



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

June 2, 2021

Mr. Steve Snider  
Site Vice President  
Duke Energy Carolinas, LLC  
7800 Rochester Highway  
Seneca, SC 29672-0752

**SUBJECT: OCONEE NUCLEAR STATION – BIENNIAL PROBLEM IDENTIFICATION AND  
RESOLUTION INSPECTION REPORT 05000269/2021011 AND  
05000270/2021011 AND 05000287/2021011**

Dear Mr. Snider:

On May 13, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed a problem identification and resolution inspection at your Oconee Nuclear Station and discussed the results of this inspection with you 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 corrective action 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 corrective action 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,

/RA/

Eric J. Stamm, Chief  
Reactor Projects Branch #1  
Division of Reactor Projects

Docket Nos. 05000269 and 05000270 and 05000287  
License Nos. DPR-38 and DPR-47 and DPR-55

Enclosure:  
As stated

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SUBJECT: OCONEE NUCLEAR STATION – BIENNIAL PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000269/2021011 AND 05000270/2021011 AND 05000287/2021011 dated June 2, 2021

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

Docket Numbers: 05000269, 05000270 and 05000287

License Numbers: DPR-38, DPR-47 and DPR-55

Report Numbers: 05000269/2021011, 05000270/2021011 and 05000287/2021011

Enterprise Identifier: I-2021-011-0028

Licensee: Duke Energy Carolinas, LLC

Facility: Oconee Nuclear Station

Location: Seneca, SC

Inspection Dates: April 26, 2021 to May 13, 2021

Inspectors: B. Bishop, Senior Project Engineer  
S. Bussey, Senior Reactor Technology Instructor  
R. Cureton, Resident Inspector  
A. Ruh, Resident Inspector  
J. Worosilo, Senior Project Engineer (team lead)

Approved By: Eric J. Stamm, Chief  
Reactor Projects Branch #1  
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 Oconee Nuclear 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 02.04) (1 Sample)

The inspectors performed a biennial assessment of the licensee's corrective action program, use of operating experience, self-assessments and audits, and safety conscious work environment.

- **Corrective Action Program Effectiveness:** The inspectors assessed the corrective action program's effectiveness in identifying, prioritizing, evaluating, and correcting problems. The inspectors also conducted an in-depth corrective action program review of the emergency feedwater system, reactor protection system, and low-pressure injection system.
- **Operating Experience, Self-Assessments and Audits:** The inspectors assessed the effectiveness of the station's processes for use of operating experience, 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	
Problem Identification: The inspectors determined that the licensee was 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 AD-PI-ALL-0100, "Corrective Action Program," and management's expectation that employees were encouraged to initiate condition reports. Additionally, site management was actively involved in the corrective action program and focused appropriate attention on significant plant issues.	

**Problem Prioritization and Evaluation:** Based on the review of condition reports, the inspectors concluded that problems were prioritized and evaluated in accordance with the condition report significance determination guidance in procedure AD-PI-ALL-0100. The inspectors determined that adequate consideration was given to system or component operability and associated plant risk. The inspectors determined that 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 corrective actions were timely, commensurate with the safety significance of the issues, and effective, in that conditions adverse to quality were corrected. For significant conditions adverse to quality, the corrective actions directly addressed the cause and effectively prevented recurrence. The inspectors reviewed condition reports and effectiveness reviews to verify that the significant conditions adverse to quality had not recurred. Effectiveness reviews for corrective actions to preclude repetition (CAPRs) were sufficient to ensure corrective actions were properly implemented and were effective.

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 inspectors determined that the station's processes for the use of industry and NRC operating experience information and for the performance of audits and self-assessments were effective and complied with all regulatory requirements and licensee standards. The implementation of these programs adequately supported nuclear safety. The inspectors concluded that operating experience was adequately evaluated for applicability and that appropriate actions were implemented to address lessons learned as needed.

## 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.

Self-assessments were generally detailed and critical. The inspectors verified that condition reports (CRs) were created to document areas for improvement and findings resulting from self-assessments, and verified that actions had been completed consistent with those recommendations. Audits of the quality assurance program appropriately assessed performance and identified areas for improvement. Generally, the licensee performed evaluations that were technically accurate.

## 4. Safety Conscious Work Environment

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

## **EXIT MEETINGS AND DEBRIEFS**

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

- On May 13, 2021, the inspectors presented the biennial problem identification and resolution inspection results to Steve Snider and other members of the licensee staff.



**DOCUMENTS REVIEWED**

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71152B	Calculations	MCC-1381.05-00-0230	U1/2, 125VDC Vital I&C Power System {EPL} Voltage Drop Analysis (Priority E Calc)	Rev. 9
		MCC-1381.05-00-0230-07	Interim U1/2, 125VDC Vital I&C Power System {EPL} Voltage Drop Analysis (Deleted)	7-25-13
		MCM 1312.02-0106.001	ABB 5HK Switchgear Test Report	7-15-09
		OSC-4701	125Vdc Safety Related Instrumentation and Control Batteries Adequate Voltage Calc	4-15-92
		OSC-5390	Software "CHECKMATE" Erosion/Corrosion Model	4-13-94
		OSC-6143	Unit 2 MCC Contactor Voltage Adequacy and Fuse Adequacy Verification - TYPE III	Rev. 16
		OSC-6144	MCC Contactor Voltage Adequacy and Fuse Adequacy Verification - TYPE III	Rev. 20
		OSC-8113	125 VDC Vital Instrumentation and Control Load Profile, Battery Sizing, and Voltage Analysis	Rev. 0
	Corrective Action Documents	NCRs	02269795, 02309647, 02309671, 02335894, 02341117, 02352787, 02362961, 02314538, 02361916, 02356261, 02357711, 02361916, 02341629, 02340440, 02282444, 02295613, 02256202, 02333633, 02257253, 02261761, 02268202, 02269738, 02274034, 02277429, 02281459, 02293646, 02304822, 02307234, 02315082, 02323650, 02333220, 02347668, 02270339, 02250059, 02343949, 02343959, 02343569, 02222499, 02349539, 02348945, 01822440, 01905832, 01864283, 01908928, 01956662, 02066214, 02310567, 01904970, 02262484, 02329275, 02351294, 02256202, 02333633, 02257253, 02261761, 02268202, 02269738, 02274034, 02277429, 02281459, 02293646, 02304822, 02307234, 02315082, 02323650, 02333220, 02347668, 02270339, 02250059, 02328602,	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			02352822, 02363249, 02360656, 02360494, 02238263, 02326415, 02325889, 02326176, 02331299, 02250109, 02323998, 02277641, 02267247, 02265030, 02329676, 02353408, 02329830, 02239742, 02282867, 02282868, 02275113, 02281249, 02269890, 02290751, 02286162, 02282206, 02304449, 02236005, 02324405, 02248209, 02282206, 02271065, 02262751, 02318395, 02326169, 02337132, 02344954, 02321306, 02267791, 02367963, 02255084, 02256571, 02256573, 02271477, 02271899, 02279383, 02282406, 02337132, 02344648, 02348328, 02354874, 02106867, 02357910, 02346616, 02367963, 02262751, 02247754, 02266788, 02267643, 02267791, 02276356, 02277471, 02286365, 02298053, 02301572, 02359235, 02374107, 02332992, 02263817, 02307294, 02343319, 02344954, 02292607, 02304321, 02318336, 02323708, 02326169, 02333218, 02357623, 02260902, 02315317, 02321306, 02271065, 02370845, 02267392, 02294622, 02347792, 02318395, 02356261, 02357711, 02361916, 02341629, 02340440, 02306767, 02271172, 02262751, 02318395, 02326169, 02337132, 02344954, 02321306, 02357959, 02337133, 02345510, 01665443, 01626129, 01991686, 02327869, 02335984, 02304504, 02374869, 02350366, 02343376, 02343461	
		PRRs	02369913, 02369915, 02348486, 02335129, 02361878, 02363003, 02363118, 02363775, 02364060, 02364437, 02364479, 02364602, 02365937, 02366403, 02365093, 02341872, 02341873, 02341874, 02342007, 02374078	
		TRFs	02335423, 02326402, 02357345, 02357546, 02357547, 02337192, 02341991	
		Engineering Changes	EC 403968	Cyber Install a New SIEM
		EC 417326		
		EC 418297	Revise IPB Cooling Fan Fuse Type to Increase Margin	Rev. 0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Operability Evaluations		2273899, 2301011, 2282444, 2295613, 2267791, 2367963	
	Procedures	AD-EG-ALL-1522	Duties of a Compensatory Fire Watch	Rev. 13
		AD-HU-ALL-0003	Conduct of Pre-Job Briefs and Post-Job Critiques	Rev. 10
		AD-HU-ALL-0005	Human Performance Tools	Rev. 5
		AD-LS-ALL-0003	NRC Audit and Inspection Activities	Rev. 9
		AD-MN-ALL-0004	Minor Maintenance	Rev. 7
		AD-OP-ALL-0105	ODP Reference Guide	
		AD-OP-ALL-0110	General Equipment Operating Standards	Rev. 3
		AD-OP-ALL-0200	Clearance and Tagging	Rev. 21
		AD-OP-ALL-0201	Protected Equipment	Rev. 8
		AD-OP-ALL-0204	Plant Status Control	Rev. 5
		AD-RP-ALL-0002	Radiation and Contamination Surveys	Rev. 2
		AD-RP-ALL-1000	Conduct of Radiation Protection	Rev. 5
		AD-RP-ALL-5000	Preparation and Shipment of Radioactive Material and Radioactive Waste	Rev. 4
		IP/0/A/3011/016	Motor Control Center, Distribution Center, and Power Panelboard Preventative Maintenance	Rev. 14
	Work Orders	WOs	01868728, 20077646-01, 20393023, 20329162, 20355427, 20335677, 20304652, 20304194, 20341553, 20370120, 20360288, 20419101, 20440072, 20424831, 20453294, 20460178, 20295098, 20434939, 20415424, 20303569, 02094851, 20420403, 20421062	
		WRs	20173644, 20184670, 20186718, 20193768, 20197868, 20156589, 20160991, 20185090, 20153676, 20134414, 20136438, 20140847, 20143385, 20145287, 20135677, 20153774, 20129909, 20161424, 20165600, 20164418, 20183175, 20183017, 20147905, 20148331, 20154895, 20162941, 20162548, 20165142, 20165148, 20190980, 20179923, 20186117, 20184649, 20179143	