



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

September 1, 2011

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 LETTER FOR BRAIDWOOD STATION, UNITS 1 AND 2;  
05000456/2011-006; 05000457/2011-006

Dear Mr. Pacilio:

On August 9, 2011, the Nuclear Regulatory Commission (NRC) 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, 2010, through June 30, 2011. 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 performance review and enclosed inspection plan do not include security information. A separate letter will include the NRC's assessment of your performance in the Security Cornerstone and its security-related inspection plan.

The NRC determined the performance at Braidwood Station Unit 1 during the most recent quarter 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). Performance at Braidwood Station Unit 1 was within the Regulatory Response Column of the ROP Action Matrix during the first two quarters of this assessment period due to a White finding that involved the June 24, 2009, failure of the Unit 1 Containment Sump Suction Isolation Valve 1SI8811B to open during surveillance testing. This finding was closed on November 26, 2010, as documented in our Assessment Follow-Up letter to you dated December 2, 2010 [ML103360350]. Unit 1 returned to the Licensee Response Column in the first quarter of 2011.

The NRC determined the performance at Braidwood Station Unit 2 during the most recent quarter, as well as the first three quarters of the assessment period, was within the Licensee Response Column of the NRC's 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).

Therefore, the NRC plans to conduct ROP baseline inspections at Braidwood Station.

From July 1, 2010, to June 30, 2011, the NRC issued four Severity Level IV traditional enforcement violations to Braidwood Station. Three of these Severity Level IV violations involved examples in which the regulatory process was impeded. Therefore, the NRC plans to conduct inspection activities using Inspection Procedure (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 follow-up on these violations. The remaining Severity Level IV violation was associated with a compliance backfit issue. Consistent with the NRC's practice in reviewing compliance backfit issues, the NRC will perform IP 92723 at your facility to review your efforts to implement corrective actions and identify any extent of condition concerns associated with the compliance backfit issue.

The enclosed inspection plan lists the inspections scheduled through December 31, 2012. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the last nine 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. The NRC also plans to conduct several special and infrequently performed inspections, which include inspections related to the pre-operational testing and operation of the Independent Spent Fuel Storage Installation.

In the days following the Fukushima Daiichi nuclear accident in Japan, the Commission directed the staff to establish a senior-level agency task force to conduct a methodical and systematic review of the NRC's processes and regulations to determine whether the agency should make additional improvements to its regulatory system. The NRC has since completed Temporary Instruction (TI) 183, "Follow-up to Fukushima Daiichi Nuclear Station Fuel Damage Event," and TI-184, "Availability and Readiness Inspection of Severe Accident Management Guidelines (SAMGs)" at your facility. Results of these inspections can be found here: <http://www.nrc.gov/japan/japan-activities.html>. Additionally, on May 11, 2011, the agency issued NRC Bulletin 2011-01, "Mitigating Strategies," to confirm compliance with Order EA-02-026, subsequently imposed license conditions, and 10 CFR 50.54(hh)(2), and to determine the status of licensee mitigating strategies programs. On July 12, 2011, the NRC's Task Force made its recommendations to the Commission in its report, "Recommendations for Enhancing Reactor Safety in the 21<sup>st</sup> Century: The Near-Term Task Force Review of Insights from the Fukushima Daiichi Accident." The NRC is currently reviewing the Task Force's recommendations to determine what additional actions may be warranted.

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).

M. Pacilio

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Please contact me at 630-829-9620 with any questions you may have regarding this letter or the inspection plan.

Sincerely,

***/RA/***

Eric R. Duncan, Chief  
Branch 3  
Division of Reactor Projects

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

Enclosure: Braidwood Station Inspection/Activity Plan

cc w/encl: Distribution via ListServ

M. Pacilio

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Please contact me at 630-829-9620 with any questions you may have regarding this letter or the inspection plan.

Sincerely,

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Letter to M. Pacilio from E. Duncan dated September 1, 2011.

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05000456/2011-006; 05000457/2011-006

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**Braidwood**  
**Inspection / Activity Plan**  
**09/01/2011 - 12/31/2012**

Planned Dates		Inspection Activity	Title	No. of Staff on Site
Start	End			
		<b>ISFSI - ISFSI INSPECTIONS. - SCHEDULE DEPENDENT</b>		<b>3</b>
06/20/2011	09/30/2011	IP 60854.1	Preoperational Testing of Independent Spent Fuel Storage Facility Installation at Operating Plants	
06/20/2011	09/30/2011	IP 60856	Review of 10 CFR 72.212(b) Evaluations	
06/20/2011	09/30/2011	IP 60856.1	Review of 10 CFR 72.212(b) Evaluations at Operating Plants	
09/01/2011	10/31/2011	IP 60855.1	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	
		<b>BI OLRQ - BIENNIAL REQUAL PROGRAM INSPECTION</b>		<b>2</b>
08/29/2011	09/02/2011	IP 7111111B	Licensed Operator Requalification Program	
		<b>BI MODS - TRIENNIAL PERM MODS/50.59</b>		<b>3</b>
09/12/2011	09/30/2011	IP 7111117T	Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTI</b>		<b>1</b>
11/14/2011	11/18/2011	IP 71124.07	Radiological Environmental Monitoring Program	
		<b>BI HS - TRIENNIAL HET SINK INSPECTION</b>		<b>2</b>
11/28/2011	12/02/2011	IP 7111107T	Heat Sink Performance	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTI</b>		<b>1</b>
12/05/2011	12/09/2011	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
12/05/2011	12/09/2011	IP 71124.02	Occupational ALARA Planning and Controls	
12/05/2011	12/09/2011	IP 71151	Performance Indicator Verification	
		<b>FOLLOWUP - FOLLOWUP FOR GREATER THAN 3 SL IV VIOS</b>		<b>1</b>
12/14/2011	12/16/2011	IP 92723	Follow Up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the S	
		<b>BI EPX - EP EXERCISE INSPECTION / PI VERIFICATION</b>		<b>2</b>
03/05/2012	03/09/2012	IP 7111401	Exercise Evaluation	
03/05/2012	03/09/2012	IP 71151	Performance Indicator Verification	
		<b>BI ISI - INSERVICE INSPECTION - UNIT 1</b>		<b>2</b>
04/09/2012	05/04/2012	IP 7111108P	Inservice Inspection Activities - PWR	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
04/16/2012	04/20/2012	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
04/16/2012	04/20/2012	IP 71124.02	Occupational ALARA Planning and Controls	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
06/04/2012	06/08/2012	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
06/04/2012	06/08/2012	IP 71124.04	Occupational Dose Assessment	
06/04/2012	06/08/2012	IP 71151-OR01	Occupational Exposure Control Effectiveness	
		<b>BI PI&amp;R - BIENNIAL PI&amp;R INSPECTION</b>		<b>3</b>
06/11/2012	06/29/2012	IP 71152B	Problem Identification and Resolution	

**Braidwood**  
**Inspection / Activity Plan**  
**09/01/2011 - 12/31/2012**

Planned Dates		Inspection Activity	Title	No. of Staff on Site
Start	End			
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
06/25/2012	06/29/2012	IP 71124.07	Radiological Environmental Monitoring Program	
06/25/2012	06/29/2012	IP 71151-PR01	RETS/ODCM Radiological Effluent	
		<b>BI FIRE - FIRE PROTECTION INSPECTION &amp; BAG TRIP</b>		<b>3</b>
07/23/2012	08/24/2012	IP 7111105T	Fire Protection [Triennial]	
		<b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>		<b>1</b>
08/20/2012	08/24/2012	IP 71124.08	Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	
08/20/2012	08/24/2012	IP 71151-BI01	Reactor Coolant System Activity	
		<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>1</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	