



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

November 20, 2019

Mr. Bryan C. Hanson
Senior VP, Exelon Generation Company, LLC
President and CNO, Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: BYRON GENERATING STATION – EMERGENCY PREPAREDNESS BIENNIAL
EXERCISE INSPECTION REPORT 05000454/2019501 AND
05000455/2019501

Dear Mr. Hanson:

On October 31, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Byron Generating Station and discussed the results of this inspection with Mr. M. Kanavos, Site Vice President and other members of your staff. The results of this inspection are documented in the enclosed report.

The NRC inspectors did not identify any finding or violation of more than minor significance.

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 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Robert J. Orlikowski, Chief
Operations Branch
Division of Reactor Safety

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

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

Letter to Bryan C. Hanson from Robert J. Orlikowski dated November 20, 2019.

SUBJECT: BYRON GENERATING STATION – EMERGENCY PREPAREDNESS BIENNIAL
EXERCISE INSPECTION REPORT 05000454/2019501 AND
05000455/2019501

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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: 05000454/2019501 and 05000455/2019501

Enterprise Identifier: I-2019-501-0020

Licensee: Exelon Generation Company, LLC

Facility: Byron Generating Station

Location: Byron, IL

Inspection Dates: October 28, 2019 to October 31, 2019

Inspectors: L. Cender, Health Physicist
M. Garza, Emergency Preparedness Inspector
G. Hansen, Sr. Emergency Preparedness Inspector
D. Smith, Senior Emergency Response Coordinator

Approved By: Robert J. Orlikowski, 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 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

71114.01 - Exercise Evaluation

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

- (1) The inspectors evaluated the biennial emergency plan exercise on October 29, 2019. The exercise scenario simulated an event at the Byron Station that initiated with the declaration and notification of an Alert in response to an explosion affecting the operability of plant safety systems required to establish or maintain safe shutdown. 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 September 26, 2019.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

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

- (1) 07/01/2018 - 06/30/2019

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

- (1) 07/01/2018 - 06/30/2019

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

- (1) 07/01/2018 - 06/30/2019

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 31, 2019, the inspectors presented the emergency preparedness biennial exercise inspection results to Mr. M. Kanavos, Site Vice President and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71114.01	Corrective Action Documents		Two-Year List of Drill and Exercise Condition Reports	10/2017 - 10/2019
		AR 04099403	Byron TSC/OSC Focused Area Drill Missed DEP Opportunity	01/31/2018
		AR 04106380	Byron TSC/OSC Focused Area Drills Results	02/21/2018
		AR 04132427	Byron 2018 SIM/TSC/OSC Drill Series - Improvement Areas	04/30/2018
		AR 04144009	EP DEP Data Counted on Non-Designated LORT Scenario	06/04/2018
		AR 04144972	2018 Byron EP Off-Year Exercise - Exercise Management and Control	06/06/2018
		AR 04144981	2018 Byron EP Off-Year Exercise - Fleet Assessment Observations	06/06/2018
		AR 04175517	Byron 2018 EP OSC-TSC Drill - Improvement Areas	09/21/2018
		AR 04240961	Byron EP Drill Series - CR-SIM Performance	04/18/2019
		AR 04240972	Byron EP Drill Series - TSC Performance	04/18/2019
		AR 04240977	Byron EP Drill Series - OSC Performance	04/18/2019
		AR 04240979	Byron EP Drill Series - Scenario Management	04/18/2019
		AR 04257463	Byron 2019 EP Exercise - Scenario Control Issues	06/17/2019
		AR 04270497	Byron Station Focused Area EP Drill 07/17/19 Lessons Learned	08/08/2019
		AR 04282138	Byron 2019 EP Pre-Exercise Results	09/25/2019
	Miscellaneous		Two Years of Drill and Exercise Evaluation Results	10/2017 - 10/2019
			PowerPoint Presentation; Byron Biennial Exercise – Exercise Evaluation Results	10/29/2019
			Byron 2017 NRC Graded Exercise Evaluation Report	07/26/2017
			Byron 2019 Emergency Preparedness Biennial Exercise Scenario	08/28/2019
	Procedures	EP-AA-1000	Exelon Nuclear Standardized Radiological Emergency Plan	Revision 30
		EP-AA-1002	Exelon Nuclear Radiological Emergency Plan Annex for Byron Station	Revision 35
		EP-AA-1002, Addendum 3	Exelon Nuclear Emergency Action Levels for Byron Station	Revision 2
		EP-AA-110-200	Dose Assessment	Revision 12

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		EP-AA-110-302	Core Damage Assessment	Revision 8
		EP-AA-111	Emergency Classification and Protective Action Recommendations	Revision 22
		EP-AA-112-200	TSC Activation and Operation	Revision 12
		EP-AA-112-300	OSC Activation and Operation	Revision 13
		EP-AA-112-400	EOF Activation and Operation	Revision 14
		EP-AA-112-600	JIC Activation and Operation	Revision 14
		EP-AA-113	Personnel Protective Actions	Revision 13
		EP-AA-113-F-07	Midwest Emergency Director - Site Assembly, Accountability and Evacuation	Revision G
		EP-AA-114	Notifications	Revision 15
		EP-MW-114-100	Midwest Region Off Site Notifications	Revision 18
71114.08	Corrective Action Documents Resulting from Inspection	AR 04282723	Byron 2019 Pre-Exercise - NRC Observations	09/27/2019
	Miscellaneous	RS-19-086	Byron Station 2019 Emergency Preparedness Biennial Exercise Scenario	08/28/2019
71151	Miscellaneous		NRC PI Data Sheets; NRC Indicator Alert Notification System (ANS) Reliability	07/01/2018 - 06/30/2019
			NRC PI Data Sheets; Emergency Response Organization (ERO) Readiness	07/01/2018 - 06/30/2019
			NRC PI Data Sheets; NRC Indicator Drill and Exercise Performance (DEP)	07/01/2018 - 06/30/2019
		NEI 99 02	Regulatory Assessment Performance Indicator Guideline	Revision 7