



**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 -
BRAIDWOOD STATION, UNITS 1 AND 2**

Dear Mr. Pardee:

On August 19, 2009, the NRC staff completed its performance review of Braidwood Station, Units 1 and 2. Our technical staff reviewed performance indicators (PIs) for the most recent quarter and inspection results over 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 the resultant inspection plan.

Plant performance for the most recent quarter at Braidwood 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, we plan to conduct reactor oversight process (ROP) baseline inspections at your facility.

Additionally, the staff has identified a substantive cross-cutting issue in the area of Human Performance in the component of decision making. There is a cross-cutting theme in the aspect of conservative assumptions (H.1(b)). There were four findings in the area of Human Performance and the component Decision-Making. These four findings shared the common cross-cutting aspect of failure to use conservative assumptions, verifying the validity of underlying assumptions, and identifying possible unintended consequences. In addition, these findings were from more than one cornerstone (Initiating Events and Mitigating Systems).

There have been several corrective actions taken at the site for many issues related to Human Performance. The NRC has evaluated the corrective actions taken to improve all the human performance issues at the plant. While there has been improvement in Human Performance throughout the plant, at the end of this assessment period the licensee had only implemented limited actions to correct the issues directly related to decision making in

the aspect of conservative assumptions. This substantive cross-cutting issue will remain open until all cross-cutting themes have been cleared in the area of Human Performance. To clear each theme, we will assess whether your corrective actions have resulted in a positive sustainable improvement in the area and will consider the number of findings in the theme.

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. 50-456; 50-457
License Nos. NPF-72; NPF-77

Enclosure: Braidwood 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 -
BRAIDWOOD STATION, UNITS 1 AND 2

cc w/encl: Site Vice President - Braidwood Station
Plant Manager - Braidwood Station
Manager Regulatory Assurance - Braidwood 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
Associate General Counsel
Document Control Desk - Licensing
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J. Klinger, State Liaison Officer,
Illinois Emergency Management Agency
Chairman, Illinois Commerce Commission
Will County Executive
Will County Sheriff
Director, Will County Emergency Management
Agency
Mayor of Joliet
City Manager of Joliet
Kendall County Board Chairman
Kendall County Sheriff
Grundy County Board Chairman
Grundy County Sheriff
Grundy County Emergency Management Agency
Mayor of Morris
Minooka Village President
Mayor of Coal City
Mayor of Carbon Hill
Mayor of Diamond
Mayor of Braidwood
Mayor of Wilmington
Channahon Village President
Channahon Village Administrator
Mayor of Elwood
Mayor of Braceville
Mayor of Kankakee
G. Mortensen, INPO

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

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

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[ROPreports Resource](#)

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OFFICE	RIII		RIII		RIII			
NAME	JDalzell:ntp		Rskokowski		SWest			
DATE	08/28/09		08/28/09		08/29/09			

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Braidwood
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
10/12/2009	10/30/2009	IP 2515/172	Reactor Coolant System Dissimilar Metal Butt Welds	
10/12/2009	10/30/2009	IP 7111108P	Inservice Inspection Activities - PWR	
		OL PREP - BRAIDWOOD INIT PREP - 09/2009		3
09/14/2009	09/18/2009	W90215	OL - INITIAL EXAM - OCT 2009 - BRAI	
		BI EP - EP ROUTINE INSPECTION / PI VERIFICATION		1
10/05/2009	10/09/2009	IP 2515/175	Emergency Response Organization, Drill/Exercise Performance Indicator, Program Review	
10/05/2009	10/09/2009	IP 7111402	Alert and Notification System Testing	
10/05/2009	10/09/2009	IP 7111403	Emergency Response Organization Augmentation Testing	
10/05/2009	10/09/2009	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies	
10/05/2009	10/09/2009	IP 71151-EP01	Drill/Exercise Performance	
10/05/2009	10/09/2009	IP 71151-EP02	ERO Drill Participation	
10/05/2009	10/09/2009	IP 71151-EP03	Alert & Notification System	
		OL EXAM - BRAIDWOOD INIT EXAM 10/2009		3
10/05/2009	10/16/2009	W90215	OL - INITIAL EXAM - OCT 2009 - BRAI	
		BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
10/19/2009	10/23/2009	IP 7112101	Access Control to Radiologically Significant Areas	
10/19/2009	10/23/2009	IP 7112102	ALARA Planning and Controls	
		BI ENG - COMPONENT DESIGN BASIS INSPECTION		7
03/01/2010	04/02/2010	IP 7111121	Component Design Bases Inspection	
		BI EP - EP EXERCISE INSPECTION / PI VERIFICATION		3
03/22/2010	03/26/2010	IP 7111401	Exercise Evaluation	
03/22/2010	03/26/2010	IP 71151-EP01	Drill/Exercise Performance	
03/22/2010	03/26/2010	IP 71151-EP02	ERO Drill Participation	
03/22/2010	03/26/2010	IP 71151-EP03	Alert & Notification System	
		BI ENG - HEAD DROP ANALYSES		1
04/26/2010	05/14/2010	IP 7111120	Refueling and Other Outage Activities	
		BI RP - RADIATION PROTECTION - BASELINE INSPECTI		1
06/14/2010	06/18/2010	IP 7112103	Radiation Monitoring Instrumentation and Protective Equipment	
06/14/2010	06/18/2010	IP 71151-BI01	Reactor Coolant System Activity	
		BI RP - RADIATION PROTECTION - BASELINE INSPECTI		1
07/12/2010	07/16/2010	IP 7112202	Radioactive Material Processing and Transportation	
07/12/2010	07/16/2010	IP 71151-PR01	RETS/ODCM Radiological Effluent	
		BI PI&R - BIENNIAL PI&R INSPECTION		4
08/30/2010	09/17/2010	IP 71152B	Identification and Resolution of Problems	

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

Planned Dates		Inspection Activity	Title	No. of Staff on Site
Start	End			
		BI ENG - ENGINEERING INSERVICE INSPECTION		1
10/04/2010	10/29/2010	IP 7111108P	Inservice Inspection Activities - PWR	
		BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
10/18/2010	10/22/2010	IP 7112101	Access Control to Radiologically Significant Areas	
10/18/2010	10/22/2010	IP 7112102	ALARA Planning and Controls	
		BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
12/06/2010	12/10/2010	IP 7112101	Access Control to Radiologically Significant Areas	
12/06/2010	12/10/2010	IP 7112102	ALARA Planning and Controls	
12/06/2010	12/10/2010	IP 71151-OR01	Occupational Exposure Control Effectiveness	