



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, ILLINOIS 60532-4352

August 31, 2023

David Rhoades
Senior Vice President
Constellation Energy Generation, LLC
President and Chief Nuclear Officer (CNO)
Constellation Nuclear
4300 Winfield Road
Warrenville, IL 60555

**SUBJECT: BYRON GENERATING STATION – EMERGENCY PREPAREDNESS BIENNIAL
EXERCISE INSPECTION REPORT 05000454/2023501 AND
05000455/2023501**

Dear David Rhoades:

On July 28, 2023, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Byron Generating Station and discussed the results of this inspection with Adam Schuerman, 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 Orth, Steven
on 08/31/23

Steven K. Orth, Chief
Security, Emergency Preparedness, and Incident
Response Branch
Division of Radiological Safety and Security

Docket Nos. 05000454 and 05000455
License Nos. NPF-37 and NPF-66

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

Letter to D. Rhoades from S. Orth dated August 31, 2023.

SUBJECT: BYRON GENERATING STATION – EMERGENCY PREPAREDNESS BIENNIAL EXERCISE INSPECTION REPORT 05000454/2023501 AND 05000455/2023501

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

Docket Numbers: 05000454 and 05000455

License Numbers: NPF-37 and NPF-66

Report Numbers: 05000454/2023501 and 05000455/2023501

Enterprise Identifier: I-2023-501-0009

Licensee: Constellation Nuclear

Facility: Byron Generating Station

Location: Byron, IL

Inspection Dates: July 24, 2023 to July 28, 2023

Inspectors: L. Cender, Health Physicist
G. Hansen, Sr. Emergency Preparedness Inspector
J. Kutlesa, Emergency Preparedness Inspector
E. Rosario, Reactor Inspector
E. Sanchez Santiago, Senior Project Engineer

Approved By: Steven K. Orth, Chief
Security, Emergency Preparedness, and Incident
Response Branch
Division of Radiological Safety and Security

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an emergency preparedness biennial exercise inspection at Byron Generating 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.

REACTOR SAFETY

71114.07 - Exercise Evaluation - Hostile Action (HA) Event

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

- (1) The inspectors observed the biennial hostile action event exercise and evaluated emergency plan performance on July 25, 2023. The exercise scenario simulated an event at the Byron Generating Station that initiated with the declaration and notification of an Alert in response to a simulated potential airborne attack threat within 30 minutes of the site. The scenario conditions simulated the escalation of the significance of the event, requiring the declaration of a Site Area Emergency, and then a General Emergency, as well as the development of Protective Action Recommendations that were communicated to the required state and local government agencies.

71114.08 - Exercise Evaluation - Scenario Review

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

- (1) The inspectors reviewed and evaluated the proposed scenario for biennial emergency plan exercise on June 21, 2023.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

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

- (1) July 1, 2022 through June 1, 2023.

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

- (1) July 1, 2022 through June 1, 2023.

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

(1) July 1, 2022 through June 1, 2023.

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On July 28, 2023, the inspectors presented the emergency preparedness biennial exercise inspection results to Adam Schuerman, Plant Manager, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71114.07	Corrective Action Documents Resulting from Inspection	AR 04692983	2023 NRC Graded Byron HAB	07/27/2023
		AR 04694436	NRC ID: Incorrect ENS Form Notification Time	08/03/2023
	Miscellaneous		2nd Quarter 2021 Performance Indicator Drill Evaluation Report	07/01/2021
			Byron 4Q2021 Focused Area Drill Evaluation Report	10/26/2021
			Byron 2Q2022 Focus Area Drill Evaluation Report	04/05/2022
			Byron 2022 Off-Year Exercise Evaluation Report	09/20/2020
			Byron Health Physics and First Aid Drill Evaluation Report	11/03/2022
			Byron Station 2022 Medical / Health Physics Drill Evaluation Report	06/01/2022
			Byron Core Damage Assessment Drill Report	03/01/2023
			Emergency Preparedness Tabletop Drill Report	03/02/2023
	Procedures	EP-AA-1002	Radiological Emergency Plan Annex for Byron Station	Rev 37
		EP-AA-1002 Addendum 3	Emergency Action Levels for Byron Station	Rev 6
		EP-BY-1000	Byron Station Radiological Emergency Plan	Rev 0
	71114.08	Corrective Action Documents	AR 04442083	Correction Required for Byron 2021 NRC Exercise Report
AR 04486976			Drill Material Distribution Not Compliant with EP-AA-122-100	03/24/2022
Miscellaneous		2023 Byron HAB	2023 Byron Station NRC Evaluated Hostile Action Based Exercise	07/25/2023
71151	Procedures	LS-AA 2130	Monthly Data Elements for NRC ROP Indicator - Alert and Notification System (ANS) Reliability	07/2022 through 06/2023

71151	Procedures	LS-AA-2110	Monthly Data Elements for NRC ROP Indicator - Emergency Response Organization (ERO) Drill Participation	07/2022 through 06/2023
		LS-AA-2120	Monthly Data Elements for NRC ROP Indicator – Drill/Exercise Performance	07/2022 through 06/2023