



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

September 1, 2011

Mr. Michael J. Pacilio  
Senior Vice President, Exelon Generation Company, LLC  
President and Chief Nuclear Officer (CNO), Exelon Nuclear  
4300 Winfield Road  
Warrenville IL 60555

SUBJECT: MID-CYCLE LETTER FOR BYRON STATION, UNITS 1 AND 2;  
05000454/2011-006; 05000455/2011-006

Dear Mr. Pacilio:

On August 9, 2011, the 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, 2010, through June 30, 2011. This letter informs you of the NRC's assessment of your facility during this period and its plans for future inspections at your facility. This performance review and enclosed inspection plan do not include security information. A separate letter will include the NRC's assessment of your performance in the Security Cornerstone and its security-related inspection plan.

The NRC determined the performance at Byron Station Unit 1 during the most recent quarter, as well as the first three quarters of the assessment period, 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 NRC determined the performance at Byron Station Unit 2 during the most recent quarter was within the Regulatory Response Column of the NRC's ROP Action Matrix, based on one inspection finding being classified as having low-to-moderate safety significance (i.e., White) and all PIs indicated that your performance was within the nominal, expected range (i.e., Green). The White finding involved the failure to ensure that a flange connection on the upper lube oil cooler of the 2A diesel generator was correctly torqued following maintenance. This led to the 2A diesel generator being required to be shut down when a significant oil leak developed during routine surveillance testing on November 17, 2010. This finding caused Byron Unit 2 to transition from the Licensee Response Column to the Regulatory Response Column of the ROP Action Matrix in the first quarter of 2011. Therefore, based upon completion of a supplemental inspection as discussed below, the NRC plans to conduct ROP baseline inspections at your facility.

On July 14, 2011, your staff notified the NRC of your readiness for the NRC to conduct a supplemental inspection to review the actions taken to address the White finding. Therefore, we conducted a supplemental inspection for Byron Unit 2 using Inspection Procedure (IP) 95001, "Inspection For One or Two White Inputs in a Strategic Performance Area," in addition to routine ROP baseline inspections. The onsite portion of the inspection was completed on August 26, 2011, and the results of the inspection will be documented in NRC Inspection Report 05000455/2011016 after these results are finalized.

From July 1, 2010, to June 30, 2011, the NRC issued six Severity Level IV traditional enforcement violations to Byron Station. Four of these violations were associated with the construction and operation of the Independent Spent Fuel Storage Installation (ISFSI). These four violations did not involve willfulness, impede the regulatory process, or have an actual safety consequence. Therefore, the NRC will not perform IP 92723, "Follow Up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the Same Area in a 12-Month Period," at your facility to review the Severity Level IV violations related to the ISFSI. However, one of the Severity Level IV violations was associated with a compliance backfit issue. Consistent with the NRC's practice in reviewing compliance backfit issues, the NRC will perform IP 92723 at your facility to review your efforts to implement corrective actions and identify any extent of condition concerns associated with the compliance backfit issue.

The enclosed inspection plan lists the inspections scheduled through December 31, 2012. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the last nine months 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. The NRC also plans to conduct several special and infrequently performed inspections, which include inspections related to the operation of the ISFSI.

In the days following the Fukushima Daiichi nuclear accident in Japan, the Commission directed the staff to establish a senior-level agency task force to conduct a methodical and systematic review of the NRC's processes and regulations to determine whether the agency should make additional improvements to its regulatory system. The NRC has since completed Temporary Instruction (TI) 183, "Follow-up to Fukushima Daiichi Nuclear Station Fuel Damage Event," and TI-184, "Availability and Readiness Inspection of Severe Accident Management Guidelines (SAMGs)" at your facility. Results of these inspections can be found here: <http://www.nrc.gov/japan/japan-activities.html>. Additionally, on May 11, 2011, the agency issued NRC Bulletin 2011-01, "Mitigating Strategies," to confirm compliance with Order EA-02-026, subsequently imposed license conditions, and 10 CFR 50.54(hh)(2), and to determine the status of licensee mitigating strategies programs. On July 12, 2011, the NRC's Task Force made its recommendations to the Commission in its report, "Recommendations for Enhancing Reactor Safety in the 21<sup>st</sup> Century: The Near-Term Task Force Review of Insights from the Fukushima Daiichi Accident." The NRC is currently reviewing the Task Force's recommendations to determine what additional actions may be warranted.

M. Pacilio

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made 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 Eric Duncan at 630-829-9620 with any questions you may have regarding this letter or the inspection plan.

Sincerely,

*/RA/*

Steven West, Director  
Division of Reactor Projects

Docket Nos. 50-454, 50-455  
License Nos. NPF-37, NPF-66

Enclosure: Byron Station Inspection/Activity Plan

cc w/encl: Distribution via ListServ

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Letter to M. Pacilio from S. West dated September 1, 2011.

SUBJECT: MID-CYCLE LETTER FOR BYRON STATION, UNITS 1 AND 2;  
05000454/2011-006; 05000455/2011-006

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**Byron**  
**Inspection / Activity Plan**  
**09/01/2011 - 12/31/2012**

Planned Dates		Inspection Activity	Title	No. of Staff on Site
Start	End			
		<b>BI PI&amp;R - BIENNIAL PI&amp;R INSPECTION</b>		<b>4</b>
08/15/2011	09/02/2011	IP 71152B	Problem Identification and Resolution	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
08/29/2011	09/02/2011	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
08/29/2011	09/02/2011	IP 71124.07	Radiological Environmental Monitoring Program	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
09/26/2011	09/30/2011	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
09/26/2011	09/30/2011	IP 71124.02	Occupational ALARA Planning and Controls	
		<b>BI ISI - INSERVICE INSPECTION - UNIT 2</b>		<b>1</b>
09/26/2011	10/14/2011	IP 7111108P	Inservice Inspection Activities - PWR	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>2</b>
10/31/2011	11/04/2011	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
10/31/2011	11/04/2011	IP 71124.07	Radiological Environmental Monitoring Program	
10/31/2011	11/04/2011	IP 71124.08	Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	
10/31/2011	11/04/2011	IP 71151-BI01	Reactor Coolant System Activity	
10/31/2011	11/04/2011	IP 71151-OR01	Occupational Exposure Control Effectiveness	
10/31/2011	11/04/2011	IP 71151-PR01	RETS/ODCM Radiological Effluent	
		<b>OL PREP - BYRON INIT PREP - 01/2012</b>		<b>4</b>
01/02/2012	01/06/2012	W90227	OL - INITIAL EXAM - 2012 JAN - BYRO	
		<b>OL EXAM - BYRON INITIAL EXAM - 01/2012</b>		<b>4</b>
01/23/2012	01/27/2012	W90227	OL - INITIAL EXAM - 2012 JAN - BYRO	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
03/12/2012	03/16/2012	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
03/12/2012	03/16/2012	IP 71124.02	Occupational ALARA Planning and Controls	
		<b>ISFSI - ISFSI INSPECTION - SCHEDULE DEPENDENT</b>		<b>1</b>
05/01/2012	07/31/2012	IP 60855.1	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	
		<b>BI CDBI - COMPONENT DESIGN BASIS INSPECTION</b>		<b>6</b>
05/14/2012	06/15/2012	IP 7111121	Component Design Bases Inspection	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
06/04/2012	06/08/2012	IP 71124.07	Radiological Environmental Monitoring Program	
06/04/2012	06/08/2012	IP 71151	Performance Indicator Verification	
		<b>BI EPR - EP ROUTINE INSPECTION / PI VERIFICATION</b>		<b>1</b>
06/25/2012	06/29/2012	IP 7111402	Alert and Notification System Testing	

**Byron**  
**Inspection / Activity Plan**  
**09/01/2011 - 12/31/2012**

Planned Dates		Inspection Activity	Title	No. of Staff on Site
Start	End			
		<b>BI EPR - EP ROUTINE INSPECTION / PI VERIFICATION</b>		<b>1</b>
06/25/2012	06/29/2012	IP 7111403	Emergency Preparedness Organization Staffing and Augmentation System	
06/25/2012	06/29/2012	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies	
06/25/2012	06/29/2012	IP 71151	Performance Indicator Verification	
		<b>BI ISI - INSERVICE INSPECTION UNIT 1</b>		<b>2</b>
09/10/2012	10/05/2012	IP 7111108P	Inservice Inspection Activities - PWR	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
09/17/2012	09/21/2012	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
09/17/2012	09/21/2012	IP 71124.02	Occupational ALARA Planning and Controls	
		<b>BI OLRQ - BIENNIAL REQUAL PROGRAM INSPECTION</b>		<b>2</b>
11/05/2012	11/09/2012	IP 7111111B	Licensed Operator Requalification Program	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
12/10/2012	12/14/2012	IP 71124.08	Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	