



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

September 1, 2009

Mr. Charles G. Pardee
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. Pardee:

On August 19, 2008, the 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, 2008, through June 30, 2009. 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). During this assessment period, both units were within the Regulatory Response column of the NRC's Action Matrix based on one inspection finding in the Initiating Events cornerstone being classified as having low to moderate safety significance (White). This White finding was closed in the first quarter 2009. Therefore, we plan to conduct reactor oversight process (ROP) baseline inspections at your facility. We also plan to conduct several special and infrequently performed inspection procedures, which include inspections related to the pre-operational testing and operation of the Independent Spent Fuel Storage Installation.

Additionally, in our 2008 End-of-Cycle assessment letter dated March 3, 2009, [ML090630253] and the 2008 Middle-of-Cycle assessment letter dated September 2, 2008 [ML082460206], we discussed a substantive cross-cutting issue in the area of Human Performance (HP) with a cross-cutting theme in the component of decision making (H.1(b)). During this period, the number of findings with the same cross-cutting aspect of making conservative assumptions was reduced to below the threshold for substantive cross-cutting issues. Furthermore, corrective actions focusing on decision making have been implemented and the NRC staff noted some positive changes at the facility. Based on the corrective actions taken by the licensee and the decrease in the number of findings, this substantive cross-cutting issue is closed.

The enclosed inspection plan details the inspections, less those related to physical protection, scheduled through December 31, 2010. 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.

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 this inspection plan, we will contact you to discuss the change as soon as possible. Please contact Richard Skokowski at 630-829-9620 with any questions you may have regarding this letter or the inspection plan.

Sincerely,

/RA/

K. Steven West, Director
Division of Reactor Projects

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

Enclosure: Byron Inspection/Activity Plan

DISTRIBUTION
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Letter to C. Pardee from K. West dated September 1, 2009

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

cc w/encl: Site Vice President - Byron Station
Plant Manager - Byron Station
Manager Regulatory Assurance - Byron Station
Senior Vice President - Midwest Operations
Senior Vice President - Operations Support
Vice President - Licensing and Regulatory Affairs
Director - Licensing and Regulatory Affairs
Manager Licensing - Braidwood, Byron, and LaSalle
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Ogle County Sheriff/EMA Coordinator
Ogle County Administrator
Winnebago County Board Chair
EMA Coordinator, Winnebago County
Chief, Oregon Police Department
Winnebago County Sheriff
Mayor, City of Byron
Mayor, City of Oregon
Mayor, City of Rochelle
President, Village of Mt. Morris

Letter to C. Pardee from K. West dated September 1, 2009

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

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[ROPreports Resource](#)

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OFFICE	RIII		RIII		RIII		
NAME	JDalzell:dtp		RSkokowski		SWest		
DATE	08/28/09		08/29/09		08/29/09		

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Byron
Inspection / Activity Plan
09/01/2009 - 12/31/2010

Planned Dates		Inspection Activity	Title	No. of Staff on Site
Start	End			
		BI ENG - INSERVICE INSPECTION & TI-172 REVISION 1		1
09/14/2009	09/30/2009	IP 2515/172	Reactor Coolant System Dissimilar Metal Butt Welds	
09/14/2009	09/30/2009	IP 7111108P	Inservice Inspection Activities - PWR	
		BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
09/21/2009	09/25/2009	IP 7112101	Access Control to Radiologically Significant Areas	
09/21/2009	09/25/2009	IP 7112102	ALARA Planning and Controls	
		BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
11/16/2009	11/20/2009	IP 7112203	Radiological Environmental Monitoring Program (REMP) And Radioactive Material Control Program	
		BI ENG - TRIENNIAL HEAT SINK INSPECTION		1
02/01/2010	02/05/2010	IP 7111107T	Heat Sink Performance	
		ISFSI - ISFSI INSPECTION		1
04/01/2010	04/30/2010	IP 60854.1	Preoperational Testing of Independent Spent Fuel Storage Facility Installation at Operating Plants	
05/01/2010	08/31/2010	IP 60855.1	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	
		BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
04/12/2010	04/16/2010	IP 7112101	Access Control to Radiologically Significant Areas	
04/12/2010	04/16/2010	IP 7112102	ALARA Planning and Controls	
		BI ENG - ENGINEERING INSERVICE INSPECTION		1
04/19/2010	05/07/2010	IP 2515/172	Reactor Coolant System Dissimilar Metal Butt Welds	
04/19/2010	05/07/2010	IP 7111108P	Inservice Inspection Activities - PWR	
		BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
07/12/2010	07/16/2010	IP 7112103	Radiation Monitoring Instrumentation and Protective Equipment	
07/12/2010	07/16/2010	IP 71151-BI01	Reactor Coolant System Activity	
07/12/2010	07/16/2010	IP 71151-OR01	Occupational Exposure Control Effectiveness	
07/12/2010	07/16/2010	IP 71151-PR01	RETS/ODCM Radiological Effluent	
		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 EP - EP ROUTINE INSPECTION / PI VERIFICATION		2
10/18/2010	10/22/2010	IP 7111402	Alert and Notification System Testing	
10/18/2010	10/22/2010	IP 7111403	Emergency Response Organization Augmentation Testing	

Byron
Inspection / Activity Plan
09/01/2009 - 12/31/2010

Planned Dates		Inspection Activity	Title	No. of Staff on Site
Start	End			
BI EP - EP ROUTINE INSPECTION / PI VERIFICATION				
10/18/2010	10/22/2010	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies	2
10/18/2010	10/22/2010	IP 71151-EP01	Drill/Exercise Performance	
10/18/2010	10/22/2010	IP 71151-EP02	ERO Drill Participation	
10/18/2010	10/22/2010	IP 71151-EP03	Alert & Notification System	
BI RP - RADIATION PROTECTION BASELINE INSPECTION				
10/25/2010	10/29/2010	IP 7112201	Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems	1
BI OL - LIC. OPERATOR REQUAL. PROGRAM EVALUATION				
10/25/2010	10/29/2010	IP 7111111B	Licensed Operator Requalification Program	2