



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

September 1, 2010

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 PERFORMANCE REVIEW AND INSPECTION PLAN –
BYRON STATION, UNITS 1 AND 2**

Dear Mr. Pacilio:

On August 4, 2010, the Nuclear Regulatory Commission (NRC) staff completed its performance review of Byron Station, Units 1 and 2. Our technical staff reviewed performance indicators (PIs) for the most recent quarter and inspection results for the period from July 1, 2009, through June 30, 2010. The purpose of this letter is to inform you of our assessment of your safety performance during this period and our plans for future inspections at your facility.

This performance review and enclosed inspection plan do not include security information. A separate letter designated and marked as "Official Use Only--Security Information" will include the Security Cornerstone review and resultant inspection plan.

Plant performance for the most recent quarter at Byron Station, Units 1 and 2, was within the Licensee Response column of the NRC's Action Matrix, based on all inspection findings being classified as having very low safety significance (Green) and all PIs indicating performance at a level requiring no additional NRC oversight (Green). Therefore, the NRC plans to conduct reactor oversight process (ROP) baseline inspections at Byron Station.

The enclosed inspection plan details the inspections, less those related to physical protection scheduled through December 31, 2011. In addition to the baseline inspection activities, the NRC also plans to conduct several special and infrequently performed inspection procedures (IPs), which include inspections related to the pre-operational testing and operation of the Independent Spent Fuel Storage Installation. The inspection plan is provided to allow for the resolution of any scheduling conflicts and personnel availability issues well in advance of inspector arrival onsite. Routine resident inspections are not listed due to their ongoing and continuous nature. The inspections in the last 9 months of the inspection plan are tentative and may be revised at the end-of-cycle review.

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).

If circumstances arise which cause us to change the inspection plan, we will contact you to discuss the change as soon as possible. Please contact me at 630-829-9620 with any questions you may have regarding this letter or the inspection plan.

Sincerely,

/RA/

Richard A. Skokowski, Chief
Branch 3
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
09/01/2010 - 12/31/2011

Planned Dates		Inspection Activity	Title	No. of Staff on Site
Start	End			
		OL PREP - BYRON INIT PREP - SEPT. 2010		3
09/06/2010	09/10/2010	W90216	OL - INITIAL EXAM - SEPT/OCT 2010 - BYRO	
		OL EXAM - BYRON INIT EXAM - SEPT.-OCT. 2010		3
09/27/2010	10/08/2010	W90216	OL - INITIAL EXAM - SEPT/OCT 2010 - BYRO	
		BI ENG - TRIENNIAL FIRE PROTECTION INSPECTION		3
10/18/2010	11/05/2010	IP 7111105T	Fire Protection [Triennial]	
		BI ENG - TRIENNIAL FIRE INS INFO GATHERING TRIP		5
10/04/2010	10/08/2010	IP 7111105T	Fire Protection [Triennial]	
		BI OL - LIC. OPERATOR REQUAL. PROGRAM EVALUATION		2
10/25/2010	10/29/2010	IP 7111111B	Licensed Operator Requalification Program	
		BI ENG - TRIENNIAL HEAT SINK INSPECTION & TI-177		2
11/15/2010	12/03/2010	IP 2515/177	Managing Gas Accumulation In Emergency Core Cooling, Decay Heat Removal & Containment Spray System	
11/15/2010	12/03/2010	IP 7111107T	Heat Sink Performance	
		BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
11/29/2010	12/03/2010	IP 2515/179	Verification of Licensee Responses to NRC Requirement for Inventories of Materials Tracked in NSTS	
11/29/2010	12/03/2010	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
11/29/2010	12/03/2010	IP 71124.06	Radioactive Gaseous and Liquid Effluent Treatment	
11/29/2010	12/03/2010	IP 71151-BI01	Reactor Coolant System Activity	
11/29/2010	12/03/2010	IP 71151-OR01	Occupational Exposure Control Effectiveness	
11/29/2010	12/03/2010	IP 71151-PR01	RETS/ODCM Radiological Effluent	
		BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
01/10/2011	01/14/2011	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
01/10/2011	01/14/2011	IP 71124.04	Occupational Dose Assessment	
		BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
03/14/2011	03/18/2011	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
03/14/2011	03/18/2011	IP 71124.02	Occupational ALARA Planning and Controls	
		BI ENG - INSERVICE INSPECTION - UNIT 1		1
03/14/2011	04/09/2011	IP 7111108P	Inservice Inspection Activities - PWR	
		BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
04/11/2011	04/15/2011	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
04/11/2011	04/15/2011	IP 71124.07	Radiological Environmental Monitoring Program	
		HEAD - POLAR CRANE SINGLE FAILURE PROOF UPGRADE		1
04/11/2011	05/16/2011	IP 7111120	Refueling and Other Outage Activities	

Byron
Inspection / Activity Plan
09/01/2010 - 12/31/2011

Planned Dates		Inspection Activity	Title	No. of Staff on Site
Start	End			
		BI ENG - MODIFICATIONS / 50.59 INSPECTION		3
05/02/2011	05/20/2011	IP 711117T	Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications	
		BI PI&R - BIENNIAL PI&R INSPECTION		3
07/11/2011	07/29/2011	IP 71152B	Identification and Resolution of Problems	
		BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
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	
		BI EP - EP EXERCISE INSPECTION / PI VERIFICATION		3
07/25/2011	07/29/2011	IP 7111401	Exercise Evaluation	
07/25/2011	07/29/2011	IP 71151-EP01	Drill/Exercise Performance	
07/25/2011	07/29/2011	IP 71151-EP02	ERO Drill Participation	
07/25/2011	07/29/2011	IP 71151-EP03	Alert & Notification System	
		BI ENG - INSERVICE INSPECTION - UNIT 2		1
09/26/2011	10/14/2011	IP 7111108P	Inservice Inspection Activities - PWR	
		BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
10/03/2011	10/07/2011	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
10/03/2011	10/07/2011	IP 71124.02	Occupational ALARA Planning and Controls	
		OL PREP - BYRON INIT PREP - 08/2011		2
12/19/2011	12/23/2011	W90227	OL - INITIAL EXAM - SEPT 2011 - BYRO	

M. Pacilio

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Letter to M. Pacilio from R. Skokowski dated September 1, 2010.

SUBJECT: MID-CYCLE PERFORMANCE REVIEW AND INSPECTION PLAN –
BYRON STATION, UNITS 1 AND 2

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