



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

September 1, 2009

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

**SUBJECT: MID-CYCLE PERFORMANCE REVIEW AND INSPECTION PLAN –
BYRON STATION, UNITS 1 AND 2**

Dear Mr. Pardee:

On August 19, 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 July 1, 2008, through June 30, 2009. 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 Information" will include the security cornerstone review and resultant inspection plan.

Plant performance for the most recent quarter at Byron Station, Units 1 and 2, 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). During this assessment period, both units were within the Regulatory Response column of the NRC's Action Matrix based on one inspection finding in the Initiating Events cornerstone being classified as having low to moderate safety significance (White). This White finding was closed in the first quarter 2009. Therefore, we plan to conduct reactor oversight process (ROP) baseline inspections at your facility. We also plan to conduct several special and infrequently performed inspection procedures, which include inspections related to the pre-operational testing and operation of the Independent Spent Fuel Storage Installation.

Additionally, in our 2008 End-of-Cycle assessment letter dated March 3, 2009, [ML090630253] and the 2008 Middle-of-Cycle assessment letter dated September 2, 2008 [ML082460206], we discussed a substantive cross-cutting issue in the area of Human Performance (HP) with a cross-cutting theme in the component of decision making (H.1(b)). During this period, the number of findings with the same cross-cutting aspect of making conservative assumptions was reduced to below the threshold for substantive cross-cutting issues. Furthermore, corrective actions focusing on decision making have been implemented and the NRC staff noted some positive changes at the facility. Based on the corrective actions taken by the licensee and the decrease in the number of findings, this substantive cross-cutting issue is closed.

The enclosed inspection plan details the inspections, less those related to physical protection, scheduled through December 31, 2010. 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 9 months of the inspection plan are tentative and may be revised at the End-of-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/

K. Steven West, Director
Division of Reactor Projects

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

Enclosure: Byron Inspection/Activity Plan

DISTRIBUTION
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Letter to C. Pardee from K. West dated September 1, 2009

SUBJECT: MID-CYCLE PERFORMANCE REVIEW AND INSPECTION PLAN –
BYRON STATION, UNITS 1 AND 2

cc w/encl: Site Vice President - Byron Station
Plant Manager - Byron Station
Manager Regulatory Assurance - Byron Station
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
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President, Village of Stillman Valley
Ogle County Board Chairperson
Ogle County Sheriff/EMA Coordinator
Ogle County Administrator
Winnebago County Board Chair
EMA Coordinator, Winnebago County
Chief, Oregon Police Department
Winnebago County Sheriff
Mayor, City of Byron
Mayor, City of Oregon
Mayor, City of Rochelle
President, Village of Mt. Morris

Letter to C. Pardee from K. West dated September 1, 2009

SUBJECT: MID-CYCLE PERFORMANCE REVIEW AND INSPECTION PLAN –
BYRON STATION, UNITS 1 AND 2

DISTRIBUTION:

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RidsNrrDorLpl3-2 Resource

RidsNrrPMByron Resource

RidsNrrDirslpob Resource

Cynthia Pederson

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DRPIII

DRSIII

Patricia Buckley

Tammy Tomczak

[ROPreports Resource](#)

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| | | | | | | | |
|--------|--------------|--|------------|--|----------|--|--|
| OFFICE | RIII | | RIII | | RIII | | |
| NAME | JDalzell:dtp | | RSkokowski | | SWest | | |
| DATE | 08/28/09 | | 08/29/09 | | 08/29/09 | | |

OFFICIAL RECORD COPY

Byron
Inspection / Activity Plan
09/01/2009 - 12/31/2010

| Planned Dates | | Inspection Activity | Title | No. of Staff on Site |
|---------------|------------|--|--|----------------------|
| Start | End | | | |
| | | BI ENG - INSERVICE INSPECTION & TI-172 REVISION 1 | | 1 |
| 09/14/2009 | 09/30/2009 | IP 2515/172 | Reactor Coolant System Dissimilar Metal Butt Welds | |
| 09/14/2009 | 09/30/2009 | IP 7111108P | Inservice Inspection Activities - PWR | |
| | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 09/21/2009 | 09/25/2009 | IP 7112101 | Access Control to Radiologically Significant Areas | |
| 09/21/2009 | 09/25/2009 | IP 7112102 | ALARA Planning and Controls | |
| | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 11/16/2009 | 11/20/2009 | IP 7112203 | Radiological Environmental Monitoring Program (REMP) And Radioactive Material Control Program | |
| | | BI ENG - TRIENNIAL HEAT SINK INSPECTION | | 1 |
| 02/01/2010 | 02/05/2010 | IP 7111107T | Heat Sink Performance | |
| | | ISFSI - ISFSI INSPECTION | | 1 |
| 04/01/2010 | 04/30/2010 | IP 60854.1 | Preoperational Testing of Independent Spent Fuel Storage Facility Installation at Operating Plants | |
| 05/01/2010 | 08/31/2010 | IP 60855.1 | Operation of an Independent Spent Fuel Storage Installation at Operating Plants | |
| | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 04/12/2010 | 04/16/2010 | IP 7112101 | Access Control to Radiologically Significant Areas | |
| 04/12/2010 | 04/16/2010 | IP 7112102 | ALARA Planning and Controls | |
| | | BI ENG - ENGINEERING INSERVICE INSPECTION | | 1 |
| 04/19/2010 | 05/07/2010 | IP 2515/172 | Reactor Coolant System Dissimilar Metal Butt Welds | |
| 04/19/2010 | 05/07/2010 | IP 7111108P | Inservice Inspection Activities - PWR | |
| | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 07/12/2010 | 07/16/2010 | IP 7112103 | Radiation Monitoring Instrumentation and Protective Equipment | |
| 07/12/2010 | 07/16/2010 | IP 71151-BI01 | Reactor Coolant System Activity | |
| 07/12/2010 | 07/16/2010 | IP 71151-OR01 | Occupational Exposure Control Effectiveness | |
| 07/12/2010 | 07/16/2010 | IP 71151-PR01 | RETS/ODCM Radiological Effluent | |
| | | OL PREP - BYRON INIT PREP - SEPT. 2010 | | 3 |
| 09/06/2010 | 09/10/2010 | W90216 | OL - INITIAL EXAM - SEPT/OCT 2010 - BYRO | |
| | | OL EXAM - BYRON INIT EXAM - SEPT.-OCT. 2010 | | 3 |
| 09/27/2010 | 10/08/2010 | W90216 | OL - INITIAL EXAM - SEPT/OCT 2010 - BYRO | |
| | | BI ENG - TRIENNIAL FIRE PROTECTION INSPECTION | | 3 |
| 10/18/2010 | 11/05/2010 | IP 7111105T | Fire Protection [Triennial] | |
| | | BI ENG - TRIENNIAL FIRE INS INFO GATHERING TRIP | | 5 |
| 10/04/2010 | 10/08/2010 | IP 7111105T | Fire Protection [Triennial] | |
| | | BI EP - EP ROUTINE INSPECTION / PI VERIFICATION | | 2 |
| 10/18/2010 | 10/22/2010 | IP 7111402 | Alert and Notification System Testing | |
| 10/18/2010 | 10/22/2010 | IP 7111403 | Emergency Response Organization Augmentation Testing | |

Byron
Inspection / Activity Plan
09/01/2009 - 12/31/2010

| Planned Dates | | Inspection Activity | Title | No. of Staff on Site |
|---|------------|---------------------|--|----------------------|
| Start | End | | | |
| BI EP - EP ROUTINE INSPECTION / PI VERIFICATION | | | | |
| 10/18/2010 | 10/22/2010 | IP 7111405 | Correction of Emergency Preparedness Weaknesses and Deficiencies | 2 |
| 10/18/2010 | 10/22/2010 | IP 71151-EP01 | Drill/Exercise Performance | |
| 10/18/2010 | 10/22/2010 | IP 71151-EP02 | ERO Drill Participation | |
| 10/18/2010 | 10/22/2010 | IP 71151-EP03 | Alert & Notification System | |
| BI RP - RADIATION PROTECTION BASELINE INSPECTION | | | | |
| 10/25/2010 | 10/29/2010 | IP 7112201 | Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems | 1 |
| BI OL - LIC. OPERATOR REQUAL. PROGRAM EVALUATION | | | | |
| 10/25/2010 | 10/29/2010 | IP 7111111B | Licensed Operator Requalification Program | 2 |