



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

August 31, 2016

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

SUBJECT: MID-CYCLE ASSESSMENT LETTER FOR BYRON STATION, UNITS 1 AND 2
(REPORT 05000454/2016005; 05000455/2016005)

Dear Mr. Hanson:

On August 10, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed its mid-cycle performance review of Byron Station Units 1 and 2. The NRC reviewed the most recent quarterly performance indicators (PIs) in addition to inspection results and enforcement actions from July 1, 2015 through June 30, 2016. This letter informs you of the NRC's assessment of your facility during this period and its plans for future inspections at your facility.

The NRC determined that overall, Byron Station Units 1 and 2 operated in a manner that preserved public health and safety and met all cornerstone objectives. The NRC determined the performance at Byron Station Units 1 and 2 during the most recent quarter was within the Licensee Response Column of the NRC's Reactor Oversight Process (ROP) Action Matrix because all inspection findings had very low (i.e., green) safety significance, and all PIs indicated that your performance was within the nominal, expected range (i.e., green). Therefore, the NRC plans to conduct ROP baseline inspections at your facility.

The enclosed inspection plan lists the inspections scheduled through June 30, 2018. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the second half of the inspection plan are tentative and may be revised at the end-of-cycle performance review. The NRC provides the inspection plan to allow for the resolution of any scheduling conflicts and personnel availability issues. The NRC will contact you as soon as possible to discuss changes to the inspection plan should circumstances warrant any changes. This inspection plan does not include security related inspections, which will be sent via separate, non-publicly available correspondence.

In response to the accident at Fukushima, the Commission issued Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," and Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation." The NRC conducted audits of licensee efforts towards compliance with these Orders, and the information gathered will aid staff in development of the ultimate Safety Evaluation for the site. After the NRC staff receives the Final Compliance letter for the site, the Safety Evaluation will be issued. Then, the NRC staff

B. Hanson

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will confirm through inspections the full implementation of the orders mentioned above by performing Temporary Instruction 191, "Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans." Pending receipt of the final compliance letter, this inspection is currently scheduled in August 2017.

As noted in the attached inspection plan, some planned non-routine inspections the NRC plans to perform include Inspection Procedure 60855.1, "Operation of an ISFSI at Operating Reactors," in October of this year.

In Staff Requirements Memorandum – SECY 16–0009, "Recommendations Resulting from the Integrated Prioritization and Re-Baselining of Agency Activities," the Commission approved the NRC staff recommendation to discontinue the formal mid-cycle assessment process beginning in calendar year 2017. This will be the final mid-cycle assessment letter. The staff will continue to conduct quarterly assessment meetings and communicate changes in the assessment of licensee performance in accordance with the guidance in Inspection Manual Chapter 0305, "Operating Reactor Assessment Program."

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Please contact me at 630–829–9620 with any questions you have regarding this letter.

Sincerely,

/RA/

Eric Duncan, Chief
Branch 3
Division of Reactor Projects

Docket Nos. 50–454; 50–455
License Nos. NPF–37; NPF–66

Enclosure:
Inspection Plan

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Letter to Bryan Hanson from Eric Duncan dated August 31, 2016

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(REPORT 05000454/2016005; 05000455/2016005)

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Byron
Inspection / Activity Plan
09/01/2016 - 06/30/2018

Unit Number	Planned Dates		Inspection Activity	Title	No. of Staff on Site
	Start	End			
			BI HS - TRIENNIAL HEAT SINK INSPECTION		3
1,2	10/24/2016	10/28/2016	IP 7111107T	Heat Sink Performance	
			BI EP - EP BASELINE INSPECTION / PI VERIFICATION		1
1,2	09/26/2016	09/30/2016	IP 7111402	Alert and Notification System Testing	
1,2	09/26/2016	09/30/2016	IP 7111403	Emergency Preparedness Organization Staffing and Augmentation System	
1,2	09/26/2016	09/30/2016	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies	
1,2	09/26/2016	09/30/2016	IP 71151	Performance Indicator Verification	
			ISFSI - ISFSI CASK LOADING INSPECTION		1
1,2	10/10/2016	10/14/2016	IP 60855.1	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	
			BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
1	10/24/2016	10/28/2016	IP 71124.02	Occupational ALARA Planning and Controls	
1	10/24/2016	10/28/2016	IP 71151	Performance Indicator Verification	
			OL-RQ - BIENNIAL REQUAL PROGRAM INSPECTION		2
1,2	11/28/2016	12/02/2016	IP 7111111B	Licensed Operator Requalification Program	
			BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
1	02/27/2017	03/03/2017	IP 71124.05	Radiation Monitoring Instrumentation	
			ISI - INSERVICE INSPECTION UNIT 1		1
1	02/27/2017	03/24/2017	IP 7111108P	Inservice Inspection Activities - PWR	
			BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
1	03/20/2017	03/24/2017	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1	03/20/2017	03/24/2017	IP 71124.02	Occupational ALARA Planning and Controls	
			BI ENG - TRIENNIAL MODIFICATIONS/5059 INSPECTION		3
1,2	05/15/2017	06/02/2017	IP 7111117T	Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications	
			BI EP - EP EXERCISE INSPECTION / PI VERIFICATION		5
1,2	07/24/2017	07/28/2017	IP 7111401	Exercise Evaluation	
1,2	07/24/2017	07/28/2017	IP 7111406	Drill Evaluation	
1,2	07/24/2017	07/28/2017	IP 7111408	Exercise Evaluation – Scenario Review	
1,2	07/24/2017	07/28/2017	IP 71151	Performance Indicator Verification	
			BI RP - RADIATION PROTECTION BASELINE INSPECTION		2
1	08/07/2017	08/11/2017	IP 71124.06	Radioactive Gaseous and Liquid Effluent Treatment	
1	08/07/2017	08/11/2017	IP 71124.07	Radiological Environmental Monitoring Program	
1	08/07/2017	08/11/2017	IP 71151	Performance Indicator Verification	

This report does not include INPO and OUTAGE activities.
This report shows only on-site and announced inspection procedures.

Byron
Inspection / Activity Plan
09/01/2016 - 06/30/2018

Unit Number	Planned Dates		Inspection Activity	Title	No. of Staff on Site
	Start	End			
			BI PI&R - BIENNIAL PI&R INSPECTION		4
1, 2	08/14/2017	09/01/2017	IP 71152B	Problem Identification and Resolution	
			FLEX - FLEX AND SFP FOLLOWUP		4
1, 2	08/21/2017	08/25/2017	IP 2515/191	Inspection of Licensee's Responses to Order EA-12-049, EA-12-051 & EP Info Request March 12, 2012	
			BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
1	10/10/2017	10/13/2017	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
1	10/10/2017	10/13/2017	IP 71124.04	Occupational Dose Assessment	
			ISI - INSERVICE INSPECTION UNIT 2		1
2	10/02/2017	10/23/2017	IP 7111108P	Inservice Inspection Activities - PWR	
			BI CDBI - COMPONENT DESIGN BASES INSPECTION		5
1	01/08/2018	02/09/2018	IP 7111121	Component Design Bases Inspection	
			BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
1	01/29/2018	02/02/2018	IP 71124.05	Radiation Monitoring Instrumentation	
			ISFSI - ISFSI CASK LOADING INSPECTION		1
1, 2	04/01/2018	05/01/2018	IP 60855.1	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	

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