



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

September 4, 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: MID-CYCLE ASSESSMENT LETTER FOR BRAIDWOOD STATION,  
UNITS 1 AND 2**

Dear Mr. Pacilio:

On August 7, 2012, the Nuclear Regulatory Commission (NRC) staff completed its mid-cycle performance review of Braidwood Station, Units 1 and 2. The NRC reviewed the most recent quarterly performance indicators (PIs) in addition to inspection results and enforcement actions from July 1, 2011, through June 30, 2012. 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 assessment reflects the integration of the Security Cornerstone into Inspection Manual Chapter 0305, "Operating Reactor Assessment Program."

The NRC determined that the performance at Braidwood Station Unit 1 during the most recent quarter, as well as the previous 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 safety significance (i.e., Green) and all PIs indicated your performance was within the normal, expected range (i.e., Green).

The NRC determined that the performance at Braidwood Station Unit 2 during the most recent quarter was within the Regulatory Response column of the NRC's ROP Action Matrix based on all inspection findings being classified as having very low safety significance (i.e., Green) and one PI requiring additional NRC oversight (i.e., White). Specifically, the Mitigating Systems Performance Index for the Cooling Water Systems crossed the Green-White threshold and caused Braidwood Unit 2 to transition from the Licensee Response column to the Regulatory Response column of the ROP Action Matrix in the second quarter of 2012. We notified you in our assessment follow-up letter issued on August 6, 2012, (ADAMS Accession No. ML12220A393) of the increase in our oversight per the ROP Action Matrix.

Therefore, in addition to ROP baseline inspections, the NRC plans to conduct a supplemental inspection in accordance with Inspection Procedure (IP) 95001, "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area," for the White PI. We also plan to conduct several special and infrequently performed inspections related to the operation of the Independent Spent Fuel Storage Installation, Temporary Instructions (TIs), and a follow-up inspection. These inspections include IP 60855.1, "Operation of an Independent Spent Fuel Storage Installation at Operating Plants," TI-182, "Review of the Implementation of an Industry Initiative to Control the Degradation of Underground Piping and Tanks," TI-187, "Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns," and TI-188, "Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns." 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 Compliance Backfit [ML11181A030] that was issued.

The enclosed inspection plan lists the inspections scheduled through December 31, 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 end-of-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. This inspection plan does not include security-related inspections, which will be sent via separate, non-publicly available correspondence.

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/*

Gary L. Shear, Acting Director  
Division of Reactor Projects

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

Enclosure: Braidwood Station Inspection/Activity Plan

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 Gary L. Shear, Acting Director  
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DATE	08/20/12	08/21/12	08/24/12	

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Letter to M. Pacilio from G. Shear dated September 4, 2012.

SUBJECT: MID-CYCLE ASSESSMENT LETTER FOR BRAIDWOOD STATION,  
UNITS 1 AND 2

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**Braidwood**  
**Inspection / Activity Plan**  
**09/01/2012 - 12/31/2013**

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>
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>TI-187 - TI-187 FLOODING WALKDOWN</b>		<b>2</b>
07/01/2012	12/31/2012	IP 2515/187	Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns	
		<b>TI-188 - TI-188 SEISMIC WALKDOWN</b>		<b>2</b>
07/01/2012	12/31/2012	IP 2515/188	Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns	
		<b>BI OLRQ - REQUALIFICATION PROGRAM INSPECTION</b>		<b>1</b>
09/24/2012	09/28/2012	IP 7111111A	Licensed Operator Requalification Program - Annual Review	
		<b>BI ISI - INSERVICE INSPECTION - UNIT 2</b>		<b>2</b>
10/15/2012	11/02/2012	IP 7111108P	Inservice Inspection Activities - PWR	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>2</b>
10/22/2012	10/26/2012	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
10/22/2012	10/26/2012	IP 71124.02	Occupational ALARA Planning and Controls	
		<b>TI 182 - TI 182 BURIED PIPE PHASE 2</b>		<b>1</b>
01/07/2013	01/11/2013	IP 2515/182	Review of the Implementation of the Industry Initiative to Control Degradation of Underground Piping	
		<b>BI EPR - EP ROUTINE INSPECTION / PI VERIFICATION</b>		<b>2</b>
02/11/2013	02/15/2013	IP 7111402	Alert and Notification System Testing	
02/11/2013	02/15/2013	IP 7111403	Emergency Preparedness Organization Staffing and Augmentation System	
02/11/2013	02/15/2013	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies	
02/11/2013	02/15/2013	IP 71151	Performance Indicator Verification	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
02/25/2013	03/01/2013	IP 71124.02	Occupational ALARA Planning and Controls	
02/25/2013	03/01/2013	IP 71124.06	Radioactive Gaseous and Liquid Effluent Treatment	
02/25/2013	03/01/2013	IP 71151-PR01	RETS/ODCM Radiological Effluent	
		<b>OL PREP - BRAIDWOOD INIT PREP 03/2013</b>		<b>3</b>
02/25/2013	02/28/2013	W90281	OL - INITIAL EXAM - 2013 MAR-APR - BRAIDWOOD	
		<b>BI CDBI - COMPONENT DESIGN BASIS INSPECTION</b>		<b>6</b>
05/20/2013	06/21/2013	IP 7111121	Component Design Bases Inspection	
		<b>OL EXAM - BRAIDWOOD INIT EXAM 03/2013</b>		<b>3</b>
03/25/2013	04/05/2013	W90281	OL - INITIAL EXAM - 2013 MAR-APR - BRAIDWOOD	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
04/22/2013	04/26/2013	IP 71124.05	Radiation Monitoring Instrumentation	
04/22/2013	04/26/2013	IP 71151-BI02	Reactor Coolant System Leakage	

**Braidwood**  
**Inspection / Activity Plan**  
**09/01/2012 - 12/31/2013**

Planned Dates		Inspection Activity	Title	No. of Staff on Site
Start	End			
		<b>ISFSI - ISFSI INSPECTION - SCHEDULE DEPENDENT</b>		<b>2</b>
07/01/2013	09/30/2013	IP 60855.1	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
08/12/2013	08/16/2013	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
08/12/2013	08/16/2013	IP 71124.02	Occupational ALARA Planning and Controls	
08/12/2013	08/16/2013	IP 71151-OR01	Occupational Exposure Control Effectiveness	
		<b>BI OLRQ - BIENNIAL REQUAL PROGRAM INSPECTION</b>		<b>2</b>
09/09/2013	09/13/2013	IP 7111111B	Licensed Operator Requalification Program	
		<b>BI ISI - ISI BASELINE INSPECTION UNIT 1</b>		<b>2</b>
09/30/2013	10/18/2013	IP 7111108P	Inservice Inspection Activities - PWR	