



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

February 9, 2021

Mr. David Rhoades
Senior VP, Exelon Generation Company, LLC
President and CNO, Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: BYRON STATION – TRIENNIAL FIRE PROTECTION INSPECTION REPORT
05000454/2021010 AND 05000455/2021010

Dear Mr. Rhoades:

On January 29, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Byron Station and discussed the results of this inspection with Mr. K. McGuire, Operations Director 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,

James D. Beardsley, Acting Chief
Engineering Branch 3
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 David Rhoades from James D. Beardsley dated February 9, 2021.

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05000454/2021010 AND 05000455/2021010

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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: 05000454/2021010 and 05000455/2021010

Enterprise Identifier: I-2021-010-0031

Licensee: Exelon Generation Company, LLC

Facility: Byron Station

Location: Byron, IL

Inspection Dates: January 10, 2021 to January 29, 2021

Inspectors: M. Domke, Reactor Inspector
I. Hafeez, Reactor Inspector
A. Shaikh, Senior Reactor Inspector

Approved By: James D. Beardsley, Acting Chief
Engineering Branch 3
Division of Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a triennial fire protection inspection at Byron 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, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the Coronavirus Disease (COVID-19), regional inspectors were directed to begin telework. During this time regional baseline inspections were evaluated to determine if all or portions of the objectives and requirements stated in the IP could be performed remotely. In some cases, portions of an IP were completed remotely and on-site. The inspection documented below was determined that the objectives and requirements stated in the IP could be completed remotely.

REACTOR SAFETY

71111.21N.05 - Fire Protection Team Inspection (FPTI)

Structures, Systems, and Components (SSCs) Credited for Fire Prevention, Detection, Suppression, or Post-Fire Safe Shutdown Review (IP Section 03.01) (3 Samples)

The inspectors verified that the following systems credited in the approved fire protection program could perform their licensing basis function:

- (1) Division 11 Charging Pump
- (2) Upper Cable Spreading Room Fire Zone D1
- (3) Fire Suppression System Fire Pumps

Fire Protection Program Administrative Controls (IP Section 03.02) (1 Sample)

The inspectors verified that the following fire protection program administrative controls were implemented in accordance with the current licensing basis:

- (1) Combustible Control Program

Fire Protection Program Changes/Modifications (IP Section 03.03) (3 Samples)

The inspectors reviewed the following changes to ensure that they did not constitute an adverse effect on the ability to safely shutdown post-fire and to verify that fire protection program documents and procedures affected by the changes were updated.

- (1) EC 402994 - GL 86-10 Evaluation for use of alternate compensatory measure associated with MCR fire/PORV block valves safe shutdown methodology
- (2) EC 381603 - GL 86-10 Evaluation of deviations from NFPA 13-1983 for foam sprinkler system in the unit 1 and unit 2 diesel oil storage tank rooms

- (3) EC 366688 - GL 86-10 Evaluation for revision of fireproofing drawings for clarification of requirements in 0A and 0B VC ventilation rooms

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On January 29, 2021, the inspectors presented the triennial fire protection inspection results to Mr. K. McGuire, Operations Director and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.21N.05	Calculations	BYR98-224	Fire Pumps 0FP03PA and 0FP03PB Recirculation Test Line Hydraulic Characterization	3
		Letter 04111986	M&M Protection Consultants Letter 04111986_FP Hydraulic Calculation	04/11/1986
	Corrective Action Documents	IR 4204023	0B Diesel Fire Pump 0FP03PB Coolant Sightglass Dirty/Stained	12/18/2018
		IR 4204025	Diesel Driven Fire Pump 0FP03PB Water Pump Gasket Leaking	12/18/2018
		IR 4204029	Diesel Driven Fire Pump 0FP03PB Head Gasket Leaking Coolant	12/18/2018
		IR 4236936	0A Fire Pump Recirc Valve (0FP608) Leaking	10/14/2019
		IR 4243147	0B Fire Protection Pump Oil Results	04/24/2019
		IR 4248538	May Housekeeping Observation	05/13/2019
		IR 4278471	NRC Identified Housekeeping Issues	09/11/2019
		IR 4292583	CWPH Housekeeping	10/30/2019
		IR 4320971	Safety Walkdown Observations	02/24/2020
		IR 4331659	Housekeeping Observation	04/01/2020
		IR 4346607	May Housekeeping	05/29/2020
		IR 4371292	0B Diesel Fire Pump Battery #2, Cell #1 Low Specific Gravity	09/22/2020
		IR 4376230	Untimely Resolution of Noncompliance with NFPA 20	10/13/2020
		IR 4380440	CWPH Housekeeping	10/29/2020
	Drawings	6E-1-4030RY17	Schematic Diagram Press PWR Relief Vlv-1RY455A & 1RY456	W
		6E-1-4326F	Internal/External Wiring Diagram Electrical Penetration Div. 11ESF Control Power 1SI03E, E-44 Part 6	W
		6E-1-4327B	Internal/External Wiring Diagram Electrical Penetration Div.12 ESF Control Power (1SI04E) E-12 Part 2	L
		6E-1-4842C	Internal/External Wiring Diagram Air Operated Valves "RY" System Junction Boxes Part 3	K
	Engineering Changes	0000403334	Install Fuse Blocks for Pressurizer Porv's	09/12/2017
		366688	Revise Fireproofing Drawings for Clarification of	0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Requirements in the 0A and 0B VC Ventilation Rooms	
		381603	GL 86-10 Evaluation of Unit 1 and Unit 2 Diesel Fuel Oil Storage Tank Rooms Foam Water System NFPA 13 Deviations	0
		402994	Evaluation for Use of Alternate Compensatory Measures Associated with MCR Fire/PORV Block Valves Safe Shutdown Strategy	0
		403334	Install Fuse Blocks for Pressurizer PORVs	1
	Engineering Evaluations	AT 01676913-01	Provide Response to the Request Identified in ECR 413078, as Required	09/17/2014
		ECR 413078	Document Review of Pump Curve Acceptability and Create Additional Actions as Applicable	01/23/2014
		IEE 83082	Item Equivalency Evaluation for Fire Protection Pump CATID 0001468435-3	01/23/2014
	Miscellaneous	1.02.0170October 2018	OP-AA-102-106 Operator Response Time Validation Sheet Attachment 1 for October 24,2018-TCA#19-1.02.0170	10/24/2018
		N113b	Local Operation of PZR PORV Block Valve (RY8000B failure)	00
		OP-BY-102-106	Operator Response Time Program at Byron Station	12
	Procedures	0BOSR 10.b.10-1	Bi-Annual Fire Protection System Flush	16
		0BOSR 10.B.12-1	Fire Protection Pump Flow and Pressure Test	12
		0BOSR 10.B.4-1	Motor Driven Fire Pump Monthly Surveillance	16
		0BOSR 10.B.6-1	Diesel Fire Pump Monthly Surveillance	26
		1BEP-0	Reactor Trip or Safety Injection Unit 1	304
		1BEP-1	Loss of Reactor or Secondary Coolant Unit 1	302
		1BOA PRI-5	Control Room Inaccessibility Unit 1	111
		OP-AA-201-009	Control of Transient Combustible Material	25
		OP-BY-102-106	Operator Response Time Program at Byron Station	15
	Shipping Records	200940	Receipt Inspection Package for Pump, Complete, Model 16HXBFB 4STG, Replacement for S/N 383073	01/21/2014
	Work Orders	01234341	8 Year Hydramotor Damper Actuator Inspection and Oil Change	10/24/2012
		04651042-01	Upper Cable Spreading Room Halon System	08/26/2019

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Suppression and Detection Surveillance	
		05028763	1B ASME Pump Surveillance and CVCS Valve Strokes	06/25/2020
		0557579	1B ASME Pump Surveillance and CVCS Valve Strokes	09/22/2020
		4724166-01	LR-OP PERF 0BOSR 10.B.12-1 0A FP PP, SCHED W/ PM 00099204-02	05/10/2019
		4789311-01	0FP03PB Replace Diesel Driven Fire Pump Head Gasket	10/14/2019
		4935003-01	LR-OP PERF 0BOSR 10.B.12-1 OB FP PP, SCHED W/ PM 00099205-0	08/20/2020
		5080369-01	0BOSR 10.B.6-1, Diesel Fire Pump Monthly Surveillance	09/28/2020
		5084050-01	0BOSR 10.B.4-1 (EWP), Motor Driven Fire Pump Monthly Surveillance	10/27/2020
		5094708-01	0BOSR 10.B.4-1 (EWP), Motor Driven Fire Pump Monthly Surveillance	12/04/2020