



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

January 21, 2022

Mr. Daniel G. Stoddard
Senior Vice President and Chief Nuclear Officer
Dominion Energy
Innsbrook Technical Center
5000 Dominion Blvd, Floor: IN-2SW
Glenn Allen, VA 23060

SUBJECT: VIRGIL C. SUMMER – INTEGRATED INSPECTION REPORT
05000395/2021004

Dear Mr. Stoddard:

On December 31, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Virgil C. Summer. On January 19, 2022, the NRC inspectors discussed the results of this inspection with Mr. George Lippard 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 II; the Director, Office of Enforcement; and the NRC Resident Inspector at Virgil C. Summer.

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 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,

David E. Dumbacher, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket No. 05000395
License No. NPF-12

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

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

Docket Number: 05000395

License Number: NPF-12

Report Number: 05000395/2021004

Enterprise Identifier: I-2021-004-0028

Licensee: Dominion Energy

Facility: Virgil C. Summer

Location: Jenkinsville, SC

Inspection Dates: October 01, 2021 to December 31, 2021

Inspectors: J. Hamman, Senior Project Engineer
B. Kellner, Senior Health Physicist
M. Magyar, Reactor Inspector
R. Mathis, Senior Construction Inspector
A. Nielsen, Senior Health Physicist
M. Read, Senior Resident Inspector

Approved By: David E. Dumbacher, Chief
Reactor Projects Branch 3
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 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.

List of Findings and Violations

Failure to identify nonconforming subcomponents resulting in installation of a nonconforming part in a feedwater isolation valve			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000395/2021004-01 Open	[P.3] - Resolution	71111.12
An NRC-identified Green violation was identified when the licensee failed to control nonconforming parts per 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." Specifically, following identification of defective materials, the licensee failed to identify the batch of materials as nonconforming. This allowed licensee personnel to issue and install a nonconforming subcomponent in a safety-related feedwater isolation valve.			

Additional Tracking Items

None.

PLANT STATUS

The unit began the inspection period at rated thermal power. From October 1, 2021, to October 8, 2021, the unit coasted down from 100 percent to 84 percent power. On October 8, 2021, the unit was shut down for a refueling outage. The unit was restarted on November 14, 2021 and raised to 48 percent power on November 15, 2021. On November 15, 2021, a main transformer fire occurred, and the reactor was manually tripped. The unit was restarted on December 10, 2021, returned to rated thermal power on December 17, 2021, 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

71111.04 - 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) Emergency boration flow paths prior to draining the reactor coolant system to the reactor vessel flange on October 11, 2021
- (2) Spent fuel cooling system on October 15, 2021, prior to core offload
- (3) Emergency feedwater system on November 30, 2021

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

- (1) The inspectors evaluated system configurations during a complete walkdown of the residual heat removal system on October 9, 2021.

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (3 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) Auxiliary building elevation 412 feet on October 21, 2021
- (2) Reactor building on October 26, 2021
- (3) '1DA' and '1DB' emergency switchgear rooms on November 29, 2021

71111.08P - Inservice Inspection Activities (PWR)

PWR Inservice Inspection Activities Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated pressurized water reactor non-destructive testing by reviewing the following examinations from October 11 - November 5, 2021:
 1. Ultrasonic Testing
 - a. 1-1100-3, RV Intermediate Shell to Lower Shell Circ Weld, Class 1 (reviewed)
 - b. 1-1100A-19, RV Loop C Inlet Nozzle to Vessel Weld - 95°, Class 1 (reviewed)
 2. Magnetic Particle Testing
 - a. XVB-03123B-FW 1C1, Pipe and Tee Assembly, Class 3 (reviewed)
 3. Visual Examination (VT)
 - a. 1-1100-XRE1-RVUH, RV Upper Head, N-729-6 (reviewed)

The Inspectors evaluated the licensee's boric acid corrosion control program performance.

71111.11A - Licensed Operator Requalification Program and Licensed Operator Performance

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

- (1) The licensee completed the requalification written examinations and annual operating tests required to be administered to all licensed operators in accordance with Title 10 of the *Code of Federal Regulations* 55.59(a)(2), "Requalification Requirements," of the NRC's "Operator's Licenses." During the week of December 6, 2021, the inspectors performed an in-office review of the overall pass/fail results of the individual written examinations, operating tests, and crew simulator operating tests in accordance with Inspection Procedure (IP) 71111.11, "Licensed Operator Requalification Program." These results were compared to the thresholds established in Section 3.03, "Requalification Examination Results," of IP 71111.11.

The inspectors reviewed and evaluated the licensed operator examination failure rates for the requalification written examinations and annual operating tests completed on July 29, 2021.

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

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

- (1) The inspectors observed operations personnel during unit shutdown on October 8, 2021, draining to reactor flange level on October 11, 2021, and unit startup on November 13, 2021

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

- (1) The inspectors observed a simulator evaluation that included fuel failure and steam generator tube rupture on November 22, 2021

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (2 Samples)

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

- (1) Reactor building sump discharge isolation valves on October 22, 2021
- (2) Feedwater isolation valves, completed on December 16, 2021

Quality Control (IP Section 03.02) (1 Sample)

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

- (1) 'C' reactor coolant pump seal refurbishment on October 10 through October 12, 2021

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (3 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) Yellow risk for spent fuel pool cooling due to the 'A' and 'C' component cooling water pumps being unavailable during refueling outage activities on October 24, 2021
- (2) Elevated risk for spent fuel pool cooling due to unavailability of the 115kV bus, the 'A' emergency diesel generator, and the '1DA' emergency bus on October 26, 2021
- (3) Trip risk due to 'A' circulating water (CW) pump and motor replacement activities in the vicinity of 'B' and 'C' CW pumps on December 28, 2021

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (2 Samples)

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

- (1) CR-21-02699, 'B' emergency diesel generator output breaker failed to close within required time, reviewed on October 11, 2021
- (2) CR-21-03764, Backleakage through XVC-1009C, 'C' steam generator emergency feedwater header discharge isolation check valve, on December 21, 2021

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) Modification of feedwater isolation valve control block poppit seal design, completed on November 12, 2021

71111.19 - Post-Maintenance Testing

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

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

- (1) MMP-320.047, 'C' reactor coolant pump seal flow testing after refurbishment, on October 14, 2021
- (2) 'B' emergency diesel generator maintenance run using SOP-306 on October 18, 2021, following replacement of three relays and multiple meters
- (3) STP-130.005L, stroke time testing of XVG-9627A, 'A' service water to component cooling water isolation, on October 29, 2021, following solenoid replacement
- (4) MTP-I-50938.001, reactor building cooling unit condensate leak detection flow measurement device on September 1, 2021 and November 9, 2021
- (5) 'B' feedwater isolation valve following rebuilding of the control block, on November 8 and November 9, 2021
- (6) STP-130.003A, emergency feedwater check valve testing, on November 13, 2021, following maintenance on the turbine driven emergency feedwater pump discharge check valve

71111.20 - Refueling and Other Outage Activities

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

- (1) The inspectors evaluated Refueling Outage RF26 activities from October 8, 2021 to November 14, 2021

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

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

- (1) STP-220.008, motor driven emergency feedwater pump full flow test, on the 'A' pump, on October 5, 2021
- (2) STP-125.017, 'A' diesel generator loss of offsite power testing, on November 5, 2021

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

- (1) STP-215.005, containment isolation valve leakage test for the hydrogen removal and

sampling systems, on containment penetration 301, on October 22, 2021

71114.06 - Drill Evaluation

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

The inspectors evaluated:

- (1) The inspectors evaluated a simulator exercise involving failed fuel with emergency declaration on November 22, 2021, and a focused emergency training drill limited to health physics and environmental assessment teams on December 15, 2021

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 instructions to workers including pre-job briefings and radiation work permits used to access high radiation areas.

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) Evaluated storage of non-fuel items in the spent fuel pool.
- (2) Observed workers exiting the Radiologically Controlled Area (RCA) during the R26 refueling outage.

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

The inspectors evaluated in-plant radiological conditions during facility walkdowns and observation of R26 radiological work activities.

- (1) Core barrel in-service inspection.
- (2) Scaffolding work inside the reactor building.
- (3) Core barrel lift.

High Radiation Area and Very High Radiation Area Controls (IP Section 03.05) (2 Samples)

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

- (1) Under vessel area.

- (2) Resin transfer areas in the auxiliary building.

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.

71124.02 - Occupational ALARA Planning and Controls

Radiological Work Planning (IP Section 03.01) (5 Samples)

The inspectors evaluated the licensee's radiological work planning by reviewing the following:

- (1) Radiation Work Permit (RWP) Package Termination - RWP- 20-04003, Scaffolding Activities RF25 (including ALARA Plan, In Progress review, individual exposure accrual, and close out)
- (2) RWP Package Termination - RWP- 20-04201, High Risk Refueling Activities RF25 (including ALARA Plan, In Progress review, individual exposure accrual, and close out)
- (3) RWP Package Termination - RWP- 20-04900, S/G (Steam Generator) Eddy Current Activities RF25 (including ALARA Plan, In Progress review, individual exposure accrual, and close out)
- (4) RWP Package Termination - RWP- 20-04902, S/G Secondary Side Inspections RF25 (including ALARA Plan, In Progress review, individual exposure accrual, and close out)
- (5) RWP Package Termination - RWP- 20-04200, Refueling Activities RF25 (including ALARA Plan, In Progress review, individual exposure accrual, and close out)

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

The inspectors evaluated dose estimates and exposure tracking by reviewing the following as low as reasonably achievable planning documents and radiological outcome evaluations:

- (1) V.C. Summer Nuclear Station Refueling Outage RF25 ALARA Report
- (2) V.C. Summer RF26 Daily Dose Reports from October 18 to October 21, 2021 (outage daily dose accrual report, individual ALARA Plan dose accrual, significant radiological work complete/upcoming, etc.)
- (3) V.C. Summer Nuclear Station Exposure Reduction 5 Year Plan, 2020-2025

Implementation of ALARA and Radiological Work Controls (IP Section 03.03) (4 Samples)

The inspectors reviewed as low as reasonably achievable practices and radiological work controls for the following activities:

- (1) The inspectors reviewed ALARA and radiological work control requirements contained in the following RWPs:
 - RWP 21-04203, Core Barrel - Remove / Replace Lower Internals
 - RWP 21-04201, High Risk Refueling Activities RF26RWP 21-04200, Refuel Maintenance Activities RF26

- (2) The inspectors reviewed the following ALARA Plans:
 - ALARA Plan for RWP Number #: 21-04006, RF26 RP (Radiation Protection) Activities
 - ALARA Plan for RWP Number #: 21-04003, RF26 Scaffold Activities
 - ALARA Plan for RF26 Refueling activities (RWP Number #s: 21-04199, 21-04200, 21-04201)

- (3) The inspectors reviewed the Radiological Risk Planning for High Radiological Risk activities associated with RWPs 21-4199, 21-4200, 21-4201, 21-4197, 21-4198, and 21-4203:
 - Reactor Head Lift
 - Upper Internals Lift
 - Core Barrel Lift
 - Any entry into lower cavity as an EPRI Alpha III area

- (4) The inspectors reviewed the following reviewed the Temporary Shielding Request (TSR) documentation packages:
 - TSR 21-001, Fuel Transfer Tube
 - TSR 21-007, Reactor Building (RB) 412', 'A' Loop - Shadow Shield
 - TSR 21-014, RB 463' - Personnel Shielding during Core Barrel Lift
 - TSR 21-015, RB at Polar Crane Access - Personnel Shielding during Core Barrel Lift
 - TSR 21-018, Clearview Rolling Shield (contingency)

Radiation Worker Performance (IP Section 03.04) (1 Sample)

- (1) Core Barrel Lift, and Reactor Vessel & Core Barrel Inspection Activities (RWP #s 21-04203, 21-04197, and 21-04198)

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS05: Safety System Functional Failures (SSFFs) Sample (IP Section 02.04) (1 Sample)

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

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

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

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

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

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

- (1) May 2, 2020 through September 14, 2021

71152 - Problem Identification and Resolution (PI&R)

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

- (1) The inspectors reviewed the licensee's corrective action program for potential adverse trends with calibrated measuring and test equipment that might be indicative of a more significant safety issue. The review was completed on December 21, 2021.

Annual Follow-up of Selected Issues (IP Section 02.03) (1 Sample)

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

- (1) CR-21-03454 and CR-21-03528 involving a main transformer fire on November 15, 2021

71153 - Follow Up of Events and Notices of Enforcement Discretion

Personnel Performance (IP Section 03.03) (1 Sample)

- (1) The inspectors evaluated a manual reactor trip following a main transformer fire and licensee's performance on November 15, 2021

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

71003 - Post-Approval Site Inspection for License Renewal

Post-Approval Site Inspection for License Renewal (1 Sample)

- (1) The inspectors observed the implementation of the following license renewal activities (listed by aging management program, as identified by Updated Final Safety Analysis Report, Technical Specification Chapter or Surveillance Requirement) from October 11 - November 5, 2021:
1. Small Bore Class 1 Piping, UFSAR 18.2.34
 - WO2016975-001 & 002, Phased Array Ultrasonic Examination Report License Renewal {PLEX) Socket Welded Joints
 - WO1908526-001, Reducer to 3" Pipe
 2. Buried Piping and Tanks Inspection, UFSAR 18.2.9
 - WO1510358, EFW Pump Suction Line
 3. Chemistry Program, UFSAR 18.2.10
 - WO2015480-012, Upstream Side of Valve XVT02824
 4. Area Based Inspections for Refined 10 CFR 54.4(A)(2), UFSAR 18.2.42
 - WO2015480-012, Downstream Side of Valve XVT02824

INSPECTION RESULTS

Failure to identify nonconforming subcomponents resulting in installation of a nonconforming part in a feedwater isolation valve			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000395/2021004-01 Open	[P.3] - Resolution	71111.12
<p>An NRC-identified Green violation was identified when the licensee failed to control nonconforming parts per 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." Specifically, following identification of defective materials, the licensee failed to identify the batch of materials as nonconforming. This allowed licensee personnel to issue and install a nonconforming subcomponent in a safety-related feedwater isolation valve.</p> <p><u>Description:</u> On May 12, 2021, the 'B' feedwater isolation valve was declared inoperable due to a failed poppet seal in the control block. The licensee created condition report CR-21-01263 to determine the cause and corrective actions. Subsequent laboratory analysis of the seal identified manufacturing defects that created laminations in the Viton material. The defective seals were limited to a 2017 batch that was procured commercial-grade and dedicated onsite. In August 2021, the licensee discussed with the vendor a change in their manufacturing process from 2019 and conservatively discarded all poppet seals received prior to 2019 from the vendor. Licensee procedure SAP-0999, Corrective Action Program, requires identification of nonconforming conditions during the screening of condition reports. Once an issue is identified as a nonconforming condition, the Corrective Action Program provides directions to disposition, notify, evaluate, and, if appropriate, quarantine appropriate materials. CR-21-01263 was not processed as a nonconforming condition, and no additional condition reports were generated following the identification of a nonconforming batch of materials.</p> <p>During the inspector's review of feedwater isolation valve control block maintenance including replacing the poppet seals in all three feedwater isolation valves in October and November 2021, inspectors questioned the traceability of materials from the vendor after identifying that additional parts had identical material batch numbers as the nonconforming seals from 2017. During the licensee's review into material traceability, they identified that the vendor had fulfilled a May 2021 purchase order of 100 poppet seals with five seals from the nonconforming 2017 batch of poppet seals and the remainder from a 2021 batch of poppet seals. The five seals from the nonconforming batch passed the visual receipt inspection and were made available in the warehouse. There were no measures in place to prevent receipt of nonconforming items from the vendor.</p> <p>The licensee reviewed in-process refueling outage work on all three feedwater isolation valves. Maintenance had been completed on the 'B' feedwater isolation valve. The licensee identified that one of the poppet seals manufactured from the 2017 batch had been issued from the warehouse and installed in the 'B' feedwater isolation valve control block. The 'A' and 'C' feedwater isolation valves were issued seals from the 2021 batch. The licensee replaced the nonconforming poppet seal with a seal from the 2021 batch prior to entering Mode 3.</p> <p>Corrective Actions: The licensee investigated the vendor material traceability to identify any nonconforming materials in the warehouse, including poppet seals, piston seals, and o-rings.</p>			

The investigation determined that five nonconforming poppet seals remained available following the August 2021 corrective action, and one was installed in the 'B' feedwater isolation valve during the October 2021 maintenance. The licensee replaced the nonconforming seal in the 'B' feedwater isolation valve and quarantined the remaining seals from the warehouse.

Corrective Action References: CR-21-01263 and CR-21-03266

Performance Assessment:

Performance Deficiency: The licensee's failure to identify nonconforming parts was within the licensee's ability to foresee and correct and was a performance deficiency (PD).

Screening: The inspectors determined the performance deficiency was more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, defective Viton poppet seals had previously caused the inoperability of one feedwater isolation valve including failure to close in the design-basis closure time. One poppet seal from the nonconforming billet material had been installed in the 'B' feedwater isolation valve, which could have challenged the valve closure time when necessary to protect against design basis accidents. Based on previous operating experience with the degradation of the seals, it is not reasonable to conclude that the condition would have been identified during post-maintenance testing. Specifically, feedwater isolation valves that had the defective seals from 2017 passed their original post-maintenance testing and degraded over time.

Significance: The inspectors assessed the significance of the finding using Appendix G, "Shutdown Safety SDP." The inspectors used Exhibit 3, "Mitigating Systems Screening Questions," and determined that the finding was Green since the deficiency existed when the feedwater isolation valves were not required to be operable. Since the issue was resolved before the plant entered Mode 3, there was no instance of the valve being inoperable.

Cross-Cutting Aspect: P.3 - Resolution: The organization takes effective corrective actions to address issues in a timely manner commensurate with their safety significance. Specifically, the licensee received laboratory analysis which identified that the 2017 batch of poppet seals from the vendor had internal defects. Although the licensee discarded poppet seals procured prior to 2019, they failed to identify that some 2017 nonconforming seals were delivered in 2021.

Enforcement:

Violation: 10 CFR 50, Appendix B, Criterion XVI, states, "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." Contrary to the above, the licensee failed to identify all of the nonconforming Viton poppet seals following identification of a nonconforming batch of materials. Those poppet seals had been commercial-grade dedicated onsite for installation in safety-related feedwater isolation valves.

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 January 19, 2022, the inspectors presented the integrated inspection results to Mr. George Lippard and other members of the licensee staff.
- On October 22, 2021, the inspectors presented the Radiation Protection Exit Meeting inspection results to Mr. George Lippard and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.12	Corrective Action Documents	CR-21-03266, CR-21-01263		
	Drawings	1MS-69-050	Seal, poppet, viton 30-8091-0920-13	2
		1MS-69-056	Seal, piston 30-8091-0200-13	0
	Engineering Evaluations	FM06742	Procurement of Elastomerics	7/17/2009
	Miscellaneous	Purchase Order NU-02SR766468	Order for elastomeric seals for feedwater isolation valves	4/26/2017
VCS-ES-0321		Procurement of Materials and Services	0	
71124.01	Corrective Action Documents	CR 21-02796		
	Radiation Surveys	VCS1-M- 20211020-6	B RCDT sump pump	10/19/2021
	Radiation Work Permits (RWPs)	RWP 21-04203	Core Barrel - Remove/Replace Lower Internals	Rev. 00
71124.02	Calculations	Technical Work Record 2.2.1-21-002	V.C. Summer Nuclear Station Alpha Source Term Characterization - Cycle 26 Update	02/02/2021
	Corrective Action Documents	CR-18-05676, CR-19-00698, CR-19-04275, CR-20-00070, CR-20-01504, and CR-21-02448		Various
	Miscellaneous		V.C. Summer Nuclear Station Exposure Reduction 5 Year Plan, 2020-2025	Undated
			V.C. Summer Station ALARA Committee Meeting Minutes, 4th Quarter 2020 thru 3rd Quarter 2021	Various
	Procedures	RP-AA-0275	Radiological Risk Assessment Process	Revision 5
		RP-AA-300	ALARA Reviews and Reports	Revision 10
		SAP-0121	ALARA Committee	Revision 11
VCS-HPP-0155		Control of Airborne Radiation Exposure (DAC-HRS)	Revision 0,	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
				Change C
		VCS-HPP-0401.002	Creating, Revising and Terminating RWPs Utilizing Sentinel	Revision 1, Change A
		VCS-HPP-0403	Radiological Controls for Nuclear Work Activities	Revision 1, Change A
	Radiation Surveys	VCS1-M-20210922-8	Post-install of transfer tube temporary shielding (TSR 21-001)	09/22/2021
		VCS1-M-20211003-1	Pre crud burst survey of piping penetration rooms on 412' Elevation	10/03/2021
		VCS1-M-20211014-14	Pre/Post-install of "A" Loop Shielding (TSR 21-007)	10/14/2021
		VCS1-M-20211017-14	Post crud burst survey of RHR heat exchanger and piping penetration rooms on 412' Elevation	10/17/2021
	Self-Assessments	CR-21-02094	ALARA Program self-assessment	09/30/2021