

March 3, 2008

Mr. Charles G. Pardee  
Chief Nuclear Officer and  
Senior Vice President  
Exelon Nuclear  
Exelon Generation Company, LLC  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: ANNUAL ASSESSMENT LETTER - BRAIDWOOD STATION, UNITS 1 AND 2  
(05000456/2008001; 05000457/2008001)

Dear Mr. Pardee:

On February 13, 2008, 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 for the period from January 1 through December 31, 2007. 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 Related Information" will include the security cornerstone review and resultant inspection plan.

Overall, Braidwood Station Units 1 and 2 operated in a manner that preserved public health and safety and fully met all cornerstone objectives. Plant performance for the most recent quarter 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.

While plant performance for the most recent quarter is within the Licensee Response column of the Action Matrix, there was a safety significant inspection finding affecting the first quarter of the assessment cycle. Specifically, Units 1 and 2 were in the Regulatory Response Column of the NRC's Action Matrix for the first quarter of CY 2007 based on one White finding in the Public Radiation Safety Cornerstone for the failure to perform adequate and timely radiological evaluations following historical unplanned radioactive leaks from the station's blow-down line vacuum breakers. On December 31, 2006, we were notified by your staff of your readiness for the NRC to conduct a supplemental inspection to review the actions taken to address the White finding in the Public Radiation Safety Cornerstone. We conducted Supplemental Inspection Procedure 95001 during the week of January 29, 2007. Based on the results of this inspection, no findings of significance were identified.

The enclosed inspection plan details the inspections, including baseline and other infrequently conducted inspections, less those related to security, scheduled through June 30, 2009. 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 nine months of the inspection plan are tentative and may be revised at the mid-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/**

Cynthia D. Pederson, Director  
Division of Reactor Projects

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

Enclosure: Braidwood Inspection/Activity Plan

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See next page

Letter to C. Pardee from C. Pederson dated March 3, 2008

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(05000456/2008001; 05000457/2008001)

cc w/encl: Site Vice President - Braidwood Station  
Plant Manager - Braidwood Station  
Regulatory Assurance Manager - Braidwood Station  
Chief Operating Officer and Senior Vice President  
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  
Assistant Attorney General  
Illinois Emergency Management Agency  
J. Klinger, State Liaison Officer  
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 Shorewood  
Shorewood Village Administrator  
Mayor of Elwood  
Mayor of Braceville  
Mayor of Kankakee  
INPO

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[ROPreports@nrc.gov](mailto:ROPreports@nrc.gov) (inspection reports, final SDP letters, any letter with an IR number)

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Sincerely,

Cynthia D. Pederson, Director  
Division of Reactor Projects

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OFFICE	RIII		RIII		RIII			
NAME	JBartleman:dtp		RSkokowski		CPederson			
DATE	02/26/08		02/27/08		02/27/08			

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**BRAI**  
**Inspection / Activity Plan**  
**03/01/2008 - 06/30/2009**

Inspection Activity	Title	No. of Staff on Site	Planned Dates		Inspection Type
			Start	End	
<b>2515/166 - TI 2515/166 PWR SUMP INSPECTION</b>		<b>1</b>			
IP 2515/166	Pressurized Water Reactor Containment Sump Blockage [NRC GENERIC LETTER 2004-02]		03/31/2008	04/04/2008	Safety Issues
<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>			
IP 7112103	Radiation Monitoring Instrumentation and Protective Equipment		03/10/2008	03/14/2008	Baseline Inspections
<b>BI ENG - UNIT 2 INSERVICE INSPECTION/TI 172</b>		<b>2</b>			
IP 2515/172	Reactor Coolant System Dissimilar Metal Butt Welds		04/21/2008	05/16/2008	Generic Safety Inspectio
IP 7111108P	Inservice Inspection Activities - PWR		04/21/2008	05/16/2008	Baseline Inspections
<b>2515/171 - TI 2515/171 B5B PHASE 2 AND 3</b>		<b>2</b>			
IP 2515/171	VERIFICATION OF SITE SPECIFIC IMPLEMENTATION OF B.5.B PHASE 2 & 3 MITIGATING STRATEGIES		03/24/2008	03/28/2008	Generic Safety Inspectio
<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>			
IP 7112101	Access Control to Radiologically Significant Areas		04/28/2008	05/02/2008	Baseline Inspections
IP 7112102	ALARA Planning and Controls		04/28/2008	05/02/2008	Baseline Inspections
<b>BI ENG - TRIENNIAL HEAT SINK INSPECTION</b>		<b>1</b>			
IP 7111107B	Heat Sink Performance		06/23/2008	06/27/2008	Baseline Inspections
<b>2515/172 - TI 2515/172 RCS WELD INSPECTION</b>		<b>1</b>			
IP 2515/172	Reactor Coolant System Dissimilar Metal Butt Welds		08/18/2008	08/22/2008	Generic Safety Inspectio
<b>BI ENG - ENGINEERING MODIFICATIONS / 50.59 INSP.</b>		<b>3</b>			
IP 7111102	Evaluation of Changes, Tests, or Experiments		08/25/2008	09/12/2008	Baseline Inspections
IP 7111117B	Evaluations of Changes, Tests, or Experiments & Permanent Plant Modifications		08/25/2008	09/12/2008	Baseline Inspections
<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>			
IP 7112202	Radioactive Material Processing and Transportation		09/22/2008	09/26/2008	Baseline Inspections
IP 71151-BI01	Reactor Coolant System Activity		09/22/2008	09/26/2008	Baseline Inspections
IP 71151-OR01	Occupational Exposure Control Effectiveness		09/22/2008	09/26/2008	Baseline Inspections
IP 71151-PR01	RETS/ODCM Radiological Effluent		09/22/2008	09/26/2008	Baseline Inspections
<b>BI PI&amp;R - BIENNIAL PI&amp;R INSPECTION</b>		<b>3</b>			
IP 71152B	Identification and Resolution of Problems		10/06/2008	10/24/2008	Baseline Inspections
<b>BI EP - EP EXERCISE INSPECTION / PI VERIFICATION</b>		<b>3</b>			
IP 7111401	Exercise Evaluation		11/17/2008	11/21/2008	EP Baseline Inspection
IP 71151-EP01	Drill/Exercise Performance		11/17/2008	11/21/2008	Baseline Inspections
IP 71151-EP02	ERO Drill Participation		11/17/2008	11/21/2008	Baseline Inspections
IP 71151-EP03	Alert & Notification System		11/17/2008	11/21/2008	Baseline Inspections
<b>BI ENG - TRIENNIAL FIRE PROTECTION INSPECTION</b>		<b>3</b>			
IP 7111105T	Fire Protection [Triennial]		01/26/2009	02/13/2009	Baseline Inspections
<b>BI ENG - FIRE PROTECTION INFO GATHERING TRIP</b>		<b>3</b>			
IP 7111105T	Fire Protection [Triennial]		01/12/2009	01/16/2009	Baseline Inspections

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			Start	End	
<b>BI RP</b>	<b>- RADIATION PROTECTION BASELINE INSPECTION</b>	<b>1</b>			
IP 7112201	Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems		02/23/2009	02/27/2009	Baseline Inspections
<b>BI ENG</b>	<b>- ENGINEERING INSERVICE INSPECTION</b>	<b>2</b>			
IP 2515/172	Reactor Coolant System Dissimilar Metal Butt Welds		04/06/2009	04/24/2009	Generic Safety Inspecti
IP 7111108P	Inservice Inspection Activities - PWR		04/06/2009	04/24/2009	Baseline Inspections
<b>BI RP</b>	<b>- RADIATION PROTECTION BASELINE INSPECTION</b>	<b>1</b>			
IP 7112101	Access Control to Radiologically Significant Areas		04/13/2009	04/17/2009	Baseline Inspections
IP 7112102	ALARA Planning and Controls		04/13/2009	04/17/2009	Baseline Inspections
<b>BI RP</b>	<b>- RADIATION PROTECTION BASELINE INSPECTION</b>	<b>1</b>			
IP 7112203	Radiological Environmental Monitoring Program (REMP) And Radioactive Material Control Program		06/22/2009	06/26/2009	Baseline Inspections
IP 71151-BI01	Reactor Coolant System Activity		06/22/2009	06/26/2009	Baseline Inspections
IP 71151-OR01	Occupational Exposure Control Effectiveness		06/22/2009	06/26/2009	Baseline Inspections
IP 71151-PR01	RETS/ODCM Radiological Effluent		06/22/2009	06/26/2009	Baseline Inspections