UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 9, 2026

Christopher H. Mudrick
Senior Vice President
Constellation Energy Generation, LLC
President and Chief Nuclear Officer (CNO) Constellation Nuclear
200 Energy Way, KSA-3N
Kennett Square, PA 19348

SUBJECT: BRAIDWOOD STATION – INTEGRATED INSPECTION REPORT 05000456/2026003 and 05000457/2026003

Dear Christopher H. Mudrick:

On September 30, 2026, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Braidwood Station. On October 15, 2026, the NRC inspectors discussed the results of this inspection with J. Conquest, Plant Manager, and other members of your staff. The results of this inspection are documented in the enclosed report.

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 Bob Orlikowski on 11/09/26

Bob J. Orlikowski, Chief
Division of Reactor Projects
Reactor Projects Branch C
Region III

Docket Nos. 05000456 and 05000457
License Nos. NPF–72 and NPF–77

Enclosure:
As stated

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Letter to Christopher H. Mudrick from Bob J. Orlikowski dated November 9, 2026.

SUBJECT: BRAIDWOOD STATION – INTEGRATED INSPECTION REPORT 05000456/2026003 and 05000457/2026003

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers:	05000456 and 05000457
License Numbers:	NPF-72 and NPF-77
Report Numbers:	05000456/2026003 and 05000457/2026003
Enterprise Identifier:	I-2026-003-0058
Licensee:	Constellation Energy Generation, LLC
Facility:	Braidwood Station
Location:	Braceville, IL
Inspection Dates:	July 01, 2026, to September 30, 2026
Inspectors:	Noah Bolling, Resident Inspector Robert Bowen, Illinois Emergency Management Agency Robert Farmer, Health Physicist John Robbins, Senior Resident Inspector Phillip Smagacz, Resident Inspector
Approved By:	Bob J. Orlikowski, Chief Reactor Projects Branch C 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 Braidwood 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.

PLANT STATUS

Unit 1 began the inspection period operating at full power. With the exception of minor reductions in power to support scheduled testing activities, the unit remained operating at or near full power for the entire inspection period.

Unit 2 began the inspection period operating at full power. On Friday, July 17, 2026, the unit reduced power approximately 15 percent to respond to a fish kill event that was impacting the circulating water system. The unit returned to full power on Sunday, July 19, 2026. With the exception of minor reductions in power to support scheduled testing activities and load changes requested by the transmission system dispatcher, the unit remained operating at or near full power for the entire 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 (IP Section 03.01) (2 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

(1) 1A auxiliary feedwater (AF) system during 1B AF system maintenance during the week ending July 18, 2026.
(2) 1A emergency diesel generator (EDG) during 1B EDG maintenance during the week ending September 19, 2026.

71111.11A - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Training/Examination Observations (IP Section 03.01) (1 Sample)

The inspectors observed and evaluated the following licensed operator examination activity:

(1) A complex casualty evaluated scenario involving a crew of licensed operators was observed in the facility's simulator on September 30, 2026.

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management (IP Section 03.01) (4 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) Review and evaluation of the risk associated with 1B AF work and fish kill in the Braidwood cooling pond from hot weather as documented in Work Order (WO) 5835998 and Action Request (AR) 4988690, respectively during the week ending July 18, 2026.
(2) Review and evaluation of the risk associated with planned work due to changes in the risk assessment that resulted from a recent Probabilistic Risk Model update and resulted in Standing Order 26-008 and AR 4978017, respectively.
(3) Review and evaluation of the risk associated with planned work following the emergent failure of the 1B EDG, as documented in AR 5165689 during the week ending September 12, 2026.
(4) Review and evaluation of the risk associated with the restoration of 1B EDG from maintenance and delayed work as documented, in part, in WO 5924683 during the week ending September 26, 2026.

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) Evaluation of the operability of the main control room envelope after identification of water intrusion, as documented in AR 4981313.
(2) Evaluation of the operability of 1B reactor coolant loop flow instrument (FI), 1FI-426, as documented in AR 4999251.
(3) Evaluation of the operability of Unit 1 refueling water storage tank (RWST), as documented in AR 5011015.

Temporary and Permanent Modifications (IP Section 03.02) (2 Samples)

The inspectors evaluated the following temporary or permanent modifications:

(1) The inspectors reviewed a temporary modification of 2AF022B, as documented in Engineering Change (EC) 648281.
(2) The inspectors reviewed a permanent modification of the Unit 2 automatic rod control withdrawal speed, as documented in EC 642092.

71111.24 - Testing and Maintenance of Equipment Important to Risk

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

Post-Maintenance and Surveillance Testing (IP Section 03.01) (7 Samples)

(1) 2BwOSR 3.8.1.2-1, Unit Two 2A Diesel Generator Operability Surveillance, as documented in WO 05839835.
(2) 1BwOSR 3.7.5.4-2, Unit One Diesel Driven Auxiliary Feedwater Pump Surveillance, as documented in WO 5890115.
(3) 2BwOSR 5.5.8.RH-5A, Group A IST Requirements for Residual Heat Removal Pump 2RH01PA, as documented in WO 5816257.
(4) BwIP 1T-FW026, Calibration of Steam Generator 1A Feedwater Inlet Temperature Loop 1T-FW026, as documented in WO 5606218.
(5) BwIP 2000-T24, Calibration of Diesel Oil Storage Tank 1B Level Loop, as documented in WO 5698560.
(6) Functional and operational testing of 1B EDG governor following maintenance, as documented in WO 5924933.
(7) Functional and operational testing of 1B EDG and associated turbo following maintenance, as documented in WO 5932495.

Quality Control (IP Section 03.02) (1 Sample)

(1) The inspectors reviewed quality control of replacement components associated with the 2B Component Cooling (CC) pump, as documented in WO 5098523.

Diverse and Flexible Coping Strategies (FLEX) Testing (IP Section 03.04) (1 Sample)

(1) Annual FLEX pump testing per 0BwOS FX-9, on July 10, 2026.

SAFEGUARDS

71130.15 - Security Operations

Security Equipment Condition (IP Section 03.02) (1 Sample)

The inspectors evaluated the ability of security equipment to perform its intended function through a walkdown of the following:

(1) Walkdown of the integrity of the protected area fence line during the week ending September 26, 2026.

OTHER ACTIVITIES – BASELINE

71152A - Annual Follow-up Problem Identification and Resolution

Annual Follow-up of Selected Issues (IP Section 03.03) (4 Samples)

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

(1) Review of past operability evaluation for the 2B EDG, as documented in EC 647691. This item was selected for review due to the evaluation's inclusion of post-failure analyses addressing recent 2B EDG challenges from a holistic perspective.

(2) The inspectors reviewed the corrective actions associated with AR 4998747, Unit 1 Estimated Primary to Secondary Leakage greater than 5 gallons per day. This item was selected for review as changes in leak rate have the potential to be an early indication of a more significant issue.

(3) The inspectors reviewed the corrective actions associated with AR 4918090, Rosemount Pressure Transmitters Electronic Assembly Failures.

(4) The inspectors reviewed the corrective action program evaluation associated with AR 4960153, U2 Turbine HP Doghouse Insulation Fire.

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On October 15, 2026, the inspectors presented the integrated inspection results to J. Conquest, Plant Manager, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.04	Procedures	BwOP AF-E1	Electrical Lineup - Unit 1 Operating	15
		BwOP AF-M1	Operating Mechanical Lineup Unit 1	20
		BwOP DG-E1	Electrical Lineup Unit 1 1A Diesel Generator	7
		BwOP DG-M1	Operating Mechanical Lineup Unit 1 1A DG	17
71111.11A	Procedures	OP-AA-101-111-1001	Operations Standards and Expectations	39
		OP-AA-101-113	Operator Fundamentals	21
		OP-AA-101-113-1006	4.0 Crew Critique Guidelines	16
		OP-AA-103-102	Watch-Standing Practices	23
		OP-AA-103-102-1001	Strategies for Successful Transient Mitigation	4
71111.13	Corrective Action Documents	4978017	Unexpected Results of Paragon Update	06/27/2026
		4988690	Braidwood Fish Loss Event 2026	07/16/2026
	Miscellaneous		1B DG Inoperability - September 2026 List of Protected Equipment	09/09/2026
		BB-PRA-005.08	Byron / Braidwood Probabilistic Risk Assessment Emergency Core Cooling System Notebook	6
		BRW-1-2026-0276	ODM: 1B Diesel Generator	1
		BW-A4-001	PRA Application Notebook, Unique Configuration Risk Assessment, for Auxiliary Building (VA) Maintenance Window	3
		Standing Order 26-008	PRA Emergent Risk Evaluation - 0VA01CC and 0VA01CD Out of Service	0
	Procedures	1/2 BwOA PRI-8	Essential Service Water Malfunction Unit 1/2	107 and 108
		WC-AA-101	On-Line Work Control Process	35
	Work Orders	5835998	1B AF Pump High Jacket Water Temperature During Run	07/16/2026
71111.15	Corrective Action Documents	4682868	Unit 1 RWST Level Lowering	06/06/2023
		4920974	1BwOSR 0.1-1, 2, 3 RWST Level Check Failure	12/12/2025

		4981313	Water Leaking in MCR	07/03/2026
		4985539	Unit 1 RWST Level Check UNSAT	07/11/2026
		4999251	1FI-426 1B RC Loop Flow #3 Step Change to Fail Channel Check	08/02/2026
		5011015	Unit 1 RWST Level Check UNSAT	08/15/2026
	Engineering Changes	642092	GAIA Unit 2 Automatic Rod Control Withdrawal Speed Change	0
		648281	Install Valve Block for 2AF022B to Maintain Open Position	0
	Work Orders	5623660	IM 1F-0426 Electronic Calibration for Reactor Coolant System Flow Control Loop 1B	08/02/2026
71111.24	Corrective Action Documents	04985539	0FX02B High Head FLEX Pump Tripped Upon Start	07/10/2026
		4377745	2B CC Motor IMB Elevated Copper in Oil Analysis	10/19/2020
		4981532	Cannot Start 0FX01PA Medium Head FLEX Pump	07/03/2026
		5009638	Worn Oil ring - 2B CC Inboard Motor Bearing 2CC01PB-M	08/13/2026
	Procedures	0BwOS FX-9	FLEX Pump Flow Surveillance	7
		1BwOSR 3.8.1.2-2	Unit One 1B Diesel Generator Operability Surveillance	55
		2BwOSR 3.8.1.2-1	Unit Two 2A Diesel Generator Operability Surveillance	57
		BwOP DG-11T2	Diesel Generator Operating Log	33
		CC-BR-118-1011	Site Implementation of Diverse and Flexible Coping Strategies (FLEX) and Spent Fuel Pool Instrumentation Program	11
	Work Orders	05839835	LR-IST-2A D/G Operability Monthly/Crankcase Oil Sample	07/08/2026
		5098523	2B CC Motor IMB Elevated Copper in Oil Analysis	08/13/2026
		5606218	1T-FW026 S/G 1A Inlet Temperature Loop	08/14/2026
		5698560	1L-DO0002 Diesel Fuel Oil Storage Tank 1B Level Loop	08/18/2026
		5750223	Measure Diesel Turbocharger Spin Down Time	09/23/2026
		5816257	IST - 2RH01PA ASME Group A Test and CC-2SI8958A	08/05/2026
		5840754	1DG01EB Diesel Generator - Exciter Insp (1B DG)	09/23/2026
		5890115	LR-1B AF Pump Monthly Surveillance Run / Crank Case Oil Sample	08/12/2026

		5924683	1B Diesel Generator Emergency Stop	09/23/2026
		5924933	1PL08J Replace Electronic Components 650GV, 65DRU, 65MPU, 65PWR	09/22/2026
		5932495	LR-IST-1B D/G Operability Monthly/Crankcase Oil Sample	09/23/2026
71130.15	Procedures	SY-AA-101-103	Observation and Inspection of Security Barriers	15
71152A	Corrective Action Documents	4402687	New Revision of the PWR Primary to Secondary Leak Guidance	02/16/2021
		4773506	Unit 1 Primary to Secondary leak rate calculations greater than 5 gallons per day	05/11/2024
		4780911	U9052, Primary to Secondary Leakage Value Elevated	06/14/2024
		4835960	U2 TO Reservoir Degraded Vacuum	02/07/2025
		4918090	Rosemount Pressure Transmitters Electronic Assembly Failures	12/01/2025
		4923308	Engineering Response to Part 21 Notification	12/23/2025
		4925240	2FT-0651 Identified for Replacement (Part 21)	01/05/2026
		4925249	2FT-0654 Identified for Replacement (Part 21)	01/05/2026
		4925255	2FT-0657 Identified for Replacement (Part 21)	01/05/2026
		4925263	2FT-0660 Identified for Replacement (Part 21)	01/05/2026
		4935368	1PR27J Oscillating Sample Flow	02/15/2026
		4954286	1PR27J readings elevated above rounds limit temporarily	04/20/2026
		4960153	Corrective Action Program Evaluation (CAPE) for AR 4960153, U2 Turbine HP Enclosure Insulation Fire	06/17/2026
		4960153	U2 Turbine HP Doghouse Insulation Fire	05/09/2026
		4964048	1PR27J Oscillating Sample Flow	05/26/2026
		4984031	U9052 Greater than 5 GPD	07/08/2026
		4998747	U1 Estimated Primary to Secondary Leakage greater than 5 GPD	07/31/2026
	Engineering Evaluations	647691	Past Operability of 2B Emergency Diesel Generator	0
	Procedures	BwAP 1110-1	Fire Protection Program System Requirements	48
		CC-AA-211	Fire Protection Program	11
		CY-AP-120-340	Primary -To-Secondary Leak Program Strategic Plan	12