



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

March 5, 2012

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 FOR BYRON STATION, UNITS 1 AND 2  
(REPORT 05000454/2011007 AND 05000455/2011007)**

Dear Mr. Pacilio:

On February 14, 2012, 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, 2011, through December 31, 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 that overall, Byron Station Unit 1 operated in a manner that preserved public health and safety and met all cornerstone objectives. 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).

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 (White) and all PIs indicated that your performance was within the nominal, expected range (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 White finding was closed on August 26, 2011, as documented in our letter to you dated October 4, 2011 [ML112770516]. Unit 2 returned to the Licensee Response Column of the ROP Action Matrix in the first quarter of 2012.

Therefore, the NRC plans to conduct ROP baseline inspections at your facility. We also plan to conduct several special and infrequently performed inspections related to the pre-operational testing and operation of the Independent Spent Fuel Storage Installation (ISFSI). These inspections include IP 60854.1, "Preoperational Testing of Independent Spent Fuel Storage Facility Installations at Operating Plants;" IP 60855.1, "Operation of an Independent Spent Fuel Storage Installation at Operating Plants;" and IP 60856.1, "Review of 10 CFR 72.212(b) Evaluations at Operating Plants." Temporary Instruction 182, "Review of the Implementation of an Industry Initiative to Control the Degradation of Underground Piping and Tanks," will also be conducted at your Byron Station. In addition, a follow-up inspection will be conducted using IP 92723, "Follow Up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the Same Area in a 12-Month Period," to evaluate your corrective actions and extent of condition review related to a Steam Generator Margin-to-Overfill Backfit [ML110190808] that was issued.

The enclosed inspection plan lists the inspections scheduled through June 30, 2013. 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 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 and 50-455  
License Nos. NPF-37 and NPF-66

Enclosure: Byron Station Inspection/Activity Plan

cc w/encl: Distribution via ListServ

**Byron**  
**Inspection / Activity Plan**  
**01/01/2012 - 06/30/2013**

Planned Dates		Inspection Activity	Title	No. of Staff on Site
Start	End			
		<b>FOLLOWUP - MARGIN TO OVERFILL BACKFIT CA/EOC RVW</b>		<b>1</b>
01/02/2012	02/29/2012	IP 92723	Follow Up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the S	
		<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>TI-182 - TI-2515/182 PHASE I - BURIED PIPING</b>		<b>1</b>
01/30/2012	02/01/2012	IP 2515/182	Review of the Implementation of the Industry Initiative to Control Degradation of Underground Piping	
		<b>ER SIT - EVENT RESPONSE - SIT</b>		<b>3</b>
01/31/2012	02/03/2012	IP 93812	Special Inspection	
		<b>ISFSI - ISFSI INSPECTION - SCHEDULE DEPENDENT</b>		<b>2</b>
02/01/2012	02/29/2012	IP 60856.1	Review of 10 CFR 72.212(b) Evaluations at Operating Plants	
02/01/2012	03/31/2012	IP 60855.1	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	
		<b>FOLLOWUP - MARGIN TO OVERFILL BACKFIT CA/EOC RVW</b>		<b>1</b>
11/01/2012	12/20/2012	IP 92723	Follow Up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the S	
		<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>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>
06/11/2012	06/15/2012	IP 71124.07	Radiological Environmental Monitoring Program	
06/11/2012	06/15/2012	IP 71151-BI01	Reactor Coolant System Activity	
06/11/2012	06/15/2012	IP 71151-OR01	Occupational Exposure Control Effectiveness	
06/11/2012	06/15/2012	IP 71151-PR01	RETS/ODCM Radiological Effluent	
		<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	
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	

**Byron**  
**Inspection / Activity Plan**  
**01/01/2012 - 06/30/2013**

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		<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 FIRE - FIRE PROTECTION INSPECTION &amp; BAG TRIP</b>		<b>3</b>
01/14/2013	02/15/2013	IP 7111105T	Fire Protection [Triennial]	
		<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	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
02/25/2013	03/01/2013	IP 71124.06	Radioactive Gaseous and Liquid Effluent Treatment	
		<b>OL PREP - BYRON INIT PREP 04/2013</b>		<b>3</b>
04/01/2013	04/05/2013	W90282	OL - INITIAL EXAM - 2013 APR-MAY - BYRON	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
04/08/2013	04/12/2013	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
04/08/2013	04/12/2013	IP 71124.02	Occupational ALARA Planning and Controls	
		<b>OL EXAM - BYRON INIT EXAM - 04/2013</b>		<b>3</b>
04/29/2013	05/10/2013	W90282	OL - INITIAL EXAM - 2013 APR-MAY - BYRON	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
05/13/2013	05/17/2013	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
05/13/2013	05/17/2013	IP 71124.04	Occupational Dose Assessment	

Therefore, the NRC plans to conduct ROP baseline inspections at your facility. We also plan to conduct several special and infrequently performed inspections related to the pre-operational testing and operation of the Independent Spent Fuel Storage Installation (ISFSI). These inspections include IP 60854.1, "Preoperational Testing of Independent Spent Fuel Storage Facility Installations at Operating Plants;" IP 60855.1, "Operation of an Independent Spent Fuel Storage Installation at Operating Plants;" and IP 60856.1, "Review of 10 CFR 72.212(b) Evaluations at Operating Plants." Temporary Instruction 182, "Review of the Implementation of an Industry Initiative to Control the Degradation of Underground Piping and Tanks," will also be conducted at your Byron Station. In addition, a follow-up inspection will be conducted using IP 92723, "Follow Up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the Same Area in a 12-Month Period," to evaluate your corrective actions and extent of condition review related to a Steam Generator Margin-to-Overfill Backfit [ML110190808] that was issued.

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 Steven West, Director  
 Division of Reactor Projects

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 Enclosure: Byron Station Inspection/Activity Plan

**See Previous Concurrences**

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Letter to M. Pacilio from S. West dated March 5, 2012

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