

March 3, 2008

Mr. Charles G. Pardee
Chief Nuclear Officer and
Senior Vice President
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: ANNUAL ASSESSMENT LETTER - BYRON STATION, UNITS 1 AND 2
05000454/2008001 AND 05000455/2008001

Dear Mr. Pardee:

On February 13, 2008, the NRC staff completed its performance review of Byron Station, Units 1 and 2. Our technical staff reviewed performance indicators (PIs) for the most recent quarter and inspection results for the period from January 1 through December 31, 2007. 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.

This performance review and enclosed inspection plan do not include security information. A separate letter designated and marked as "Official Use Only – Security Related Information" will include the security cornerstone 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. Unit 1 performance for the most recent quarter 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. Although Unit 1 performance was within the Licensee Response column, the significance of the degradation of the Essential Service Water (SX) risers is still under review as part of the Significance Determination Process which, when finalized, may change our assessment of your plants' safety performance.

Unit 2 performance for the most recent quarter was within the Regulatory Response column of the NRC's Action Matrix, based on a White Mitigating System Performance Index, Heat Removal Systems PI originating in the second quarter of CY 2006. Although Unit 2 performance was within the Regulatory Response column, the degradation of the Essential Service Water (SX) risers is still under review as part of the Significance Determination Process which, when finalized, may change our assessment of your plants' safety performance.

On January 10, 2007, we were notified by your staff of your readiness for the NRC to conduct a supplemental inspection to review the actions taken to address the White Mitigating System Performance Index, Heat Removal Systems performance indicator. We conducted supplemental inspection procedure 95001 during the week of February 5, 2007. Based on the results of this inspection, no findings of significance were identified. Therefore, pending the outcome of the significance determination of the SX riser issue, we plan to conduct reactor oversight process (ROP) baseline inspections at your facility.

The enclosed inspection plan details the inspections, including baseline and other infrequently conducted inspections, less those related to security, scheduled through June 30, 2009. 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 mid-cycle review.

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 Richard Skokowski at 630-829-9620 with any questions you may have regarding this letter or the inspection plan.

Sincerely,

/RA/

Cynthia D. Pederson, Director
Division of Reactor Projects

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

Enclosure: Byron Inspection/Activity Plan

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Sincerely,

Cynthia D. Pederson, Director
Division of Reactor Projects

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OFFICE	RIII	RIII	RIII				
NAME	JBartleman:ntp *RAS for	Rskokowski	CPederson				
DATE	02/27/08	02/27/08	02/28/08				

OFFICIAL RECORD COPY

Letter to C. Pardee from Cynthia Pederson dated March 3, 2008

SUBJECT: ASSESSMENT LETTER - BYRON STATION, UNITS 1 AND 2
05000454/2008001; 05000455/2008001

cc w/encl: Site Vice President - Byron Station
Plant Manager - Byron Station
Regulatory Assurance Manager - Byron Station
Chief Operating Officer and Senior Vice President
Senior Vice President - Midwest Operations
Senior Vice President - Operations Support
Vice President - Licensing and Regulatory Affairs
Director - Licensing and Regulatory Affairs
Manager Licensing - Braidwood, Byron, and LaSalle
Associate General Counsel
Document Control Desk - Licensing
Assistant Attorney General
Illinois Emergency Management Agency
J. Klinger, State Liaison Officer, State of Illinois
P. Schmidt, State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission
B. Quigley, Byron Station
President, Village of Leaf River
President, Village of Davis Junction
President, Village of Stillman Valley
Ogle County Board Chairman
Ogle County Sheriff/EMA Coordinator
EMA Coordinator, Winnebago County
Winnebago County Board Chair
Winnebago County Sheriff/ESDA
Mayor of Oregon
Mayor of Byron
President, Village of Mt. Morris
Mayor of Rochelle
INPO

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05000454/2008001; 05000455/2008001

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TEB

RidsNrrDirslpab

JLC1

MAS

JKH3

KGO

RML2

SRI Byron

DRPIII

DRSIII

PLB1

TXN

ROPreports@nrc.gov (inspection reports, final SDP letters, any letter with an IR number)

Byron
Inspection / Activity Plan
03/01/2008 - 06/30/2009

Inspection Activity	Title	No. of Staff on Site	Planned Dates Start	End	Inspection Type
SIT	- SPECIAL INSP TEAM - BYRON SX EVENT	3			
IP 71153	Followup of Events and Notices of Enforcement Discretion		01/01/2008	03/28/2008	Baseline Inspections
IP 93812	Special Inspection		01/01/2008	03/28/2008	Event Response Inspect
OL EXAM	- BYRON INITIAL LIC ON-SITE VALIDATION	4			
W90180	OL - INITIAL EXAM - APRIL/MAY 2008 - BYRO		04/28/2008	05/02/2008	Not Applicable
BI ENG	- ENGINEERING INSERVICE INSPECTION/TI 172	2			
IP 2515/172	Reactor Coolant System Dissimilar Metal Butt Welds		03/17/2008	04/11/2008	Generic Safety Inspectio
IP 7111108P	Inservice Inspection Activities - PWR		03/17/2008	04/11/2008	Baseline Inspections
BI RP	- RADIATION PROTECTION BASELINE INSPECTION	1			
IP 7112101	Access Control to Radiologically Significant Areas		03/24/2008	03/28/2008	Baseline Inspections
IP 7112102	ALARA Planning and Controls		03/24/2008	03/28/2008	Baseline Inspections
BI EP	- EP ROUTINE INSPECTION / PI VERIFICATION	1			
IP 7111402	Alert and Notification System Testing		04/07/2008	04/11/2008	EP Baseline Inspection
IP 7111403	Emergency Response Organization Augmentation Testing		04/07/2008	04/11/2008	EP Baseline Inspection
IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies		04/07/2008	04/11/2008	EP Baseline Inspection
IP 71151-EP01	Drill/Exercise Performance		04/07/2008	04/11/2008	Baseline Inspections
IP 71151-EP02	ERO Drill Participation		04/07/2008	04/11/2008	Baseline Inspections
IP 71151-EP03	Alert & Notification System		04/07/2008	04/11/2008	Baseline Inspections
OL EXAM	- BYRON INITIAL LICENSE EXAM (05/19 - 30)	4			
W90180	OL - INITIAL EXAM - APRIL/MAY 2008 - BYRO		05/19/2008	05/30/2008	Not Applicable
ISFSI	- ISFSI INSPECTION	1			
IP 60853	On-Site Fabrication Of Components And Construction On An ISFSI		07/01/2008	09/30/2008	Other Routine
IP 60856	Review of 10 CFR 72.212(b) Evaluations		07/01/2008	09/30/2008	Other Routine
2515/172	- TI 2515/172 RCS WELD INSPECTION	1			
IP 2515/172	Reactor Coolant System Dissimilar Metal Butt Welds		07/21/2008	07/25/2008	Generic Safety Inspectio
BI RP	- RADIATION PROTECTION BASELINE INSPECTION	1			
IP 7112103	Radiation Monitoring Instrumentation and Protective Equipment		08/11/2008	08/15/2008	Baseline Inspections
IP 71151-BI01	Reactor Coolant System Activity		08/11/2008	08/15/2008	Baseline Inspections
IP 71151-OR01	Occupational Exposure Control Effectiveness		08/11/2008	08/15/2008	Baseline Inspections
IP 71151-PR01	RETS/ODCM Radiological Effluent		08/11/2008	08/15/2008	Baseline Inspections
HD DROP	- RPV HEAD DROP ANALYSIS INSPECTION	1			
IP 7111120	Refueling and Other Outage Activities		08/11/2008	08/29/2008	Baseline Inspections
2515/171	- TI 2515/171 B5B PHASE 2 AND 3	2			
IP 2515/171	VERIFICATION OF SITE SPECIFIC IMPLEMENTATION OF B.5.B PHASE 2 & 3 MITIGATING STRATEGIES		08/25/2008	08/29/2008	Generic Safety Inspectio

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03/01/2008 - 06/30/2009

Inspection Activity	Title	No. of Staff on Site	Planned Dates		Inspection Type
			Start	End	
BI RP	- RADIATION PROTECTION BASELINE INSPECTION	1			
IP 7112101	Access Control to Radiologically Significant Areas		10/06/2008	10/10/2008	Baseline Inspections
IP 7112102	ALARA Planning and Controls		10/06/2008	10/10/2008	Baseline Inspections
BI ENG	- ENGINEERING INSERVICE INSPECTION/ TI 172	2			
IP 2515/172	Reactor Coolant System Dissimilar Metal Butt Welds		10/06/2008	10/31/2008	Generic Safety Inspecti
IP 7111108P	Inservice Inspection Activities - PWR		10/06/2008	10/31/2008	Baseline Inspections
BI OL	- BIENNIAL REQUAL. PROGRAM INSPECTION	2			
IP 7111111B	Licensed Operator Requalification Program		11/03/2008	11/07/2008	Baseline Inspections
BI ENG	- COMPONENT DESIGN BASES INSPECTION	6			
IP 7111121	Component Design Bases Inspection		01/26/2009	02/27/2009	Baseline Inspections
BI RP	- RADIATION PROTECTION BASELINE INSPECTION	1			
IP 7112101	Access Control to Radiologically Significant Areas		02/09/2009	02/13/2009	Baseline Inspections
IP 7112102	ALARA Planning and Controls		02/09/2009	02/13/2009	Baseline Inspections
BI RP	- RADIATION PROTECTION BASELINE INSPECTION	1			
IP 7112101	Access Control to Radiologically Significant Areas		05/11/2009	05/15/2009	Baseline Inspections
TI	- TEMPORARY INSTRUCTION 2515/172	1			
IP 2515/172	Reactor Coolant System Dissimilar Metal Butt Welds		06/22/2009	06/26/2009	Generic Safety Inspecti