

March 2, 2005

Mr. Christopher M. Crane
President and Chief Nuclear Officer
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: ANNUAL ASSESSMENT LETTER - BYRON STATION, UNITS 1 AND 2
(REPORT 05000454/200501; 05000455/200501)

Dear Mr. Crane:

On February 9, 2005, the NRC staff completed its end-of-cycle plant performance assessment of Byron Station, Units 1 and 2. The end-of-cycle review for Byron Station involved the participation of the reactor technical divisions in evaluating performance indicators (PIs) for the most recent quarter and inspection results for the period from January 1 through December 31, 2004. 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 so that you will have an opportunity to prepare for these inspections and to inform us of any planned inspections that may conflict with your plant activities.

This performance review and enclosed inspection plan do not include physical protection information. A separate letter designated and marked as "Exempt from Public Disclosure in accordance with 10 CFR 2.390" will include the physical protection review and resultant inspection plan.

Overall, Byron Station Units 1 and 2 operated in a manner that preserved public health and safety and fully met all cornerstone objectives. Plant performance of Units 1 and 2 for the most recent quarter, as well as for 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 only baseline inspections at your facility through September 30, 2006.

The enclosed inspection plan details the inspections, less those related to physical protection, scheduled through September 30, 2006. The following infrequently performed inspections are planned to commence during the months shown: Temporary Instruction (TI) 2515/150, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzles" (Unit 1) in March 2005, TI 2515/160, "Pressurizer Penetration Nozzles and Steam Space Piping Connections in U.S. Pressurized Water Reactors" (Unit 1) in March 2005, Problem Identification and Resolution inspection in June 2005, TI 2515/150 (Unit 2) in September 2005, Biennial Heat Sink inspection in October 2005, and Modifications and 10 CFR 50.59 inspection in March 2006. The inspection plan is provided to minimize the resource impact on your staff and to allow for scheduling conflicts and personnel availability to be resolved in advance of inspector arrival onsite.

Routine resident inspections are not listed due to their ongoing and continuous nature. The inspections in the last 9 months of the inspection plan are tentative and may be revised at the mid-cycle review meeting.

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 me at (630) 829-9872 with any questions you may have regarding this letter or the inspection plan.

Sincerely,

/RA/

Dave Passehl, Acting Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket Nos. 50-454, 50-455
License Nos. NPF-37, NPF-66

Enclosure: Byron Station Units 1 and 2 Inspection/Activity Plan

cc w/encl: Site Vice President - Byron Station
Plant Manager - Byron Station
Regulatory Assurance Manager - Byron Station
Chief Operating Officer
Senior Vice President - Nuclear Services
Vice President - Mid-West Operations Support
Vice President - Licensing and Regulatory Affairs
Director Licensing
Manager Licensing - Braidwood and Byron
Senior Counsel, Nuclear
Document Control Desk - Licensing
Assistant Attorney General
Illinois Department of Nuclear Safety
State Liaison Officer, State of Illinois
State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission

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Director Licensing
Manager Licensing - Braidwood and Byron
Senior Counsel, Nuclear
Document Control Desk - Licensing
Assistant Attorney General
Illinois Department of Nuclear Safety
State Liaison Officer, State of Illinois
State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission

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Institute of Nuclear Power Operations (INPO)

Byron
Inspection / Activity Plan
03/01/2005 - 09/30/2006

Unit Number	Inspection Activity	Title	No. of Staff on Site	Planned Dates Start	Planned Dates End	Inspection Type
	TI/ISI	- UNIT 1 ISI/TI-150/TI-160 INSPECTION	2			
1	IP 2515/150	Reactor Pressure Vessel Head and Vessel Head Penetration Nozzles (NRC Bulletin 2002-02		03/02/2005	03/18/2005	Safety Issues
1	IP 2515/160	Pzr Pene Nozzles & Stm Space Piping Connections in U.S. PWRs [NRC Bulletin 2004-01]		03/02/2005	03/18/2005	Safety Issues
1	IP 7111108P	Inservice Inspection Activities - PWR		03/02/2005	03/18/2005	Baseline Inspections
	IP 71121	- RP OUTAGE ACCESS CTRL/ALARA INSP	1			
1,2	IP 7112101	Access Control to Radiologically Significant Areas		03/14/2005	03/18/2005	Baseline Inspections
1,2	IP 7112102	ALARA Planning and Controls		03/14/2005	03/18/2005	Baseline Inspections
	PI&R	- PROBLEM IDENTIFICATION AND RESOLUTION	4			
1,2	IP 71152B	Identification and Resolution of Problems		06/13/2005	07/01/2005	Baseline Inspections
	71114	- EP EXERCISE & EP PI INSP	2			
1,2	IP 7111401	Exercise Evaluation		07/18/2005	07/22/2005	Baseline Inspections
1,2	IP 71151	Performance Indicator Verification		07/18/2005	07/22/2005	Baseline Inspections
	ISI	- UNIT 2 ISI INSPECTION/TI-150	2			
2	IP 2515/150	Reactor Pressure Vessel Head and Vessel Head Penetration Nozzles (NRC Bulletin 2002-02		09/26/2005	10/21/2005	Safety Issues
2	IP 7111108P	Inservice Inspection Activities - PWR		09/26/2005	10/21/2005	Baseline Inspections
	FY 2006	- BYRON INIT PREP 10/2005	3			
1	W90122	OL - INITIAL EXAM - BYRON - OCT/NOV 2005		10/03/2005	10/07/2005	Not Applicable
	OUTAGE	- AC, ALARA, REMP	1			
1,2	IP 7112101	Access Control to Radiologically Significant Areas		10/03/2005	10/14/2005	Baseline Inspections
1,2	IP 7112102	ALARA Planning and Controls		10/03/2005	10/14/2005	Baseline Inspections
1,2	IP 7112203	Radiological Environmental Monitoring Program		10/03/2005	10/14/2005	Baseline Inspections
1,2	IP 71151	Performance Indicator Verification		10/03/2005	10/14/2005	Baseline Inspections
	HEATSKB	- BIENNIAL HEAT SINK INSPECTION (DRS)	1			
1,2	IP 7111107B	Heat Sink Performance		10/31/2005	11/04/2005	Baseline Inspections
	FY 2006	- BYRON INIT EXAM 10&11/2005	3			
1	W90122	OL - INITIAL EXAM - BYRON - OCT/NOV 2005		10/31/2005	11/11/2005	Not Applicable
	IP 71121	- RP POST-OUTAGE ACCESS CTRL & ALARA INSP	1			
1,2	IP 7112101	Access Control to Radiologically Significant Areas		01/09/2006	01/13/2006	Baseline Inspections
1,2	IP 7112102	ALARA Planning and Controls		01/09/2006	01/13/2006	Baseline Inspections
	IP 71114	- EP NON-EXERCISE BASELINE INSP	1			
1,2	IP 7111402	Alert and Notification System Testing		03/13/2006	03/17/2006	Baseline Inspections
1,2	IP 7111403	Emergency Response Organization Augmentation Testing		03/13/2006	03/17/2006	Baseline Inspections
1,2	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies		03/13/2006	03/17/2006	Baseline Inspections
1,2	IP 71151	Performance Indicator Verification		03/13/2006	03/17/2006	Baseline Inspections

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

Byron
Inspection / Activity Plan
03/01/2005 - 09/30/2006

Unit Number	Inspection Activity	Title	No. of Staff on Site	Planned Dates Start	Planned Dates End	Inspection Type
	M50.59	- MOD 50.59 INSPECTION	2			
1	IP 7111102	Evaluation of Changes, Tests, or Experiments		03/13/2006	03/31/2006	Baseline Inspections
	IP 71122	- RP LIQ/GAS EFFLUENT INSPECTION	1			
1,2	IP 7112201	Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems		05/22/2006	05/26/2006	Baseline Inspections
1,2	IP 71151	Performance Indicator Verification		05/22/2006	05/26/2006	Baseline Inspections
	ISI	- BYRON UNIT 1 ISI INSPECTION	1			
1	IP 7111108P	Inservice Inspection Activities - PWR		09/11/2006	09/29/2006	Baseline Inspections
	IP 71121	- RP OUTAGE ACCESS CTRL/ALARA INSPECTION	1			
1,2	IP 7112101	Access Control to Radiologically Significant Areas		09/18/2006	09/22/2006	Baseline Inspections
1,2	IP 7112102	ALARA Planning and Controls		09/18/2006	09/22/2006	Baseline Inspections