



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

March 4, 2013

Mr. Michael J. Pacilio
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,
05000456/2012001 AND 05000457/2012001

Dear Mr. Pacilio:

On February 12, 2013, the Nuclear Regulatory Commission (NRC) staff completed its end-of-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 January 1, 2012, through December 31, 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.

Plant performance for the most recent quarter as well as the first three quarters of the assessment period at Braidwood Station, Unit 1, was within the Licensee Response Column of the NRC's Reactor Oversight Process (ROP) Action Matrix, because all inspection findings had very low (i.e., Green) safety significance, and all PIs indicated that your performance was within the nominal, expected range (i.e., Green).

Plant performance for the most recent quarter, as well as the second and third quarters of the assessment period at Braidwood Station, Unit 2, was within the Regulatory Response Column of the NRC's ROP Action Matrix, because although all inspection findings had very low (i.e., Green) safety significance, one PI was White and therefore required additional NRC oversight. Specifically, the Mitigating Systems Performance Index for the Cooling Water Systems crossed the Green-White threshold and caused Braidwood Station, 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. This PI was subsequently reported as Green in the third quarter of 2012.

Following a supplemental inspection that was conducted using Inspection Procedure 95001, "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area," this White PI issue was closed on November 30, 2012, as documented in our letter to you dated December 27, 2012 [ML12362A257]. As a result, Braidwood Station, Unit 2, returned to the Licensee Response Column of the ROP Action Matrix as of the date of that letter.

The NRC identifies substantive cross-cutting issues (SCCIs) to communicate a concern with the licensee's performance in a cross-cutting area and to encourage the licensee to take appropriate actions before more significant performance issues emerge. During this assessment period, the NRC identified a cross-cutting theme at Braidwood Station in the Decision-Making component of the Human Performance cross-cutting area. Specifically, there were four findings identified to have a cross-cutting aspect in the use of conservative assumptions in decision-making, H.1(b), during the assessment period. However, the NRC determined that a SCCI associated with H.1(b) does not exist because, at this time, the NRC does not have a concern with your staffs planned scope of effort and initial progress in addressing the cross-cutting theme. In reviewing your efforts to date, the NRC noted that you recently performed a comprehensive apparent cause evaluation that identified a number of areas for improvement for which you prescribed corrective actions to address. These corrective actions should be implemented in a timely manner and be maintained for a sufficient time to demonstrate that they have been effective in addressing the causes for the cross-cutting theme. The NRC will continue to closely monitor your staffs progress in implementing these corrective actions until the theme criteria are no longer met.

Therefore, the NRC plans to conduct ROP baseline inspections at your facility. The NRC also plans to conduct an infrequently performed inspection activity related to the operation of the Independent Spent Fuel Storage Installation using Inspection Procedure 60855.1, "Operation of an Independent Spent Fuel Storage Installation at Operating Plants."

The enclosed inspection plan lists the inspections scheduled through December 31, 2014. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the last 12 months of the inspection plan are tentative and may be revised at the middle-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, 50-457
License Nos. NPF-72, NPF-77

Enclosure: Braidwood Station Inspection/Activity Plan

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Letter to M. Pacilio from S. West dated March 4, 2013.

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05000456/2012001 AND 05000457/2012001

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Braidwood
Inspection / Activity Plan
03/01/2013 - 12/31/2014

Unit Number	Planned Dates		Inspection Activity	Title	No. of Staff on Site
	Start	End			
			OL EXAM - BRAIDWOOD INIT EXAM 03/2013		3
1	03/25/2013	04/05/2013	W90281	OL - INITIAL EXAM - 2013 MAR-APR - BRAIDWOOD	
			BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
1	04/01/2013	04/05/2013	IP 71124.02	Occupational ALARA Planning and Controls	
1	04/01/2013	04/05/2013	IP 71124.06	Radioactive Gaseous and Liquid Effluent Treatment	
1	04/01/2013	04/05/2013	IP 71151-PR01	RETS/ODCM Radiological Effluent	
			BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
1	04/22/2013	04/26/2013	IP 71124.05	Radiation Monitoring Instrumentation	
1	04/22/2013	04/26/2013	IP 71151-BI02	Reactor Coolant System Leakage	
			ISFSI - ISFSI INSPECTION - SCHEDULE DEPENDENT		2
1	06/01/2013	06/30/2013	IP 60855.1	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	
			BI CDBI - COMPONENT DESIGN BASIS INSPECTION		6
1	07/29/2013	08/30/2013	IP 7111121	Component Design Bases Inspection	
			BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
1, 2	08/12/2013	08/16/2013	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1, 2	08/12/2013	08/16/2013	IP 71124.02	Occupational ALARA Planning and Controls	
1, 2	08/12/2013	08/16/2013	IP 71151-OR01	Occupational Exposure Control Effectiveness	
			BI OLRQ - BIENNIAL REQUAL PROGRAM INSPECTION		2
1, 2	08/12/2013	08/16/2013	IP 7111111B	Licensed Operator Requalification Program	
			STRIKE - STRIKE CONTINGENCY - OPS / RP / MAINT		3
1, 2	09/30/2013	10/29/2013	IP 92709	Licensee Strike Contingency Plans	
			BI ISI - ISI BASELINE INSPECTION UNIT 1		2
1	09/30/2013	10/18/2013	IP 7111108P	Inservice Inspection Activities - PWR	
			BI MODS - MODIFICATION/50.59 INSPECTION		3
1, 2	01/21/2014	02/07/2014	IP 7111117T	Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications	
			BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
1, 2	02/10/2014	02/14/2014	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
1, 2	02/10/2014	02/14/2014	IP 71124.04	Occupational Dose Assessment	
			BI ISI - INSERVICE INSPECTION UNIT 2		2
1, 2	05/05/2014	05/23/2014	IP 7111108P	Inservice Inspection Activities - PWR	
			BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
1, 2	05/12/2014	05/16/2014	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	

This report does not include INPO and OUTAGE activities.
This report shows only on-site and announced inspection procedures.

Braidwood
Inspection / Activity Plan
03/01/2013 - 12/31/2014

Unit Number	Planned Dates		Inspection Activity	Title	No. of Staff on Site
	Start	End			
			BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
1, 2	08/11/2014	08/15/2014	IP 71124.05	Radiation Monitoring Instrumentation	
			PI&R - BIENNIAL PI&R INSPECTION		1
1, 2	08/11/2014	08/29/2014	IP 71152B	Problem Identification and Resolution	
			BI EPX - EP EXERCISE INSPECTION / PI VERIFICATION		2
1, 2	11/17/2014	11/21/2014	IP 71151	Performance Indicator Verification	
			RENEWAL - LICENSE RENEWAL INSPECTION		6
1, 2	09/22/2014	10/10/2014	IP 71002	License Renewal Inspection	
			BI RP - RADIATION PROTECTION BASELINE INSPECTION		1
1, 2	11/03/2014	11/07/2014	IP 71124.02	Occupational ALARA Planning and Controls	
1, 2	11/03/2014	11/07/2014	IP 71151	Performance Indicator Verification	
			BI HS - TRIENNIAL HEAT SINK INSPECTION		2
1, 2	12/01/2014	12/05/2014	IP 7111107T	Heat Sink Performance	