



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

August 4, 2022

EA-22-037

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
05000395/2022002

Dear Mr. Stoddard:

On June 30, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Virgil C. Summer. On July 7, 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 Severity Level IV violation without an associated finding is documented in this report. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

No NRC-identified or self-revealing findings were identified during this inspection.

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 Senior 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 Dumbacher, David
on 08/04/22

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

Docket No. 05000395
License No. NPF-12

Enclosure:
As stated

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SUBJECT: VIRGIL C. SUMMER – INTEGRATED INSPECTION REPORT
05000395/2022002 – DATED August 4, 2022

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OFFICE	DRP/RPB3	DRP/RPB3	DRP/RPB3	DRP/RPB3	DRP/RPB3
NAME	M. Read	R. Smith	J. Bell	N. Childs	D. Dumbacher
DATE	08/02/2022	08/02/2022	08/02/2022	08/03/2022	08/04/2022

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number: 05000395

License Number: NPF-12

Report Number: 05000395/2022002

Enterprise Identifier: I-2022-002-0024

Licensee: Dominion Energy

Facility: Virgil C. Summer

Location: Jenkinsville, SC

Inspection Dates: April 01, 2022 to June 30, 2022

Inspectors: J. Bell, Resident Inspector
J. Bundy, Senior Operations Engineer
J. Diaz-Velez, Senior Health Physicist
C. Fontana, Emergency Preparedness Inspector
J. Hamman, Senior Project Engineer
B. Kellner, Senior Health Physicist
A. Nielsen, Senior Health Physicist
W. Pursley, Health Physicist
M. Read, Sr. Resident Inspector
J. Rivera, Health Physicist
S. Sanchez, Senior Emergency Preparedness Insp
R. Smith, 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 report a defect in accordance with 10 CFR 21			
Cornerstone	Severity	Cross-Cutting Aspect	Report Section
Not Applicable	Severity Level IV NCV 05000395/2022002-01 Open/Closed EA-22-037	Not Applicable	71152A
An NRC-identified Severity Level IV violation of Title 10 of the Code of Federal Regulations (10 CFR) 21.21(c)(1) was identified for the licensee's failure to evaluate and report a defect in a basic component that could create a substantial safety hazard. Specifically, the licensee identified that the May 2021 failure of the 'B' feedwater isolation valve was due to a manufacturing defect in a Viton poppet seal used in the control block but incorrectly determined that the event was not reportable.			

Additional Tracking Items

None.

PLANT STATUS

The unit began the inspection period at rated thermal power (RTP). On May 22, 2022, the unit was down powered to 91 percent and returned to RTP to perform turbine valve stroke testing. The unit remained at or near RTP 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) chilled water system on April 19, 2022
- (2) high head safety injection system on May 2, 2022
- (3) 'A' emergency diesel generator during maintenance on the 'B' emergency diesel generator on May 10, 2022

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (5 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) intermediate building elevation 412 feet on April 20, 2022
- (2) intermediate building elevation 436 feet on April 20, 2022
- (3) control building elevation 448 feet on May 11, 2022
- (4) relay room in control building elevation 436 feet on May 11, 2022
- (5) technical support center equipment room and computer room in control building elevation 436 feet on June 2, 2022

Fire Brigade Drill Performance Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the on-site fire brigade training and performance during announced and unannounced fire drills including the 1A switchgear room on April 6, 2022, the 1B switchgear room on April 13, 2022, and the 1A switchgear room on April 20, 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) auxiliary building, walkdown performed on April 11, 2022

71111.07A - Heat Exchanger/Sink Performance

Annual Review (IP Section 03.01) (1 Sample)

The inspectors evaluated readiness and performance of:

- (1) Component cooling water heat exchanger performance testing on May 12, 2022

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 control room during testing of the solid-state protection system on May 13, 2022. The inspectors also observed reactor power reduction to 91 percent RTP, turbine valve stroke testing, and power increase to 100 percent RTP on May 22, 2022.

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

- (1) The inspectors observed and evaluated simulator training that included a loss of service water, small break loss of coolant accident, and a loss of safety-related electrical bus on April 19, 2022, and steam generator tube rupture on April 20, 2022.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (1 Sample)

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

- (1) component cooling water pumps, review completed on June 13, 2022

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) yellow risk during preventative maintenance on the turbine driven emergency feedwater pump on April 7, 2022

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (3 Samples)

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

- (1) condition report (CR)-21-03703, loose parts monitoring system found inoperable, on December 15, 2021
- (2) CR1193429, residual heat removal heat exchanger 'A' bypass valve failed open with "Manual/Automatic" station in manual and closed, reviewed completed on May 12, 2022
- (3) CR1197980, potentially defective poppet seals installed in 'B' and 'C' main steam isolation valves, completed review on May 26, 2022

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) ECR-50944, Core Subcooling Margin Monitor Replacement, review completed on June 15, 2022

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (5 Samples)

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

- (1) SOP-211, Turbine Driven Emergency Feedwater Pump Testing following preventative maintenance on the turbine, pump, and steam admission valve, on April 7, 2022
- (2) STP-225.001A, 'B' Emergency Diesel Generator Support System Testing, following replacement of an air start valve, on May 11, 2022,
- (3) STP-125.002A, 'A' Emergency Diesel Generator Testing, following preventative maintenance activities, on May 24, 2022
- (4) SOP-102, Testing of the 'B' charging pump following pump, motor, and valve preventative maintenance on June 1, 2022

- (5) PTP-114.001, Diesel-Driven Fire Pump Controller Testing, following control card replacement, on June 24 and June 30, 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) (4 Samples)

- (1) STP-108.001, Quadrant Power Tilt Ratio, on April 25, 2022
- (2) STP-228.001, Fire Pumps Full Flow Testing, on May 17, 2022
- (3) STP-604.001, Reactor Coolant System Sampling and Dose Equivalent Iodine Testing, on May 23, 2022
- (4) STP-360.034, radiation monitor RM-A2 operability testing, on June 26, 2022

Inservice Testing (IP Section 03.01) (1 Sample)

- (1) STP-220.001A, 'B' Emergency Feedwater Pump and Valve Testing, on April 4, 2022

71114.02 - Alert and Notification System Testing

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

- (1) The inspectors evaluated the maintenance and testing of the alert and notification system during the week of April 18, 2022.

71114.03 - Emergency Response Organization Staffing and Augmentation System

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

- (1) The inspectors evaluated the readiness of the Emergency Response Organization during the week of April 18, 2022.

71114.04 - Emergency Action Level and Emergency Plan Changes

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

- (1) The inspectors evaluated submitted Emergency Action Level, Emergency Plan, and Emergency Plan Implementing Procedure changes during the week of April 18, 2022. This evaluation does not constitute NRC approval.

71114.05 - Maintenance of Emergency Preparedness

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

- (1) The inspectors evaluated the maintenance of the emergency preparedness program during the week of April 18, 2022.

RADIATION SAFETY

71124.01 - Radiological Hazard Assessment and Exposure Controls

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

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

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

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

Contamination and Radioactive Material Control (IP Section 03.03) (3 Samples)

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

- (1) Licensee surveys of potentially contaminated material leaving the Radiological Control Area (RCA).
- (2) Licensee surveys of personnel leaving the RCA.
- (3) Licensee controls for radioactive material stored in the spent fuel pool.

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

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

- (1) Radiation Work permit (RWP) 21-04006, Radiation Protection Activities for Refueling Outage 26 (RF26).
- (2) RWP 21-04200, Refuel Maintenance Activities for RF26
- (3) Work Orders (WOs) 88101031392 and 88101045945, Escape Hatch Gaitronic Operational Test and Escape Hatch Interlock and Door Seal Test, performed 6-15-2022.

High Radiation Area and Very High Radiation Area Controls (IP Section 03.05) (5 Samples)

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

- (1) AB526-Filter Cubicles 2 and 3, Locked High Radiation Area (LHRA)
- (2) AB526-Filter Cubicle 4 (LHRA)
- (3) AB526-Filter Cubicle 5 (LHRA)
- (4) AB526-Filter Cubicle 6 (LHRA)
- (5) AB526-Filter Cubicle 14 (LHRA)

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.

71124.03 - In-Plant Airborne Radioactivity Control and Mitigation

Permanent Ventilation Systems (IP Section 03.01) (2 Samples)

The inspectors evaluated the configuration of the following permanently installed ventilation systems:

- (1) Main control room emergency ventilation system.
- (2) Auxiliary building hot machine shop, radiological maintenance building hot machine shop, and the hot machine shop decontamination area ventilation systems.

Temporary Ventilation Systems (IP Section 03.02) (2 Samples)

The inspectors evaluated the configuration of the following temporary ventilation systems:

- (1) Kelly building ventilation system in the auxiliary building.
- (2) High efficiency purifying air units available for use in the radiation protection cage in the hot machine shop and radiological maintenance building.

Use of Respiratory Protection Devices (IP Section 03.03) (1 Sample)

- (1) The inspectors evaluated the licensee's use of respiratory protection devices.

Self-Contained Breathing Apparatus for Emergency Use (IP Section 03.04) (1 Sample)

- (1) The inspectors evaluated the licensee's use and maintenance of self-contained breathing apparatuses.

71124.04 - Occupational Dose Assessment

Source Term Characterization (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated licensee performance as it pertains to radioactive source term characterization.

External Dosimetry (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated how the licensee processes, stores, and uses external dosimetry.

Internal Dosimetry (IP Section 03.03) (3 Samples)

The inspectors evaluated the following internal dose assessments:

- (1) Investigation whole body count performed on 10/22/2021.
- (2) Investigation whole body count performed on 10/28/2021.
- (3) Investigation whole body count performed on 11/03/2021.

Special Dosimetric Situations (IP Section 03.04) (2 Samples)

The inspectors evaluated the following special dosimetric situations:

- (1) Two declared pregnant worker evaluations.
- (2) Neutron exposure corrective factor characterization for the reactor building and the independent spent fuel storage installation as applied self reading dosimeters and passive dosimeters.

71124.05 - Radiation Monitoring Instrumentation

Walkdowns and Observations (IP Section 03.01) (8 Samples)

The inspectors evaluated the following radiation detection instrumentation during plant walkdowns:

- (1) Area radiation monitors in the auxiliary building and control room.
- (2) Portable neutron meters stored in the calibration lab.
- (3) Portable Geiger-Mueller survey meters stored and ready for use in the calibration lab.
- (4) Portable ion chambers stored and ready for use in the calibration lab.
- (5) Portable high range telescoping gamma meters stored and ready for use in the calibration lab.
- (6) Tool monitors at the radiologically controlled area (RCA) exit point.
- (7) Personnel contamination monitors at the RCA exit point.
- (8) Portal monitors at the protected area exit point.

Calibration and Testing Program (IP Section 03.02) (13 Samples)

The inspectors evaluated the calibration and testing of the following radiation detection instruments:

- (1) RMG0001, Control Room Area Radiation Monitor
- (2) RMG0007, Containment High Range Area Radiation Monitor
- (3) Small Article / Tool Monitor, SN 2011-279
- (4) Portal Monitor, SN 259
- (5) Personnel Contamination Monitor, SN 1608-116
- (6) Portable Neutron Meter, SN 1376
- (7) Portable Neutron Ball Moderator, SN 725666
- (8) Portable Scintillation Detector, SN 10172
- (9) Portable Count Rate Meter, SN 710
- (10) Portable Benchtop Counter, SN 266934
- (11) Wide Range Telescopic Survey Meter, SN 6618-034
- (12) Portable Ion Chamber, SN 330705

(13) Whole Body Counter

Effluent Monitoring Calibration and Testing Program Sample (IP Sample 03.03) (3 Samples)

The inspectors evaluated the calibration and maintenance of the following radioactive effluent monitoring and measurement instrumentation:

- (1) RMA0004, Reactor Building Purge Exhaust Monitor
- (2) RMA0014, Reactor Building Purge Exhaust Monitor, High Range
- (3) RML0009, Liquid Radiation Monitor

71124.06 - Radioactive Gaseous and Liquid Effluent Treatment

Walkdowns and Observations (IP Section 03.01) (4 Samples)

The inspectors evaluated the following radioactive effluent systems during walkdowns:

- (1) Auxiliary building ventilation system discharge to main plant vent stack.
- (2) Waste gas system.
- (3) Waste monitor tanks liquid discharge pathway.
- (4) Reactor building purge air filtration plenum.

Sampling and Analysis (IP Section 03.02) (4 Samples)

Inspectors evaluated the following effluent samples, sampling processes and compensatory samples:

- (1) Waste monitor tanks A and B liquid sampling and analysis.
- (2) RM A-3, main plant vent monitor, out of service compensatory sampling records, October 23, 2021 - October 27, 2021.
- (3) RM A-14, purge exhaust effluent high range monitor, out of service compensatory sampling records, March 16, 2022 - April 21, 2022
- (4) Daily waste gas decay tank B sampling and analysis.

Dose Calculations (IP Section 03.03) (2 Samples)

The inspectors evaluated the following dose calculations:

- (1) Liquid waste release permit 22-46, waste monitor tank B
- (2) Gaseous waste release permit 21-14, reactor building purge

71124.07 - Radiological Environmental Monitoring Program

Environmental Monitoring Equipment and Sampling (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated environmental monitoring equipment and observed collection of environmental samples.

Radiological Environmental Monitoring Program (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the implementation of the licensee's radiological environmental monitoring program.

GPI Implementation (IP Section 03.03) (1 Sample)

- (1) The inspectors evaluated the licensee's implementation of the Groundwater Protection Initiative program to identify incomplete or discontinued program elements.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

IE01: Unplanned Scrams per 7000 Critical Hours Sample (IP Section 02.01) (1 Sample)

- (1) unit 1 (April 1, 2021 through March 31, 2022)

IE03: Unplanned Power Changes per 7000 Critical Hours Sample (IP Section 02.02) (1 Sample)

- (1) unit 1 (April 1, 2021 through March 31, 2022)

IE04: Unplanned Scrams with Complications (USwC) Sample (IP Section 02.03) (1 Sample)

- (1) unit 1 (April 1, 2021 through March 31, 2022)

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

- (1) unit 1 (April 1, 2021 through March 31, 2022)

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

- (1) unit 1 (April 1, 2021 through March 31, 2022)

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

- (1) October 27, 2021 through March 23, 2022.

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

- (1) August 7, 2021 through May 13, 2022.

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

- (1) January 1, 2021 through December 31, 2021

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

- (1) January 1, 2021 through December 31, 2021

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

- (1) January 1, 2021 through December 31, 2021

71152A - Annual Follow-up Problem Identification and Resolution

Annual Follow-up of Selected Issues (Section 03.03) (2 Samples)

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

- (1) offsite electrical grid perturbations impacting plant equipment as identified by numerous condition reports from 2020 through 2022, completed review on May 16, 2022
- (2) CR-21-01263, Feedwater Isolation Valve Failure, completed review on June 3, 2022

INSPECTION RESULTS

Failure to report a defect in accordance with 10 CFR 21			
Cornerstone	Severity	Cross-Cutting Aspect	Report Section
Not Applicable	Severity Level IV NCV 05000395/2022002-01 Open/Closed EA-22-037	Not Applicable	71152A
An NRC-identified Severity Level IV violation of Title 10 of the Code of Federal Regulations (10 CFR) 21.21(c)(1) was identified for the licensee's failure to evaluate and report a defect in a basic component that could create a substantial safety hazard. Specifically, the licensee identified that the May 2021 failure of the 'B' feedwater isolation valve was due to a manufacturing defect in a Viton poppet seal used in the control block but incorrectly determined that the event was not reportable.			
<p><u>Description:</u> On May 12, 2021, the licensee shut down the reactor to repair air leakage from the 'B' feedwater isolation valve control block. The licensee was informed on June 22, 2021, by an independent laboratory that the degraded poppet seals from the control block contained laminations in the Viton material caused by the manufacturing process. The poppet seals were procured commercially and dedicated on-site; therefore, the licensee was considered the "dedicating entity" for the purposes of 10 CFR 21.21 reporting.</p> <p>Inspectors identified that timely 10 CFR 21.21 evaluation by the licensee incorrectly determined that the event was not reportable. Following discussion with NRC inspectors, the licensee reevaluated the reportability. The licensee reported the notification of defect in accordance with 10 CFR 21.21(d)(3)(ii) on March 30, 2022 (ML22089A244).</p> <p><u>Corrective Actions:</u> To address the 10 CFR 21.21 inadequate evaluation, the licensee revised the evaluation and reported the notification of defect in accordance with 10 CFR</p>			

21.21(d)(3)(ii) on March 30, 2022 (ML22089A244). The licensee entered the issue into their corrective action program as Condition Report CR1195800. The licensee had entered the feedwater isolation valve failure and laboratory reviews into the industry Operation Experience database (IRIS) in June 2021.

Corrective Action References: CR1195800

Performance Assessment: None

Enforcement: The ROP's significance determination process does not specifically consider the regulatory process impact in its assessment of licensee performance. Therefore, it is necessary to address this violation which impedes the NRC's ability to regulate using traditional enforcement to adequately deter non-compliance.

Severity: This performance deficiency was evaluated in accordance with the Enforcement Manual and determined to be a Severity Level IV NCV because (a) there was little to no impact to the inspection process as inspectors had been aware of the issue since May 12, 2021, as well as the subsequent independent laboratory report, (b) the specific feedwater isolation valve seals were made specifically for V.C. Summer and were not used at any other nuclear plant, (c) the licensee entered the issue into their operating experience process and shared the failure evaluation and laboratory report with other nuclear plants through an Experience Report in June 2021, making the industry aware of the event, the cause, and the failure analysis, (d) the licensee entered the issue into their corrective action program and issued the required report after they concluded it was reportable, and (e) the failure to report a defect did not have any impact on the function of any systems, structures, or components at V.C. Summer, so it would constitute a minor violation on the Reactor Oversight Process path of Inspection Manual Chapter 0612 Appendix B.

Violation: 10 CFR 21.21(c)(1) states that the dedicating entity is responsible for "identifying and evaluating deviations and reporting defects and failures to comply associated with substantial safety hazards for dedicated items." 10 CFR 21.21(a)(1) requires, in part, that the dedicating entity shall "evaluate deviations and failures to comply, to identify defects and failures to comply, associated with substantial safety hazards as soon as practicable, and except in paragraph (a)(2) of this part, within 60 days of discovery, in order to identify a reportable defect or failure to comply that could create a substantial safety hazard, were it to remain uncorrected." Contrary to the above the licensee failed to adequately evaluate and report a defect in Viton seals used in the control block of the 'B' feedwater isolation valve, and following reevaluation, reported the defect on March 30, 2022, which was later than 60 days of discovery.

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 7, 2022, the inspectors presented the integrated inspection results to Mr. George Lippard and other members of the licensee staff.

- On April 28, 2022, the inspectors presented the emergency preparedness program inspection results to Mr. George Lippard and other members of the licensee staff.
- On June 17, 2022, the inspectors presented the radiation protection 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
71124.01	ALARA Plans	RF-26 21-04006	RF 26 Radiation Protection Activities	
		RF-26 21-04203	Core Barrel -Remove and Replace Lower Internals	
	Corrective Action Documents	CR-21-03119, CR-21-03120, CR-21-03572, CR-21-03752, and CR-21-03396	Corrective Action Reports	Various
	Radiation Surveys	VCS1-M-20220406-3	AB526-Filter Cubicles #1-#18 Radiation Surveys	04/06/2022
		VCS1-M-20220616-8	RB Escape Hatch Door Seal, Interlock and GAITronics Testing (at power containment entry)	06/16/2022
	Radiation Work Permits (RWPs)	RWP #21-04003	Scaffolding Activities RF26 (RWP Package)	Rev. 01
		RWP #21-04004	Seal Table / Thimble Activities including Cleaning / Eddy Current Testing (RWP Package)	Rev. 00
		RWP #21-04006	Radiation Protection Activities RF26 (RWP Package)	Rev. 00
		RWP #21-04200	Refuel Maintenance Activities RF26 (RWP Package)	Rev. 00
		RWP #22-01005, Task 1 (Low Risk)	Chemistry Activities	Rev. 00
		RWP #22-01005, Task 2 (Moderate Risk)	Chemistry Activities	Rev. 00
		RWP #22-01006, Task 5 (Housekeeping Emergent)	Health Physics Activities	Rev. 00
		RWP #22-01006, Task 1 (Low Risk)	Health Physics Activities	Rev. 00
71124.03	Corrective Action Documents	CR-21-00565		
	Procedures	VCS-HPP-0633	Inspection, Maintenance and Storage of Respiratory Protection Devices	Revision 0
71124.04	Corrective Action	CR-2103120		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Documents			
	Procedures	RP-AA-131	Whole Body Monitoring	Revision 5
		RP-AA-133	Internal Dose Calculation Based on Radionuclide Intake	Revision 1
		VCS-HPP-0521	Quality Control and Whole Body Counting with the ND People Mover Whole Body Counter	Revision 1 Change A
71124.05	Corrective Action Documents	CR 21-01020		04/19/2021
		CR-21-02481		09/23/2021
	Engineering Evaluations	80558	Engineering Information Request	03/20/2002
	Miscellaneous	Calibration Sources 61183-02 and 61184-02	Analytics Certificate of Calibration, Cs-137 2.248 Inch Disk Source with Raised Lip	03/19/2001
		0007458	Perform calibrations and source data collection	06/02/2000
	Work Orders	2015363-001	Loop Calibration, RMA0004, Atm Gaseous Iodine RB Purge Exhaust	04/21/2021
71124.06	Calculations	WM-22-55	Liquid waste release permit for waste monitor tank 'A'	06/14/2022
		WM-22-56	Liquid waste release permit for waste monitor tank 'B'	06/14/2022
	Drawings	04-4461-B-208-059	Liquid Waste to Penstock Disch. XVD-6910	Rev. 2
	Miscellaneous	VCSNS Unit 1 Special Report 2022-002	Inoperable Radiation Monitoring Instrumentation Channel	03/29/2022
	Procedures	HPP-0710	Sampling and Release of Radioactive Liquid Effluents	Rev. 14
		HPP-0904	Use of the Radiation Monitoring System	Rev. 13
71124.07	Calculations		Spreadsheet - Results of 2021 Ground Water Sampling Analysis	060602022
			Cumulative Meteorological Data Recovery - VC Summer, Unit 1 Tower 08/01/2019 - 1/1/2020	05/18/2022
			Cumulative Meteorological Data Recovery - VC Summer, Unit 1 Tower 01/01/2020 - 1/1/2021	05/18/2022
			Cumulative Meteorological Data Recovery - VC Summer, Unit 1 Tower 01/01/2021 - 1/1/2022	05/18/2022
		Gamma Spectrum Analysis	Broad Leaf-40 Environmental Lab Garden	06/14/2020

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		12_2022-06-14_001		
		Sample# RW22-0398	10 CFR 61 Analysis of 2022 Dry Active Waste (DAW)	05/26/2022
	Calibration Records		Radiological Environmental Monitoring Program (REMP) Air Sampling Stations Flow Totalizer Calibration Records for stations located at Sites 2, 6, 7, 8, 17, and 30 (two most recent six month frequency calibrations).	Various
	Corrective Action Documents	CR #'s: 1193923, 19-02748, 19-02814, 19-04401, 20-02183, 21-00548, 21-00836, 21-01277, 22-00098, and 22-00248	REMP Related Corrective Action Records	Various
	Miscellaneous		Results of Environmental Cross Check Program SCE&G V.C. Summer Station, 1st Quarter 2021	03/16/2022
			Results of Environmental Cross Check Program SCE&G V.C. Summer Station, 3rd Quarter 2021	03/22/2021
		Letter Serial No. 20-165	2019 Annual Radiological Environmental Operating Report, VC Summer Nuclear Plant	04/27/2020
		Letter Serial No. 21 -161	2020 Annual Radiological Environmental Operating Report, VC Summer Nuclear Plant	04/27/2021
		Letter Serial No. 22-135	2021 Annual Radiological Environmental Operating Report, VC Summer Nuclear Plant	04/27/2022
		Sample Code: C40-2422	Broadleaf Vegetation Gamma, Isotopic, EOF Peak	06/14/2022
		TR02510-001	Groundwater Protection Initiative Report for V.C. Summer Nuclear Station, 06/23/2020	Revision 3
	Procedures	HPP-1020	Environmental Sample Collection	Revision 0, Change D
		HPP-1022	Environmental Sampling and Analytical Requirements	Revision 7
		HPP-1052	Setup, Operation and Maintenance of the ISCO 3700 and	Revision 0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			3710 Portable Water Sampler	
		HPP-1060	Meteorological Data Checks, Verification and Correction	Revision 5, Change C
		PI-AA-200	Corrective Action	Revision 38
		STP-393.005	MET Tower Instrumentation Calibration	Revision 5, Change B
		VC-PROC-000-ODCM	Offsite Dose Calculation Manual (ODCM) for Dominion Energy South Carolina Virgil C. Summer Nuclear Station	Revision 32
	Self-Assessments	SA 07-07 (Work Order 1805213)	2020 Groundwater Protection Initiative Self-Assessment - V.C. Summer (2/24/2020-3/5/2020)	03/05/2020
	Work Orders	Work Order 2106785	STP-393.005, Met Tower Channel B Calibration	08/24/2021
		Work Order 2111647	STP-393.005, Met Tower Channel A Calibration	11/17/2021
		Work Order 88101041606	STP-393.005, Met Tower Channel A Calibration	04/13/2022
		Work Order 88101041626	STP-393.005, Met Tower Channel B Calibration	02/22/2022
71152A	Corrective Action Documents	CR-21-03266, CR-21-01263		
	Miscellaneous	CR-21-01263 evaluation	Substantial Safety Hazard Evaluation for potentially defective 2017 batch of poppet seals for feedwater isolation valve control blocks	07/30/2021