



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

August 15, 2022

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

SUBJECT: QUAD CITIES NUCLEAR POWER STATION – EMERGENCY
PREPAREDNESS BIENNIAL EXERCISE INSPECTION
REPORT 05000254/2022501 AND 05000265/2022501

Dear Mr. Rhoades:

On July 14, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Quad Cities Nuclear Power Station and discussed the results of this inspection with Mr. Drew Smith 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,

A handwritten signature in cursive script that reads "Patricia J. Pelke".

Signed by Pelke, Patricia
on 08/15/22

Patricia J. Pelke, Chief
Operations Branch
Division of Reactor Safety

Docket Nos. 05000254 and 05000265
License Nos. DPR-29 and DPR-30

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

Letter to David P. Rhoades from Patricia J. Pelke dated August 15, 2022.

SUBJECT: QUAD CITIES NUCLEAR POWER STATION – EMERGENCY
PREPAREDNESS BIENNIAL EXERCISE INSPECTION
REPORT 05000254/2022501 AND 05000265/2022501

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

Docket Numbers: 05000254 and 05000265

License Numbers: DPR-29 and DPR-30

Report Numbers: 05000254/2022501 and 05000265/2022501

Enterprise Identifier: I-2022-501-0008

Licensee: Constellation Nuclear

Facility: Quad Cities Nuclear Power Station

Location: Cordova, IL

Inspection Dates: July 11, 2022 to July 14, 2022

Inspectors: D. Chyu, Reactor Engineer
G. Hansen, Senior Emergency Preparedness Inspector
J. Kutlesa, Physical Security Inspector
C. Zoia, Senior Operations Engineer

Approved By: Patricia J. Pelke, Chief
Operations Branch
Division of Reactor Safety

Enclosure

SUMMARY

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

REACTOR SAFETY

71114.01 - Exercise Evaluation

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

- (1) The inspectors evaluated the biennial emergency plan exercise on July 12, 2022. The exercise scenario simulated an event at the Quad Cities Nuclear Power Station that initiated with the declaration and notification of a Notice of Unusual Event (NOUE) in response to the loss of all offsite AC power capability to Unit 1 Emergency Core Cooling System (ECCS) buses for greater than fifteen minutes. The scenario conditions simulated the escalation of the significance of the event, requiring the declaration of an Alert, 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 the biennial emergency plan exercise on June 1, 2022.

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) October 1, 2021 through March 31, 2022

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

- (1) October 1, 2021 through March 31, 2022

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

(1) October 1, 2021 through March 31, 2022

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 14, 2022, the inspectors presented the emergency preparedness biennial exercise inspection results to Mr. Drew Smith and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71114.01	Corrective Action Documents	AR 04410803	First Quarter ERO Drill Performance	03/22/2021
		AR 04432798	2021 Off-Year TSC Demonstration Criteria Failure	07/01/2021
		AR 04432803	2021 Off-Year Exercise Sim/CR Objective Failure	07/01/2021
		AR 04437089	QDC-EP-2021-OYE-CORP-EOF-Failed DC 3.3.1	07/26/2021
		AR 04460364	2021 Quad Cities Medical Drill	11/12/2021
		AR 04482174	EP 1Q22 PI Drill TSC Objective Failure	03/03/2022
		AR 04482238	EP 1Q22 PI Drill CR/SIM Performance Issues	03/03/2022
		AR 04482256	EP 1Q22 PI Drill Facility and Equipment Issues	03/03/2022
		AR 04505731	2022 EP Pre Exercise Drill Issues	06/15/2022
	Procedures	EP-AA-1000	Exelon Nuclear Standardized Radiological Emergency Plan	33
		EP-AA-1006	Radiological Emergency Plan Annex for Quad Cities Station	41
		EP-AA-1006 Addendum 3	Emergency Action Levels for Quad Cities Station	10
		EP-AA-110-200	Dose Assessment	15
		EP-AA-110-301	Core Damage Assessment (BWR)	14
		EP-AA-111	Emergency Classification and Protective Action Recommendations	23
		EP-AA-111-F-06	Quad Cities PAR Flowchart	1
		EP-AA-112	Emergency Response Organization (ERO) / Emergency Response Facility (ERF) Activation and Operation	22
		EP-AA-112-200	Technical Support Center Activation and Operation	14
		EP-AA-112-300	Operations Support Center Activation and Operation	14
EP-AA-112-400	Emergency Operations Facility Activation and Operation	15		
EP-AA-113	Personnel Protective Actions	15		
71114.08	Miscellaneous	RS-22-070	Quad Cities Nuclear Power Station 2022 Emergency Preparedness Biennial Exercise Scenario	05/12/2022
71151	Miscellaneous		NRC Performance Indicator Data; Emergency Preparedness – Drill/Exercise Performance	10/01/2021 - 03/31/2022
			NRC Performance Indicator Data; Emergency Preparedness – ERO Readiness	10/01/2021 - 03/31/2022

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			NRC Performance Indicator Data; Emergency Preparedness – Alert and Notification System Reliability	10/01/2021 - 03/31/2022