CR1250493

Enforcement:

Significance/Severity: The licensee's failure to request that the CoC holder obtain an amendment prior to implementing the change was determined to be of Severity Level IV significance based on the guidance in Section 1.2.6.D of the NRC's Enforcement Manual. The severity of the violation was determined based on its very low safety significance, as documented in NRC memorandum titled "Safety Determination of a Potential Structural Failure of the Fuel Basket During Accident Conditions for the HI-STORM 100 and HI-STORM Flood/Wind Dry Cask Storage Systems" (ADAMS Accession No. ML24018A085) and its similarity with violation example 6.1.d.2 in the NRC's Enforcement Policy.

Violation: Title 10 CFR 72.48 (c)(1) requires, in part, that licensee or certificate holder may make changes in the facility or spent fuel storage cask design as described in the FSAR (as updated), without obtaining: (ii) CoC amendment submitted by the certificate holder pursuant to § 72.244 if: (c) The change, test, or experiment does not meet any of the criteria in paragraph (c)(2) of this section.

Title 10 CFR 72.48(c)(2) requires, in part, that a general licensee shall request that the certificate holder obtain a CoC amendment, prior to implementing a proposed change, if the change would: (viii) Result in a departure from an MOE described in the FSAR used in establishing the design bases or in the safety analyses.

Title 10 CFR 72.48(d)(1) requires, in part, that the licensee shall have a written evaluation which provides the bases for the determination that the change does not require a CoC amendment pursuant to 72.48(c)(2).

Title 10 CFR 72.212(b)(3) requires, in part, a general licensee must ensure that each cask used by the general licensee conforms to the terms, conditions, and specifications of a CoC or an amended CoC listed in 72.214.

Contrary to the above, since the 2022 loading campaign, the licensee failed to: (1) request Holtec, the certificate holder, obtain a CoC amendment for a change to the CBS cask design that resulted in a departure from an MOE described in the FSAR; (2) have a written evaluation providing the bases for the determination that the adopted change did not require a CoC amendment; and (3) ensure that the affected casks conformed to the terms, conditions, and specifications of the applicable CoC.

Specifically, Virgil C. Summer's 10 CFR 72.48 titled "VC Summer Nuclear Stations External 72.48 Evaluation Suitability Review (CM-AA-400 Attachment 10 for ECO-5018-122-REV 0)," failed to identify that the CBS variant design change resulted in a departure from a method of evaluation described in the FSAR used in establishing the design bases, failed to request the certificate holder obtain a CoC amendment pursuant to 10 CFR 72.244, and failed to ensure each cask conformed to the terms conditions, and specifications of a CoC or an amended CoC listed in 72.214, prior to using the CBS variant design.

Basis for Discretion: Section 9.4 of the Enforcement Policy, titled "Enforcement Discretion for General Licensee Adoption of Certificate of Compliance Holder-Generated Changes under 10 CFR 72.48" (ML25224A097), states that NRC will exercise enforcement discretion and not issue an enforcement action to a Geneal Licensee, for a noncompliance with the requirements of paragraphs (c)(1) and (2) and (d)(1) of 10 CFR 72.48 and with provisions of 10 CFR 72.212 that require General Licensees to ensure use of casks that conform to the terms, conditions and specifications of a CoC listed in 10 CFR 72.214, when the

noncompliance results from a CoC holder's failure to comply with 10 CFR 72.48 for a CoC holder-generated change. In support of the 2022 loading campaign, the licensee adopted a generic CoC holder design change (the CBS basket variant) and subsequently loaded the casks. On January 30, 2024, the NRC issued a notice of violation to the CoC holder, identifying the noncompliance, for the generic design change associated with the CBS basket variant (ML24016A190). As a result, the licensee became noncompliant due to the CoC holders' failure to comply with 10 CFR 72.48 for the CoC holder-generated change. Since this violation meets the criteria of Section 9.4 of the policy, the NRC is exercising enforcement discretion by not issuing an enforcement action for this violation.

Inadequate Maintenance Strategy Resulting in Turbine-Driven Emergency Feedwater Pump Inoperability

| Cornerstone | Significance | Cross-Cutting Aspect | Report Section |
|---|---|---|---|
| Mitigating Systems | Pending<br>AV 05000395/2025003-01<br>Open<br>EAF-RII-2025-0235 | None (NPP) | 71111.12 |

A self-revealed apparent violation of Technical Specification 6.8.1, "Procedures and Programs," was identified when the licensee failed to implement a preventative maintenance procedure to ensure the reliability of the overspeed trip (OST) device for the turbine-driven emergency feedwater (TDEFW) pump, which resulted in the inoperability and unplanned unavailability of the pump.

Description: On August 19, 2025, during routine surveillance testing of the TDEFW pump, the turbine tripped during its initial start. During troubleshooting, the licensee identified worn components on the OST device, resulting in inadequate engagement between the head lever and tappet nut. The vendor specification for engagement was 0.030 – 0.060 inches, and the as-found engagement was 0.011 inches, which caused the OST device to actuate at a lower speed during the turbine start.

The inspectors reviewed the historical performance of the OST device. The OST device experienced a similar failure in 2005 which was caused by worn areas on the head bracket, tappet nut, and bent tappet stem. In addition to initial repairs to the stem and replacement of the tappet nut, the entire OST device was rebuilt with new components in 2006. Since 2006, the licensee performed overspeed testing during each refueling outage without a test failure or adjustments. The apparent cause evaluation following the 2005 failure noted, in part, that "the OST device components will continue to be inspected and components replaced (as required) during the scheduled overhaul [preventative maintenance] of the EFW turbine (every 4 refueling outages)."

Licensee procedure ER-AA-PRS-1010, "Preventative Maintenance Task Basis and Maintenance Strategy," Revision 18, Step 2.3.11 states, "Task type and frequency are dependent on a component's criticality, duty cycle, and service condition." Step 5.2.16 defines the "time based" task type as "scheduled tasks usually performed without knowledge of whether it is needed except as is estimated from history of wear-out failure mechanism. Examples are to inspect and replace or clean or adjust at predetermined time intervals." The licensee's E-Strategy database associates the OST under the TDEFW pump template (TPP0008) and does not include a specific classification for the OST device. The turbine strategy recurring tasks only included testing the overspeed setpoint and did not include preventative maintenance. Inspectors determined that, contrary to the procedure, the

licensee did not establish a time-based task commensurate with the criticality of the subcomponent to inspect, clean, adjust, or maintain the OST device since the replacement in 2006. The failure to perform preventative maintenance allowed the head lever and tappet nut to degrade outside of the vendor specification until it actuated prematurely during a pump start.

Inspectors noted that the licensee had entered NRC Information Notice (IN) 2014-03, “Turbine-Driven Auxiliary Feedwater Pump Overspeed Trip Mechanism Issues,” into their corrective action program. The licensee correctly evaluated the IN details were already incorporated into procedure MMP-300.015, “Turbine Maintenance, Emergency Feedwater Pump TPP0008,” Revision 18D, Section 7.8, but the review failed to identify that Section 7.8 was not scheduled to be performed in the preventative maintenance schedule.

Corrective Actions: The licensee repaired the OST device and successfully retested the TDEFW pump.

Corrective Action References: CR1298757

Performance Assessment:

Performance Deficiency: The failure to properly pre-plan and perform maintenance that can affect the performance of safety-related equipment in accordance with written procedures, documented instructions, or drawings appropriate for the circumstances, was a performance deficiency. Specifically, the licensee’s failure to pre-plan and perform maintenance on the OST device of the safety-related TDEFW pump in accordance with written procedures was a performance deficiency that was reasonably within their ability to foresee and correct.

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 TDEFW pump tripped during testing, rendering the pump inoperable.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, “The Significance Determination Process (SDP) for Findings At-Power.” The inspectors used Exhibit 2, "Mitigating Systems Screening Questions," and determined that a Detailed Risk Evaluation was required by answering question A.3, "Does the degraded condition represent a loss of the PRA function of one train of a multi-train TS system for greater than its TS allowed outage time?" as "Yes." The finding cannot be screened to Green and is pending an initial significance determination.

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: Technical Specification 6.8.1, “Procedures and Programs,” requires, in part, that written procedures shall be established, implemented, and maintained covering the activities referenced in the applicable procedures recommended in Appendix A of Regulatory Guide (RG) 1.33, “Quality Assurance Program Requirements (Operation),” Revision 2. Section 9 of

RG 1.33, “Procedures for Performing Maintenance,” states, in part, that maintenance that can affect the performance of safety-related equipment should be properly pre-planned and performed in accordance with written procedures, documented instructions, or drawings appropriate for the circumstances.

Contrary to the above, since 2006, the licensee failed to perform maintenance activities affecting the performance of safety-related equipment in the TDEFW system in accordance with applicable written procedures. Specifically, the licensee failed to pre-plan or perform preventative maintenance on the TDEFW pump OST device as directed by licensee procedure ER-AA-PRS-1010, resulting in the TDEFW pump’s failure on August 19, 2025, during routine surveillance testing.

Enforcement Action: This violation is being treated as an apparent violation pending a final significance (enforcement) determination.

Inadequate Refurbishment of Circuit Breaker Resulting in Inoperability of a Service Water Booster Pump

| Cornerstone | Significance | Cross-Cutting Aspect | Report Section |
|---|---|---|---|
| Mitigating Systems | Green<br>NCV 05000395/2025003-02<br>Open/Closed | None (NPP) | 71111.15 |

A self-revealed Green finding and associated non-cited violation (NCV) of Technical Specification 6.8.1.a was identified when the licensee failed to perform 480-volt circuit breaker refurbishment in accordance with a written procedure. The circuit breaker eventually failed during testing of the 'A' service water booster pump, resulting in the pump being inoperable.

Description: On July 1, 2025, during the performance of licensee procedure STP-223.002A, "Service Water Pump Test," Revision 10, the 'A' service water booster pump failed to start. The licensee inspected the circuit breaker serial number 51452C-16-10829 and found internal damage. The licensee disassembled the circuit breaker and determined that the failure to close was caused by the retaining pin having backed out of the charging plate mechanism, likely because the snap ring retainer either fell off or was not installed. When the breaker opened, the backed-out pin penetrated the plastic housing and damaged the closing mechanism.

The licensee replaced the breaker charging device mechanism, retaining pin, and charging motor prior to installation and restoration of the system on July 1, 2025.

The service water booster pumps are necessary to provide service water to the reactor building cooling units during emergency conditions. The pump circuit breakers are installed in the 480-volt emergency busses and are tested on a quarterly frequency. The pumps and breakers are normally in a non-running, standby state.

The inspectors reviewed the historical pump performance. Prior to the failure, the pump was secured by opening the circuit breaker on June 26, 2025. The inspectors determined that the closing mechanism was likely damaged on this date, which prevented the charging of the circuit breaker closing springs. Inspectors determined that the pump was inoperable from June 26 to July 1, 2025.

EMP-406.010, “480 Volt Switchgear Circuit Breaker Refurbishment,” Revision 3, provided instructions for refurbishing circuit breakers onsite. Step 7.4.7 stated, "Insert the pin for the holding pawl assembly into the mechanism frame. Install the snap ring." Step 7.4.8 stated, "Install the pin into the mechanism and through to the other side. Install blocking lever and install snap ring." Inspectors determined that the most likely cause of the missing snap ring was that the licensee failed to adequately perform Steps 7.4.7 and 7.4.8 of the procedure on August 5, 2019.

Corrective Actions: The licensee refurbished the breaker prior to installation and restoration of the system on July 1, 2025.

Corrective Action References: CR1295145

Performance Assessment:

Performance Deficiency: The failure of the licensee to perform activities affecting quality in accordance with written procedures was a performance deficiency reasonably within the licensee’s ability to foresee and prevent.

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 failure of the circuit breaker resulted in the inoperability of the 'A' service water booster pump.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, “The Significance Determination Process (SDP) for Findings At-Power.” Specifically, inspectors answered "No" to all of the questions in Exhibit 2, "Mitigating Systems Screening Questions," based on the duration of inoperability being five days compared to the Technical Specification allowed outage time of seven 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. Specifically, this error occurred in 2019 and no similar performance issues with onsite circuit breaker refurbishment have been identified.

Enforcement:

Violation: Technical Specification Section 6.8.1, “Procedures and Programs,” requires, in part, that written procedures be implemented covering the activities recommended in Appendix A of Regulatory Guide (RG) 1.33, Revision 2. RG 1.33, Section 9.a, states, in part, that "maintenance that can affect the performance of safety-related equipment should be properly pre-planned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances." The licensee established procedure EMP-406.010, “480 Volt Switchgear Circuit Breaker Refurbishment”, Revision 3, to meet the Regulatory Guide 1.33 requirement for refurbishing safety-related circuit breakers onsite.

Contrary to the above, during the refurbishment of circuit breaker serial number 51452C-16-10829 on August 5, 2019, the licensee failed to perform refurbishment activities in accordance with the procedure. Specifically, the snap ring and pin required in Steps 7.4.7-7.4.8 was not properly installed.

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

| Licensee-Identified Non-Cited Violation | 71111.15 |
|---|---|
| This violation of very low safety significance was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy. | |
| Violation: 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," established the requirements for the licensee's quality assurance program and required, in part, "measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected."<br><br>DOM-QA-1, "Nuclear Facility Quality Assurance Program Description," Revision 36, Section XVI, stated, "Company procedures assure that corrective action is documented and initiated following the determination of a condition adverse to quality (such as a nonconformance, failure, malfunction, deficiency, deviation, adverse trend, and defective material and equipment) in accordance with regulatory guidance and industry quality standards."<br><br>Licensee procedure PI-AA-200, "Corrective Action," Revision 42, Step 3.5.6, allowed, in part, "For Significance Level 3 CRs, corrective action can be closed to the Work Management Process."<br><br>Licensee procedure EMP-280.020, "Infrared Thermography Program," Revision 8E, Enclosure B, required for "intermediate" thermography issues, "Repair in the near future (next planned equipment outage)."<br><br>Contrary to the above, an "intermediate" thermography issue identified on September 3, 2024, was not repaired in the next planned equipment outage. Specifically, on September 3, 2024, the licensee documented CR1267928 for high temperature on the center phase cable connection on the line side circuit 1 circuit breaker for the 'A' chiller. The CR was closed to work order 88201745652 which was scheduled to be performed the week of March 24, 2025, aligning to the next 'A' chiller maintenance package. The work was not performed during the maintenance package. As a result, the condition continued to degrade until an operator smelled overheating wiring on July 21, 2025, which resulted in the 'A' chiller being declared inoperable.<br><br>Significance/Severity: Green. Specifically, inspectors answered "No" to the Mitigating Systems screening questions in Exhibit 2 of Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process for Findings At-Power," dated January 1, 2021, which resulted in screening the issue to Green.<br><br>Corrective Action References: CR1296724 and CR1296796 | |

## EXIT MEETINGS AND DEBRIEFS

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

- On November 24, 2025, the inspectors presented the integrated inspection results to Beth Jenkins, Site Vice President, and other members of the licensee staff.
- On September 30, 2025, the inspectors presented the ISFSI CBS basket inspection results to Dave Tomlinson, Nuclear Spent Fuel Engineer, and other members of the licensee staff.

**DOCUMENTS REVIEWED**

| Inspection Procedure | Type | Designation | Description or Title | Revision or Date |
|---|---|---|---|---|
| 71111.12 | Corrective Action Documents | CRs 1273920, 1273972, 1271851, 1273912, 1299811, 1299767, CR-21-03655 | | |
| 71111.12 | Miscellaneous | ER-AA-MRL-100 | Implementing Maintenance Rule | Revision 16 |
| 71111.12 | Miscellaneous | PIR1276494 | V.C. Summer self-assessment report for the period 5/19/2023 to 11/19/2024 | |
| 71111.12 | Procedures | ER-AA-MRL-100 | "Implementing Maintenance Rule" | Revision 16 |
| 71111.13 | Miscellaneous | | Medium Risk Plan for 'B' circulating water pump motor replacement lifting 9/3/2025 | |
| 71111.15 | Corrective Action Documents | Condition reports CR1295431, CR1265686, CR1222070 | | |
| 71111.15 | Drawings | E-206-022 | 7200V SWGR-Busses 1DA, 1DB, 1EA, &1EB One Line and Relay Diagram | Revision 17 |
| 71111.15 | Miscellaneous | 1MS-94B-1879, (vendor technical manual) | Gutor 80kVA Uninterruptible Power Supply | Revision 0 |
| 71111.15 | Procedures | EMP-300.012 | Agastat Relay Calibration / Replacement | Revision 19 |
| 71111.15 | Procedures | EMP-406.010 | 480 Volt Switchgear Circuit Breaker Refurbishment | Revision 3 |
| 71111.15 | Procedures | PTP-101.001 | 480 Volt Breaker Alignment | Revision 5 |
| 71111.15 | Procedures | STP-506.004 | "7.2KV Emergency Bus Undervoltage Unit Calibration" | Revision 12 |
| 71111.24 | Procedures | MMP-460.038 | "Inspection, Cleaning, and Lubrication of Reactor Building Cooling Units," | Revision 1 |
| 71111.24 | Procedures | SOP-211 | "Emergency Feedwater System," | Revision 15 |
| 71111.24 | Work Orders | 88201770936 and 88201770942 | | |
| 71114.06 | Corrective Action | CR1301204 | | |

| Inspection Procedure | Type | Designation | Description or Title | Revision or Date |
|---|---|---|---|---|
| | Documents | | | |
| 71151 | Corrective Action Documents | CR1263051, CR1273279 | | |
| 71151 | Procedures | TR-03300-001 | NRC Mitigating Systems Performance Index (MSPI) Basis Document for VC Summer Nuclear Station | Revision 2 |