



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

March 4, 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: ANNUAL ASSESSMENT LETTER – BYRON STATION  
UNITS 1 AND 2 (REPORT 05000454/2011001 AND 05000455/2011001)

Dear Mr. Pacilio:

On February 16, 2011, the Nuclear Regulatory Commission (NRC) staff completed its end-of-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 January 1, 2010, through December 31, 2010. 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 that overall, Byron Station, Units 1 and 2, operated in a manner that preserved public health and safety and met all cornerstone objectives. Plant performance 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 safety significance (Green), and all PIs indicated that your performance was within the nominal, expected range (Green). Therefore, the NRC plans to conduct ROP baseline inspections at your facility. We also plan to conduct a special and infrequently performed inspection procedure (IP) related to the operation of the Independent Spent Fuel Storage Installation (ISFSI).

From January 1 to December 31, 2010, the NRC also issued five Severity Level IV traditional enforcement violations. However, four of these violations were associated with the construction and operation of the 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.

M. Pacilio

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The enclosed inspection plan lists the inspections scheduled through June 30, 2012. Please note that we plan on conducting one infrequently performed IP 60855.1, "Operation of an Independent Spent Fuel Storage Installation at Operating Plants," this year at your Byron Station. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the last 9 months of the inspection plan are tentative and may be revised at the mid-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.

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 me at 630-829-9620 with any questions you may have regarding this letter or the inspection plan.

Sincerely,

**/RA/**

Eric R. Duncan, Chief  
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

**Byron**  
**Inspection / Activity Plan**  
**03/01/2011 - 06/30/2012**

Planned Dates		Inspection Activity	Title	No. of Staff on Site
Start	End			
		<b>ISFSI - ISFSI INSPECTION - SCHEDULE DEPENDENT</b>		<b>2</b>
03/01/2011	04/30/2011	IP 60855.1	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	
		<b>BI ENG - INSERVICE INSPECTION - UNIT 1</b>		<b>1</b>
03/14/2011	04/09/2011	IP 7111108P	Inservice Inspection Activities - PWR	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
03/21/2011	03/25/2011	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
03/21/2011	03/25/2011	IP 71124.02	Occupational ALARA Planning and Controls	
		<b>CRANE - POLAR CRANE SINGLE FAILURE PROOF UPGRADE</b>		<b>1</b>
04/11/2011	05/16/2011	IP 7111120	Refueling and Other Outage Activities	
		<b>BI ENG - TRIENNIAL PERM MODS/50.59</b>		<b>3</b>
05/02/2011	05/20/2011	IP 7111117T	Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
07/11/2011	07/15/2011	IP 71124.08	Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	
07/11/2011	07/15/2011	IP 71151-BI01	Reactor Coolant System Activity	
07/11/2011	07/15/2011	IP 71151-OR01	Occupational Exposure Control Effectiveness	
07/11/2011	07/15/2011	IP 71151-PR01	RETS/ODCM Radiological Effluent	
		<b>BI EP - EP EXERCISE INSPECTION / PI VERIFICATION</b>		<b>3</b>
07/25/2011	07/29/2011	IP 7111401	Exercise Evaluation	
07/25/2011	07/29/2011	IP 71151	Performance Indicator Verification	
		<b>BI PI&amp;R - BIENNIAL PI&amp;R INSPECTION</b>		<b>4</b>
08/15/2011	09/02/2011	IP 71152B	Identification and Resolution of Problems	
		<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 ENG - INSERVICE INSPECTION - UNIT 2</b>		<b>1</b>
09/26/2011	10/14/2011	IP 7111108P	Inservice Inspection Activities - PWR	
		<b>OL PREP - BYRON INIT PREP - 01/2012</b>		<b>3</b>
12/19/2011	12/23/2011	W90227	OL - INITIAL EXAM - JAN 2012 - BYRO	
		<b>OL EXAM - BYRON INITIAL EXAM - 01/2012</b>		<b>3</b>
01/16/2012	01/27/2012	W90227	OL - INITIAL EXAM - JAN 2012 - 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	

**Byron**  
**Inspection / Activity Plan**  
**03/01/2011 - 06/30/2012**

Planned Dates		Inspection Activity	Title	No. of Staff on Site
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		<b>BI RP</b>	<b>- RADIATION PROTECTION BASELINE INSPECTION</b>	<b>1</b>
03/12/2012	03/16/2012	IP 71124.02	Occupational ALARA Planning and Controls	
		<b>ISFSI</b>	<b>- 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 ENG</b>	<b>- COMPONENT DESIGN BASIS INSPECTION</b>	<b>6</b>
05/21/2012	06/22/2012	IP 7111121	Component Design Bases Inspection	
		<b>BI RP</b>	<b>- 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 EP</b>	<b>- EP ROUTINE INSPECTION / PI VERIFICATION</b>	<b>2</b>
06/25/2012	06/29/2012	IP 7111402	Alert and Notification System Testing	
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	

M. Pacilio

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Letter to M. Pacilio from E. Duncan dated March 4, 2011.

SUBJECT: ANNUAL ASSESSMENT LETTER – BYRON STATION  
UNITS 1 AND 2 (05000454/2011001 AND 05000455/2011001)

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