



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

March 4, 2013

Mr. Michael J. Pacilio  
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,  
05000454/2012001 AND 05000455/2012001

Dear Mr. Pacilio:

On February 12, 2013, the Nuclear Regulatory Commission (NRC) staff completed its end-of-cycle performance review of Byron Station, Units 1 and 2. The NRC reviewed the most recent quarterly performance indicators (PIs) in addition to inspection results and enforcement actions from January 1, 2012, through December 31, 2012. This letter informs you of the NRC's assessment of your facility during this period and its plans for future inspections at your facility.

Overall, Byron Station, Units 1 and 2, operated in a manner that preserved public health and safety and met all cornerstone objectives.

Plant performance for the most recent quarter, as well as the first three quarters of the assessment period at Byron Station, Units 1 and 2, 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).

Therefore, the NRC plans to conduct ROP baseline inspections at your facility. The NRC also plans to conduct Phase II of Temporary Instruction 2515/182, "Review of Implementation of Industry Initiative to Control Degradation of Underground Piping and Tanks," at your facility.

The enclosed inspection plan lists the inspections scheduled through December 31, 2014. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the last 12 months of the inspection plan are tentative and may be revised at the mid-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. This inspection plan does not include security-related inspections, which will be sent via separate, non-publicly available correspondence.

M. Pacilio

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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).

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

Enclosure: Byron Station Inspection/Activity Plan

cc w/encl: Distribution via ListServ

M. Pacilio

-2-

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Eric R. Duncan, Chief  
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Letter to M. Pacilio from E. Duncan dated March 4, 2013.

SUBJECT: ANNUAL ASSESSMENT LETTER–BYRON STATION, UNITS 1 AND 2,  
05000454/2012001 AND 05000455/2012001

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**Byron**  
**Inspection / Activity Plan**  
**03/01/2013 - 12/31/2014**

| Unit Number | Planned Dates |            | Inspection Activity  | Title  | No. of Staff on Site |
|-------------|---------------|------------|--|--|----------------------|
|             | Start         | End        |  |  |                      |
|             |               |            | <b>OL PREP - BYRON INIT PREP 04/2013</b>                   |  | <b>3</b>             |
| 1           | 03/25/2013    | 03/29/2013 | W90282   | OL - INITIAL EXAM - 2013 APR-MAY - BYRON   |                      |
|             |               |            | <b>ISI INSP - ISI BASELINE INSPECTION</b>                  |  | <b>2</b>             |
| 1           | 04/08/2013    | 04/26/2013 | IP 7111108P  | Inservice Inspection Activities - PWR  |                      |
|             |               |            | <b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>    |  | <b>1</b>             |
| 1           | 04/15/2013    | 04/19/2013 | IP 71124.01  | Radiological Hazard Assessment and Exposure Controls   |                      |
| 1           | 04/15/2013    | 04/19/2013 | IP 71124.02  | Occupational ALARA Planning and Controls   |                      |
|             |               |            | <b>OL EXAM - BYRON INIT EXAM - 04/2013</b>                 |  | <b>3</b>             |
| 1           | 04/29/2013    | 05/10/2013 | W90282   | OL - INITIAL EXAM - 2013 APR-MAY - BYRON   |                      |
|             |               |            | <b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>    |  | <b>1</b>             |
| 1           | 05/06/2013    | 05/10/2013 | IP 71124.03  | In-Plant Airborne Radioactivity Control and Mitigation   |                      |
| 1           | 05/06/2013    | 05/10/2013 | IP 71124.04  | Occupational Dose Assessment   |                      |
|             |               |            | <b>BI PI&amp;R - BIENNIAL PI&amp;R INSPECTION</b>          |  | <b>6</b>             |
| 1           | 09/09/2013    | 09/27/2013 | IP 71152B  | Problem Identification and Resolution  |                      |
|             |               |            | <b>BI EPX - EP EXERCISE INSPECTION / PI VERIFICATION</b>   |  | <b>2</b>             |
| 1           | 11/18/2013    | 11/22/2013 | IP 7111401   | Exercise Evaluation  |                      |
| 1           | 11/18/2013    | 11/22/2013 | IP 71151   | Performance Indicator Verification   |                      |
|             |               |            | <b>TI 182 - TI 182 BURIED PIPING PHASE 2</b>               |  | <b>2</b>             |
| 1           | 08/12/2013    | 08/16/2013 | IP 2515/182  | Review of the Implementation of the Industry Initiative to Control Degradation of Underground Piping |                      |
|             |               |            | <b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>    |  | <b>1</b>             |
| 1           | 08/12/2013    | 08/16/2013 | IP 71124.06  | Radioactive Gaseous and Liquid Effluent Treatment  |                      |
|             |               |            | <b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>    |  | <b>1</b>             |
| 1           | 08/19/2013    | 08/23/2013 | IP 71124.07  | Radiological Environmental Monitoring Program  |                      |
| 1           | 08/19/2013    | 08/23/2013 | IP 71151-BI01  | Reactor Coolant System Activity  |                      |
| 1           | 08/19/2013    | 08/23/2013 | IP 71151-OR01  | Occupational Exposure Control Effectiveness  |                      |
| 1           | 08/19/2013    | 08/23/2013 | IP 71151-PR01  | RETS/ODCM Radiological Effluent  |                      |
|             |               |            | <b>STRIKE - STRIKE CONTINGUENCY - OPS / RP / MAINT</b>     |  | <b>3</b>             |
| 1, 2        | 09/30/2013    | 10/29/2013 | IP 92709   | Licensee Strike Contingency Plans  |                      |
|             |               |            | <b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>    |  | <b>1</b>             |
| 1           | 10/21/2013    | 10/25/2013 | IP 71124.01  | Radiological Hazard Assessment and Exposure Controls   |                      |
|             |               |            | <b>BI FIRE - FIRE PROTECTION INSPECTION &amp; BAG TRIP</b> |  | <b>3</b>             |
| 1           | 11/18/2013    | 12/13/2013 | IP 7111105T  | Fire Protection [Triennial]  |                      |

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

**Byron**  
**Inspection / Activity Plan**  
**03/01/2013 - 12/31/2014**

| Unit Number | Planned Dates |            | Inspection Activity                                       | Title   | No. of Staff on Site |
|-------------|---------------|------------|---|---|----------------------|
|             | Start         | End        |   |   |                      |
|             |               |            | <b>BI HS - TRIENNIAL HEAT SINK INSPECTION</b>             |   | <b>2</b>             |
| 1           | 11/04/2013    | 11/08/2013 | IP 7111107T   | Heat Sink Performance   |                      |
|             |               |            | <b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>   |   | <b>1</b>             |
| 1           | 11/18/2013    | 11/22/2013 | IP 71124.05   | Radiation Monitoring Instrumentation  |                      |
|             |               |            | <b>ISFSI - ISFISI INSPECTION</b>                          |   | <b>1</b>             |
| 1, 2        | 02/01/2014    | 03/01/2014 | IP 60855.1  | Operation of an Independent Spent Fuel Storage Installation at Operating Plants |                      |
|             |               |            | <b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>   |   | <b>1</b>             |
| 1           | 03/10/2014    | 03/14/2014 | IP 71124.01   | Radiological Hazard Assessment and Exposure Controls                            |                      |
|             |               |            | <b>BI ISI - INSERVICE INSPECTION UNIT 1</b>               |   | <b>1</b>             |
| 1           | 03/10/2014    | 03/28/2014 | IP 7111108P   | Inservice Inspection Activities - PWR   |                      |
|             |               |            | <b>OL PREP - INITIAL EXAM - 06/2014</b>                   |   | <b>3</b>             |
| 1           | 05/12/2014    | 05/16/2014 | W90304  | OL - INITIAL EXAM - 2014 MAR/NOV - BYRON  |                      |
|             |               |            | <b>OL EXAM - INIT EXAM FOR 06/2014</b>                    |   | <b>3</b>             |
| 1           | 06/02/2014    | 06/13/2014 | W90304  | OL - INITIAL EXAM - 2014 MAR/NOV - BYRON  |                      |
|             |               |            | <b>BI MODS - MODIFICATION/50.59 INSPECTION</b>            |   | <b>2</b>             |
| 1, 2        | 06/09/2014    | 06/27/2014 | IP 7111117T   | Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications |                      |
|             |               |            | <b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>   |   | <b>1</b>             |
| 1           | 06/16/2014    | 06/20/2014 | IP 71124.03   | In-Plant Airborne Radioactivity Control and Mitigation                          |                      |
| 1           | 06/16/2014    | 06/20/2014 | IP 71124.04   | Occupational Dose Assessment  |                      |
|             |               |            | <b>RENEWAL - LICENSE RENEWAL INSPECTION</b>               |   | <b>1</b>             |
| 1, 2        | 08/04/2014    | 08/22/2014 | IP 71002  | License Renewal Inspection  |                      |
|             |               |            | <b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b>   |   | <b>1</b>             |
| 1           | 09/08/2014    | 09/12/2014 | IP 71124.05   | Radiation Monitoring Instrumentation  |                      |
|             |               |            | <b>BI ISI - INSERVICE INSPECTION UNIT 2</b>               |   | <b>1</b>             |
| 1           | 09/29/2014    | 10/23/2014 | IP 7111108P   | Inservice Inspection Activities - PWR   |                      |
|             |               |            | <b>BI EPRTN - EP ROUTINE INSPECTION / PI VERIFICATION</b> |   | <b>2</b>             |
| 1           | 11/03/2014    | 11/07/2014 | IP 7111402  | Alert and Notification System Testing   |                      |
| 1           | 11/03/2014    | 11/07/2014 | IP 7111403  | Emergency Preparedness Organization Staffing and Augmentation System            |                      |
| 1           | 11/03/2014    | 11/07/2014 | IP 7111405  | Correction of Emergency Preparedness Weaknesses and Deficiencies                |                      |
| 1           | 11/03/2014    | 11/07/2014 | IP 71151  | Performance Indicator Verification  |                      |
|             |               |            | <b>BI OLRQ - BIENNIAL REQUAL PROGRAM INSPECTION</b>       |   | <b>2</b>             |
| 1, 2        | 12/01/2014    | 12/05/2014 | IP 7111111B   | Licensed Operator Requalification Program                                       |                      |

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|---|---------------|------------|---------------------|--|----------------------|
|   | Start         | End        |                     |  |                      |
| <b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b> |               |            |                     |  |                      |
| 1   | 12/08/2014    | 12/12/2014 | IP 71124.02         | Occupational ALARA Planning and Controls | 1                    |
| 1   | 12/08/2014    | 12/12/2014 | IP 71151            | Performance Indicator Verification       |                      |

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