



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

September 1, 2010

Mr. Michael J. Pacilio
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer, Exelon Nuclear
4300 Winfield Rd
Warrenville, IL 60555

**SUBJECT: MID-CYCLE ASSESSMENT LETTER - PEACH BOTTOM ATOMIC
POWER STATION UNITS 2 and 3**

Dear Mr. Pacilio:

On August 11, 2010, the Nuclear Regulatory Commission staff completed its performance review of Peach Bottom Atomic Power Station (PBAPS). Our technical staff reviewed performance indicators (PIs) for the most recent quarter and inspection results for the period from July 1, 2009 through June 30, 2010. 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.

The performance review and enclosed inspection plan do not include physical protection information. A separate letter designated and marked as "Official Use Only-Security Information" will include the security cornerstone review and resultant inspection plan.

Plant performance for the most recent quarter at Peach Bottom Units 2 and 3, as well as the first three quarters of the assessment cycle, 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. We also plan on conducting infrequently performed inspection procedures (IPs) which include IP 60855, "Operation of an ISFSI" and IP 92702, "Follow-up on Corrective Actions for Violations and Deviations."

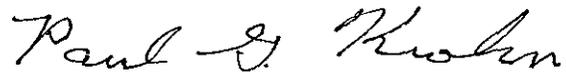
Regarding IP 92702, the staff issued a Confirmatory Order to Exelon on December 1, 2009, formalizing an agreement reached through the NRC's Alternative Dispute Resolution process regarding two acts of deliberate misconduct (ML093350150). As discussed in the previous annual assessment letter (ML100621009) and in accordance with this Confirmatory Order, the NRC will conduct the IP 92702 follow-up inspection to review the corrective actions associated with these issues.

The enclosed inspection plan details the inspections, less those related to physical protection, scheduled through December 31, 2011. 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 end-of-cycle review.

In accordance with 10 CFR Part 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 causes us to change the inspection plan, we will contact you to discuss the change as soon as possible. Please contact me at (610) 337-5120 with any questions you may have regarding this letter or the inspection plan.

Sincerely,



Paul G. Krohn, Chief
Division of Reactor Projects
Projects Branch 4

Docket Nos. 50-277, 50-278
License Nos. NPF-44, NPF-56

Enclosure: Peach Bottom Inspection/Activity Plan

cc w/encl: Distribution via ListServ

The enclosed inspection plan details the inspections, less those related to physical protection, scheduled through December 31, 2011. 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 end-of-cycle review.

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Sincerely
/RA/
Paul G. Krohn, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Docket Nos. 50-277, 50-278
License Nos. NPF-44, NPF-56

Enclosure: Peach Bottom Inspection/Activity Plan

cc w/encl: Distribution via ListServ

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RidsNrrDirslpabResource
RidsNrrDorLp11-1-2Resource
RidsNrrPMPeachBottomResource
ROPreportsResource@nrc.gov

SUNSI REVIEW COMPLETE: AAR (Reviewer's initials)

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NAME	ARosebrook/ AAR	PKrohn/ PGK		
DATE	08/ 25/10	08/ 26/10		

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Peach Bottom
Inspection / Activity Plan
07/01/2010 - 12/31/2011

Unit Number	Planned Dates Start	Planned Dates End	Inspection Activity	Title	No. of Staff on Site
			EP	- EP ANNUAL REPORT	4
2,3	01/01/2010	12/31/2010	IP 7111406	Drill Evaluation	
			07/12EXM	- LSRO OPERATOR LICENSING EXAM	3
2	07/26/2010	07/30/2010	U01795	FY-10 PEACH BOTTOM LSRO INITIAL OPERATOR LICENSING EXAM	
			RETS	- HP-EFFULENTS / ISFSI / INSTRUMENTS	1
2,3	08/02/2010	08/06/2010	IP 60855	Operation Of An ISFSI	
2,3	08/02/2010	08/06/2010	IP 71124.05	Radiation Monitoring Instrumentation	
2,3	08/02/2010	08/06/2010	IP 71124.06	Radioactive Gaseous and Liquid Effluent Treatment	
			TI-173	- GROUND WATER TI	1
2,3	08/02/2010	08/06/2010	IP 2515/173	Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative	
			2561	- DECOMMISSIONING PWR RXR INSPECT PROG	1
1	08/09/2010	08/13/2010	IP 36801	Organization, Management, And Cost Controls At Permanently Shutdown Reactors	
1	08/09/2010	08/13/2010	IP 37801	Safety Reviews, Design Changes, And Modifications At Permanently Shutdown Reactors	
1	08/09/2010	08/13/2010	IP 40801	Self-Assessment, Auditing, And Corrective Action At Permanently Shutdown Reactors	
1	08/09/2010	08/13/2010	IP 62801	Maintenance And Surveillance At Permanently Shutdown Reactors	
1	08/09/2010	08/13/2010	IP 71801	Decommissioning Performance And Status Review At Permanently Shutdown Reactors	
1	08/09/2010	08/13/2010	IP 83750	Occupational Radiation Exposure	
1	08/09/2010	08/13/2010	IP 84750	Radioactive Waste Treatment, And Effluent And Environmental Monitoring	
1	08/09/2010	08/13/2010	IP 86750	Solid Radioactive Waste Management And Transportation Of Radioactive Materials	
1	08/09/2010	08/13/2010	IP 92702	Followup On Corrective Actions For Violations And Deviations	
			HP	- ALARA/AIR/DOSE/INSTRUMENTS	1
2,3	08/23/2010	08/27/2010	IP 71124.02	Occupational ALARA Planning and Controls	
2,3	08/23/2010	08/27/2010	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
2,3	08/23/2010	08/27/2010	IP 71124.04	Occupational Dose Assessment	
2,3	08/23/2010	08/27/2010	IP 71124.05	Radiation Monitoring Instrumentation	
			7111108G	- U2 INSERVICE INSPECTION	1
2	09/20/2010	09/24/2010	IP 7111108G	Inservice Inspection Activities - BWR	
			OUTAGE	- ACCESS/ALARA/AIR/DOSE/INST	1
2,3	09/20/2010	09/24/2010	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
2,3	09/20/2010	09/24/2010	IP 71124.02	Occupational ALARA Planning and Controls	
2,3	09/20/2010	09/24/2010	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
2,3	09/20/2010	09/24/2010	IP 71124.04	Occupational Dose Assessment	
2,3	09/20/2010	09/24/2010	IP 71124.05	Radiation Monitoring Instrumentation	
			01/31EXM	- OPERATOR LICENSING INITIAL EXAMS	5
2	01/03/2011	01/07/2011	U01769	FY11 - PEACH BOTTOM UNITS 2&3 INITIAL OPERATOR LICENSING EXAM	

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

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		01/31EXM - OPERATOR LICENSING INITIAL EXAMS		5
2	01/31/2011 02/11/2011	U01769	FY11 - PEACH BOTTOM UNITS 2&3 INITIAL OPERATOR LICENSING EXAM	
		HP - ACCESS/ALARA/PI		1
2,3	10/25/2010 10/29/2010	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
2,3	10/25/2010 10/29/2010	IP 71124.02	Occupational ALARA Planning and Controls	
2,3	10/25/2010 10/29/2010	IP 71151-OR01	Occupational Exposure Control Effectiveness	
2,3	10/25/2010 10/29/2010	IP 71151-PR01	RETS/ODCM Radiological Effluent	
		CLOSEOUT - CLOSEOUT - WILLFUL MISCONDUCT CONF ORDER		1
2,3	10/29/2010 12/31/2010	IP 92702	Followup On Corrective Actions For Violations And Deviations	
		TI-177 - MANAGING GAS ACCUMULATION IN ECCS		3
2,3	11/29/2010 12/03/2010	IP 2515/177	Managing Gas Accumulation In Emergency Core Cooling, Decay Heat Removal & Containment Spray System	
		EP - EP ANNUAL REPORT		4
2,3	01/01/2011 12/31/2011	IP 7111406	Drill Evaluation	
		711111B - PB REQUAL INSP W/P/F RESULTS		3
2,3	03/07/2011 03/11/2011	IP 7111111B	Licensed Operator Requalification Program	
		EP PROGR - EP PROGRAM INSPECTION		1
2,3	01/31/2011 02/04/2011	IP 7111402	Alert and Notification System Testing	
2,3	01/31/2011 02/04/2011	IP 7111403	Emergency Preparedness Organization Staffing and Augmentation System	
2,3	01/31/2011 02/04/2011	IP 7111404	Emergency Action Level and Emergency Plan Changes	
2,3	01/31/2011 02/04/2011	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies	
2,3	01/31/2011 02/04/2011	IP 71151-EP01	Drill/Exercise Performance	
2,3	01/31/2011 02/04/2011	IP 71151-EP02	ERO Drill Participation	
2,3	01/31/2011 02/04/2011	IP 71151-EP03	Alert & Notification System	
		7111121 - CDBI		6
2,3	02/14/2011 02/18/2011	IP 7111121	Component Design Bases Inspection	
2,3	02/28/2011 03/04/2011	IP 7111121	Component Design Bases Inspection	
2,3	03/07/2011 03/11/2011	IP 7111121	Component Design Bases Inspection	
		TI-179 - TI-179 - NSTS TEMPORARY INSPECTION		1
2,3	04/04/2011 04/08/2011	IP 2515/179	Verification of Licensee Responses to NRC Requirement for Inventories of Materials Tracked in NSTS	
		RADWASTE - RAD WASTE		1
2,3	04/04/2011 04/08/2011	IP 71124.08	Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	
		60855 - ISFSI CAMPAING LOADING INSPECTION		1
2,3	04/01/2011 06/30/2011	IP 60855	Operation Of An ISFSI	
		HP-71124 - HP- /INSTRUMENTS/REMP/ISFSI		1
2,3	06/06/2011 06/10/2011	IP 60855	Operation Of An ISFSI	

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			HP-71124 - HP- /INSTRUMENTS/REMP/ISFSI		1
2,3	06/06/2011	06/10/2011	IP 71124.05	Radiation Monitoring Instrumentation	
2,3	06/06/2011	06/10/2011	IP 71124.07	Radiological Environmental Monitoring Program	
			71152B - PI&R		4
2,3	07/25/2011	07/29/2011	IP 71152B	Identification and Resolution of Problems	
2,3	08/08/2011	08/12/2011	IP 71152B	Identification and Resolution of Problems	
			HP-71124 - HP-ALARA/AIR/DOSE/INSTRUMENTS/ACCESS		1
2,3	08/22/2011	08/26/2011	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
2,3	08/22/2011	08/26/2011	IP 71124.02	Occupational ALARA Planning and Controls	
2,3	08/22/2011	08/26/2011	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
2,3	08/22/2011	08/26/2011	IP 71124.04	Occupational Dose Assessment	
2,3	08/22/2011	08/26/2011	IP 71124.05	Radiation Monitoring Instrumentation	
			HP-71124 - ACCESS/ALARA/AIR/DOSE/INSTRUMENTS		1
2,3	09/19/2011	09/23/2011	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
2,3	09/19/2011	09/23/2011	IP 71124.02	Occupational ALARA Planning and Controls	
2,3	09/19/2011	09/23/2011	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
2,3	09/19/2011	09/23/2011	IP 71124.04	Occupational Dose Assessment	
2,3	09/19/2011	09/23/2011	IP 71124.05	Radiation Monitoring Instrumentation	
			7111108G - U3 INSERVICE INSPECTION		1
3	09/19/2011	09/23/2011	IP 7111108G	Inservice Inspection Activities - BWR	
			HP-71124 - ACCESS/ALARA/DOSE/PI		1
2,3	11/14/2011	11/18/2011	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
2,3	11/14/2011	11/18/2011	IP 71124.02	Occupational ALARA Planning and Controls	
2,3	11/14/2011	11/18/2011	IP 71124.04	Occupational Dose Assessment	
3	11/14/2011	11/18/2011	IP 71151-OR01	Occupational Exposure Control Effectiveness	
2	11/14/2011	11/18/2011	IP 71151-PR01	RETS/ODCM Radiological Effluent	

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