



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

May 31, 2023

Daniel Stoddard  
Senior Vice President and Chief Nuclear Officer  
Dominion Energy (Virginia Electric Company)  
5000 Dominion Boulevard  
Glen Allen, VA 23060

SUBJECT: NORTH ANNA POWER STATION – BIENNIAL PROBLEM IDENTIFICATION  
AND RESOLUTION INSPECTION REPORT 05000338/2023010 AND  
05000339/2023010

Dear Daniel Stoddard:

On May 5, 2023, the U.S. Nuclear Regulatory Commission (NRC) completed a problem identification and resolution inspection at your North Anna Power Station. On May 4, 2023, the NRC inspectors discussed the results of this inspection with Lisa Hilbert, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

The NRC inspection team reviewed the station's problem identification and resolution program and the station's implementation of the program to evaluate its effectiveness in identifying, prioritizing, evaluating, and correcting problems, and to confirm that the station was complying with NRC regulations and licensee standards for problem identification and resolution programs. Based on the samples reviewed, the team determined that your staff's performance in each of these areas adequately supported nuclear safety.

The team also evaluated the station's processes for use of industry and NRC operating experience information and the effectiveness of the station's audits and self-assessments. Based on the samples reviewed, the team determined that your staff's performance in each of these areas adequately supported nuclear safety.

Finally, the team reviewed the station's programs to establish and maintain a safety-conscious work environment and interviewed station personnel to evaluate the effectiveness of these programs. Based on the team's observations and the results of these interviews the team found no evidence of challenges to your organization's safety-conscious work environment. Your employees appeared willing to raise nuclear safety concerns through at least one of the several means available.

No findings or violations of more than minor significance were identified during this inspection.

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 05/31/23

Matthew S. Fannon, Chief  
Reactor Projects Branch 4  
Division of Reactor Projects

Docket Nos. 05000338 and 05000339  
License Nos. NPF-4 and NPF-7

Enclosure:  
As stated

cc w/ encl: Distribution via LISTSERV

SUBJECT: NORTH ANNA POWER STATION – BIENNIAL PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000338/2023010 AND 05000339/2023010 Dated – May 31, 2023

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DATE	05/31/2023	05/31/2023	05/31/2023	05/31/2023	05/31/2023

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

Docket Numbers: 05000338 and 05000339

License Numbers: NPF-4 and NPF-7

Report Numbers: 05000338/2023010 and 05000339/2023010

Enterprise Identifier: I-2023-010-0030

Licensee: Dominion Energy (Virginia Electric Company)

Facility: North Anna Power Station

Location: Mineral, VA

Inspection Dates: April 17, 2023 to May 5, 2023

Inspectors: J. Seat, Senior Project Engineer  
N. Smalley, Resident Inspector  
D. Turpin, Resident Inspector  
A. Wilson, Senior Project Engineer (Team Leader)

Approved By: Matthew S. Fannon, Chief  
Reactor Projects Branch 4  
Division of Reactor Projects

Enclosure

## **SUMMARY**

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a biennial problem identification and resolution inspection at North Anna Power Station, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

### **List of Findings and Violations**

No findings or violations of more than minor significance were identified.

### **Additional Tracking Items**

None.

## 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 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.

## OTHER ACTIVITIES – BASELINE

### 71152B - Problem Identification and Resolution

#### Biennial Team Inspection (IP Section 03.04) (1 Sample)

- (1) The inspectors performed a biennial assessment of the effectiveness of the licensee's Problem Identification and Resolution program, use of operating experience, self-assessments and audits, and safety conscious work environment.
  - Problem Identification and Resolution Effectiveness: The inspectors assessed the effectiveness of the licensee's Problem Identification and Resolution program in identifying, prioritizing, evaluating, and correcting problems. The inspectors conducted an in-depth corrective action program review of the following systems or portions thereof: emergency diesel generators, service water, high head safety injection, and control room and emergency switchgear room HVAC. The inspectors also conducted a five-year review of equipment aging issues.
  - Operating Experience: The inspectors assessed the effectiveness of the licensee's processes for use of operating experience.
  - Self-Assessments and Audits: The inspectors assessed the effectiveness of the licensee's identification and correction of problems identified through audits and self-assessments.
  - Safety Conscious Work Environment: The inspectors assessed the effectiveness of the station's programs to establish and maintain a safety-conscious work environment.

## INSPECTION RESULTS

Assessment	71152B
1) Corrective Action Program Effectiveness	
<u>Problem Identification</u> : The inspectors determined that the licensee was generally effective in	

identifying problems and entering them into the corrective action program, and there was a low threshold for entering issues into the corrective action program. This conclusion was based on a review of the requirements for initiating condition reports as described in licensee procedure PI-AA-200, "Corrective Action." Additionally, site management was actively involved in the corrective action program and focused appropriate attention on significant plant issues. The inspectors documented one observation regarding a delay in entering conditions adverse to quality into the corrective action program. The observation is discussed in detail in the Inspection Results section of this report. The licensee initiated condition report (CR) 1227223 based on this observation.

Problem Prioritization and Evaluation: Based on the review of condition reports, work orders, and work requests, the inspectors concluded that problems were prioritized and evaluated in accordance with licensee guidance. The inspectors determined that adequate consideration was given to system or component operability and associated plant risk. The inspectors determined that, in general, plant personnel had conducted cause evaluations in compliance with the licensee's corrective action program procedures and cause determinations were appropriate, and considered the significance of the issues being evaluated.

Corrective Actions: Based on a review of corrective action documents, interviews with licensee staff, and verification of completed corrective actions, the inspectors determined that, generally, corrective actions were timely, commensurate with the safety significance of the issues, and effective, in that conditions adverse to quality were corrected. The team determined that the licensee was generally effective in developing corrective actions that were appropriately focused. The inspectors noted that while issue evaluations were generally sound, there were several examples where additional research was needed to verify that the appropriate corrective actions were taken, primarily due to a lack of clear documentation.

Based on the samples reviewed, the team determined that the licensee's corrective action program complied with regulatory requirements and self-imposed standards. The licensee's implementation of the corrective action program adequately supported nuclear safety.

## 2) Operating Experience

The team determined that the station's processes for the use of industry and NRC operating experience information were effective and complied with regulatory requirements and licensee standards. The implementation of these programs adequately supported nuclear safety. The team concluded that operating experience was adequately evaluated for applicability and that appropriate actions were implemented in accordance with applicable procedures.

## 3) Self-Assessments and Audits

The inspectors determined that the licensee was effective at performing self-assessments and audits to identify issues at a low level, properly evaluated those issues, and resolved them commensurate with their safety significance. The self-assessments and audits were adequately self-critical and performance-related issues were being appropriately identified. The inspectors verified that action requests were created to document areas for improvement and findings and verified that actions generally had been completed consistent with those recommendations.

## 4) Safety-Conscious Work Environment

Employees interviewed appeared willing to raise nuclear safety concerns through at least one of the several means available. Based on interviews with plant staff and reviews of the latest safety culture survey results, the team found no evidence of challenges to a safety conscious work environment.

Observation: Delay In Initiating Condition Reports For Conditions Adverse To Quality	71152B
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The inspectors observed three examples of delays in entering NRC identified conditions adverse to quality into the corrective action program. During the first week of the inspection, the inspection team identified issues during plant walkdowns that were communicated to licensee staff on April 20. The inspection team questioned a scaffold built in the service water pump house, where the scaffold did not have the semiannual inspection completed in accordance with procedure MA-AA-105, "Scaffolding." The inspection team also questioned a catch container that had been hung in the auxiliary service water pump house, where the material should have been documented using a transient loading permit. These two NRC identified issues were known to licensee staff but were not placed into the corrective action program until May 2.

The inspectors also identified transient combustible material in the Unit 1 control room HVAC room. Specifically, a mop, bucket, and chair were identified in this room during an NRC walkdown on April 19. The inspectors questioned if this material should have required a fire transient loading sheet and if it was an appropriate storage location for the combustible material. The combustible material remained in the room through May 1 and a condition report was not entered into the corrective action program until May 4. The response received from licensee staff indicated that this material can be considered routine, permanent, day-to-day materials, which would be exempt from the requirements of CM-AA-FPA-101, "Control of Combustible and Flammable Materials." However, the inspectors observed that permanent day-to-day materials are not defined in calculation ETE-NA-2011-021 (Evaluation of Permanently Stored Combustible Material), and the specific materials identified by the NRC were not listed by example in Attachment 1 of ETE-NA-2011-021, which represents the baseline for permanently stored combustible material. Regardless of the classification of the materials, the significance of this observation is minor based on the added mass of about 20 pounds of the items is considered negligible and has no impact to the Equivalent Fire Severity (EFS) of the area.

The inspectors noted that since these issues were not entered into the corrective action program until 12 – 15 days after the identification of the issue, there may have been a missed opportunity to receive a timely review by station management and operations staff, particularly to be screened for operability or potential impact on the plant. In this case, following review of the CRs by the station it was determined that there was no safety impact for the three issues identified.

## EXIT MEETINGS AND DEBRIEFS

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

- On May 4, 2023, the inspectors presented the biennial problem identification and resolution inspection results to Lisa Hilbert, Site Vice President, and other members of the licensee staff.



**DOCUMENTS REVIEWED**

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71152B	Calculations	EP-0017	Combustible Loading Analysis North Anna Power Station, Units 1 and 2	Rev. 22
		ETE-CCE-2022-0001	Implementation of Spent Fuel Cask Orientation Controls that Conform to Original Licensing Basis	Rev. 0
		ETE-NA-2011-0021	Evaluation of Permanently Stored Combustible Material	Rev. 9
	Corrective Action Documents	CA11083924, CA11108563, CA11113092, CA11214300, CA11221094, CA11221094, CA11246090, CA11328250, CA11348778, CA11431126, CA1173379, CA7612615, CA8114916, CA8457089, CA8539011, CA8543311, CA8587871, CA8591611, CA8608563, CA9178937, CR1043540, CR1055192, CR1062889, CR1097220, CR1125435, CR1126356,		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		CR1136138, CR1136938, CR1138336, CR1144530, CR1149974, CR1158147, CR1162008, CR1162240, CR1166315, CR1169253, CR1169816, CR1169889, CR1169991, CR1171277, CR1171926, CR1172237, CR1173212, CR1173394, CR1173507, CR1173825, CR1174192, CR1174622, CR1174823, CR1175205, CR1175836, CR1176116, CR1176214, CR1176575, CR1176804, CR1177032, CR1177199, CR1177249, CR1177773, CR1177824,		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		CR1178210, CR1178801, CR1178906, CR1179130, CR1179442, CR1179746, CR1181190, CR1181355, CR1181542, CR1182013, CR1182197, CR1182226 CR1182755, CR1182825, CR1183419, CR1183893, CR1184295, CR1184427, CR1184816, CR1185017, CR1187508, CR1187510, CR1188701, CR1189232, CR1189390, CR1191508, CR1193192, CR1193959, CR1194892, CR1195347, CR1195511, CR1198094, CR1198530, CR1198941,		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		CR1199000, CR1199293, CR1199453, CR1200985, CR1201209, CR1201215, CR1201299, CR1201308, CR1201515, CR1201901, CR1202614, CR1203090, CR1203216, CR1203804, CR1203956, CR1204718, CR1204953, CR1205215, CR1205378, CR1205485, CR1205695, CR1205741, CR1206541, CR1207076, CR1207336, CR1208331, CR1208534, CR1209396, CR1209567, CR1209626, CR1210037, CR1210274, CR1210277, CR1210660,		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		CR1211117, CR1212304, CR1213394, CR1213473, CR1213487, CR1213830, CR1214487, CR1214742, CR1214932, CR1214938, CR1215118, CR1215319, CR1216422, CR1216605, CR1216926, CR1217001, CR1217212, CR1217421, CR1217512, CR1217588, CR1217714, CR1217751, CR1218441, CR1218825, CR1219118, CR1219832, CR1219875, CR1221182, CR1221343, CR1223140		
	Corrective Action Documents Resulting from Inspection	CR1225269	Dry Boric Acid Observed in the Packing Area of 1-CH-MOV-1289A - NRC identified	
		CR1225270	Dry Boric Acid Observed in the Packing Area of 1-CH-MOV-1289B - NRC identified	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date		
		CR1225274	Dry Boric Acid Observed in the Packing Area of 2-CH-MOV-2289A - NRC identified			
		CR1225277	Dry Boric Acid Observed in the Packing Area of 1-SI-MOV-1864B - NRC identified			
		CR1225278	Dry Boric Acid Observed in the Packing Area of 2-CH-MOV-2289B - NRC identified			
		CR1225279	Dry Boric Acid Observed in the Packing Area of 1-SI-MOV-1867B - NRC identified			
		CR1225282	Purpose of Copper Wire attached to 2-CH-MOV-2289B Questioned - NRC Identified			
		CR1225283	Dry Boric Acid Observed in the Packing Area and on one stud and nut of 2-CH-FCV-2122 - NRC identified			
		CR1225284	Unlatched Clip Observed on Insulation for 1-CH-FL-1			
		CR1225286	Dry Boric Acid Observed in the Packing Area of 1-CH-FCV-1113A - NRC identified			
		CR1225288	Dry Boric Acid Observed in the Packing Area of 1-CH-FCV-1122 - NRC identified			
		CR1225289	Dry Boric Acid Observed in the Packing Area of 2-CH-FCV-2113A - NRC identified			
		CR1225291	Dry Boric Acid Observed in the Packing Area of 1-CH--288 - NRC identified			
		CR1226877	Hand rail not inspected - NRC identified			
		CR1226912	Transient Fire Loading sheet not used in ASWPH - NRC identified			
		CR1227223	2023 NRC PI&R Exit Meeting Observation			
		CR1227226	2023 NRC PI&R Exit Meeting Comments			
		CR1227227	2023 NRC PI&R Exit Meeting Minor Violation			
		CR1227231	NRC Identified Transient Combustibles in Unit 1 HVAC Room on 4/19/2023			
		Miscellaneous			Unit 1 Cycle 29 Refueling Outage Safety Plan Review	08/11/2022
					1R29 Risk Charter	
				SBDB-NAPS-HC	System Design Basis Document for Control Room Ventilation System	Rev. 25
Procedures		0-ICM-SEC-MIS-	Instrument Corrective Maintenance	Rev. 6		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		001		
		0-MCM-1110-01	Removal of Reactor Vessel Head	Rev. 51
		0-OP-5.50	NUHOMS EOS 37 PTH Dry Shielded Canister Loading and Handling	Rev. 4
		1-OP-4.1	Controlling Procedure for Refueling	Rev. 96
		CM-AA-FPA-100	Fire Protection / Appendix R (Fire Safe Shutdown) Program	Rev. 20
		CM-AA-FPA-101	Control of Combustible and Flammable Materials,	Rev. 15
		EC-AA-110	Identifying and Addressing Nuclear Safety and Quality Concerns	Rev. 1
		ER-AA-102	Preventive Maintenance Program	Rev. 16
		ER-AA-MRL-100	Implementing Maintenance Rule	Rev. 15
		ER-AA-SYS-1001	System Health Report	Rev. 13
		ER-AP-BAC-101	Boric Acid Corrosion Control Program Inspections	Rev. 16
		NF-AA-PRA-370	Probabilistic Risk Assessment Procedures and Methods: MRule (a)(4) Risk Monitor Guidance	Rev. 22
		OP-AA-100	Conduct of Operations	Rev. 46
		OP-AA-102	Operability Determination	Rev. 17
		PI-AA-100-1003	Self Evaluation and Trending	Rev. 26
		PI-AA-100-1004	Self-Assessments	Rev. 14
		PI-AA-100-1007	Operating Experience Program	Rev. 19
		PI-AA-200	Corrective Action	Rev. 40
		PI-AA-300	Cause Evaluation	Rev. 18
		PI-AA-300-3001	Root Cause Evaluation	Rev. 14
		PI-AA-300-3004	Cause Evaluation Methods	Rev. 7
		PI-AA-300-3007	Level of Effort Evaluation	Rev. 2
		VPAP-0809	NUREG-0612 Heavy Load Program	Rev. 11
		WM-AA-100	Work Management	Rev. 37
	Self-Assessments		Maintenance Rule (a)(3) Periodic Assessment for the period of 3/1/2020 to 9/1/2021	
			Q4-2022 Safety Injection System Health Report	04/03/2023
		Audit 21-05	Corrective Action, Independent Review, and License Conditions	
		Audit 21-06	Nuclear Training	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Audit 21-08	NAPS Fire Protection QA Program and Implementation	
		Audit 21-11	Offsite Dose Calculation Manual, Radiological Environmental Monitoring Program, Environmental Protection Plan, & SPS Refueling	
		Audit 22-01	Cyber Security, Fitness For Duty, and Unescorted Access Authorization	
		Audit 22-02	Emergency Preparedness	
		Audit 22-06	Radiological Protection, Process Control Program, and Chemistry	
		Audit 22-07	Operations	
		Audit 22-09	Maintenance	
		PIR1163886	Self Assessment on Operator Fundamentals	
		PIR1164272	2021 Pre-PI&R Assessment	
		PIR1173243	IN 21-01, Lessons Learned from U.S. Nuclear Regulatory Commission Inspections of Design-Basis Capab	
		PIR1178557	2021 Teams DBAI Self-Assessment (NAPS)	
		PIR1179188	IN21-03, Operating Experience Related to the Duane Arnold Energy Center Derecho Event on August 10, 2021	
		PIR1179189	IN21-02, Recent Issues Associated with Monitoring Occupational Exposure to Radiation from Licensed	
		PIR1182118	2021 Mid-Cycle Report	
		PIR1185894	2021 EDG Self Assessment	
		PIR1185894	Perform a SA on the station EDG. Focus on improving existing processes	
		PIR1191629	Part 21 2021-28-00 Callaway	
		PIR1199649	2022 Pre-NRC Exercise Inspection	
		PIR1200431	2023 Pre-PI&R Assessment	
		PIR1204788	Radiation Protection Program Review	
		PIR1217898	RP Department Self-Assessment on Communication and Implementation of Operating Experience	
PIR1220138	Part 21 2022-26-01 - Flowserve-Limitorque - Interim Report Notification Regarding Peerles			
	Work Orders	WO59203398649, WO59203323837,		



Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		WO59203388524, WO59203397751, WO59203306992		