



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

March 2, 2016

Mr. Bryan C. Hanson  
Senior VP, Exelon Generation Company, LLC  
President and CNO, Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: ANNUAL ASSESSMENT LETTER FOR CLINTON POWER STATION,  
UNIT 1 (REPORT 05000461/2015006)

Dear Mr. Hanson:

On February 10, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed its end-of-cycle performance review of Clinton Power Station, Unit 1. The NRC reviewed the most recent quarterly performance indicators (PIs) in addition to inspection results and enforcement actions from January 1, 2015, through December 31, 2015. This letter informs you of the NRC's assessment of your facility during this period and its plans for future inspections at your facility.

The NRC determined the performance at Clinton Power Station, Unit 1, in the beginning of the assessment period was within the Regulatory Response Column of the NRC's Reactor Oversight Process (ROP) Action Matrix because of a greater-than-green Security cornerstone input as described in our letter to you dated October 23, 2014 (ADAMS Accession Number ML14302A082). Per Inspection Procedure 95001, the NRC completed a supplemental inspection for this issue on February 27, 2015, as documented in our letter to you dated March 27, 2015 (ML15089A120). This greater-than-green security finding was closed as of the start of the second quarter of 2015 in accordance with Inspection Manual Chapter 0305.

The NRC determined the performance at Clinton Power Station, Unit 1, for the most recent quarter was within the Regulatory Response Column of the NRC's ROP Action Matrix because of one inspection finding in the Mitigating Systems Cornerstone having low to moderate safety significance (i.e., White) and all performance indicators indicating that your performance was within the nominal, expected range (i.e., Green). This White finding was related to your failure to review the suitability of application of the design for the replacement Division 3 shutdown service water pump and to ensure the pump internals would not degrade under expected operating conditions in a way that impacted the safety function. As described in our Final Significance Determination of a White Finding with Assessment Follow-up and Notice of Violation letter issued on August 11, 2015 (ML15223B382), this White finding was considered an Action Matrix input at the start of the first quarter of 2015. In accordance with the guidance in Inspection Manual Chapter 0305, Clinton Power Station, Unit 1, remained in the Regulatory Response Column of the ROP Action Matrix for the entire assessment period. The NRC completed a supplemental inspection for this White finding per Inspection Procedure 95001 on

February 4, 2016. You will be provided with the results of that inspection and the impact on your Action Matrix status on a later date.

The enclosed inspection plan lists the inspections scheduled through December 31, 2017. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the last 9 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.

The NRC inspection schedule includes a triennial inspection conducted in accordance with Inspection Procedure 71111.21, "Component Design Bases Inspection," and several infrequently performed inspection activities related to the operation of the Independent Spent Fuel Storage Installation (ISFSI) using IP 60856, "Review of 10 CFR 72.212(b) Evaluations," IP 60854.1, "Preoperational Testing of an Independent Spent Fuel Storage Facility Installations at Operating Plants," and IP 60855.1, "Operation of an ISFSI Independent Spent Fuel Storage Installation at Operating Plants."

The NRC notified you in our 2014 annual assessment letter, "Annual Assessment Letter for Clinton Power Station, Unit 1," dated March 4, 2015 (ML15062A577), that the NRC would perform IP 92723, "Follow-up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the Same Area in a 12-Month Period," to follow-up on three Severity Level IV violations. On December 28, 2015, your staff notified us of your readiness for us to conduct the follow-up inspection to review the actions taken to address the performance issues. From January 1 to December 31, 2015, the NRC issued three additional Severity Level IV traditional enforcement violations associated with impeding the regulatory process. Therefore, the NRC plans to conduct an inspection to follow-up on these six Severity Level IV violations.

The NRC staff received the Clinton Power Station Final Compliance letter for Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events" and Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation." The NRC staff issued the Clinton Power Station Final Safety Evaluation on December 23, 2015 (ML15324A238), and will confirm full implementation of the orders mentioned above by performing Temporary Instruction 191, "Inspection of the Licensee's Responses to Mitigation Strategies Order EA-12-049, Spent Fuel Pool Instrumentation Order EA-12-051 and Emergency Preparedness Information," dated December 1, 2015.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be 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).

B. Hanson

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Please contact Karla Stoedter at 630-829-9731 with any questions you have regarding this letter.

Sincerely,

*/RA/*

Patrick L. Loudon, Director  
Division of Reactor Projects

Docket Nos. 50-461  
License Nos. NPF-62

Enclosure:  
Inspection Plan

cc: Distribution via LISTSERV®

B. Hanson

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|               |              |           |          |  |
|---------------|--------------|-----------|----------|--|
| <b>OFFICE</b> | RIII         | RIII      | RIII     |  |
| <b>NAME</b>   | JWojewoda:bw | KStoedter | PLouden  |  |
| <b>DATE</b>   | 02/24/16     | 02/24/16  | 02/26/16 |  |

**OFFICIAL RECORD COPY**

**Clinton**  
**Inspection / Activity Plan**  
**03/01/2016 - 12/31/2017**

| Unit Number | Planned Dates |            | Inspection Activity                                     | Title  | No. of Staff on Site |
|-------------|---------------|------------|---|--|----------------------|
|             | Start         | End        |   |  |                      |
|             |               |            | <b>ISFSI - ISFSI 72.212 REVIEW</b>                      |  | <b>2</b>             |
| 1           | 03/01/2016    | 03/31/2016 | IP 60856.1  | Review of 10 CFR 72.212(b) Evaluations at Operating Plants   |                      |
| 1           | 04/01/2016    | 04/30/2016 | IP 60856  | Review of 10 CFR 72.212(b) Evaluations   |                      |
| 1           | 06/01/2016    | 08/31/2016 | IP 60854.1  | Preoperational Testing of Independent Spent Fuel Storage Facility Installation at Operating Plants |                      |
| 1           | 08/01/2016    | 09/30/2016 | IP 60855.1  | Operation of an Independent Spent Fuel Storage Installation at Operating Plants                    |                      |
|             |               |            | <b>CDBI - COMPONENT DESIGN BASES INSPECTION</b>         |  | <b>7</b>             |
| 1           | 06/27/2016    | 07/29/2016 | IP 7111121  | Component Design Bases Inspection  |                      |
|             |               |            | <b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b> |  | <b>2</b>             |
| 1           | 05/16/2016    | 05/20/2016 | IP 71124.01   | Radiological Hazard Assessment and Exposure Controls   |                      |
| 1           | 05/16/2016    | 05/20/2016 | IP 71124.03   | In-Plant Airborne Radioactivity Control and Mitigation   |                      |
| 1           | 05/16/2016    | 05/20/2016 | IP 71124.04   | Occupational Dose Assessment   |                      |
|             |               |            | <b>ENG BI - INSERVICE INSPECTION</b>                    |  | <b>2</b>             |
| 1           | 05/16/2016    | 05/29/2016 | IP 7111108G   | Inservice Inspection Activities - BWR  |                      |
|             |               |            | <b>DRP TI - FLEX FOLLOW UP</b>                          |  | <b>4</b>             |
| 1           | 06/20/2016    | 06/24/2016 | IP 2515/191   | Inspection of Licensee's Responses to Order EA-12-049, EA-12-051 & EP Info Request March 12, 2012  |                      |
|             |               |            | <b>ISFSI - ISFSI PREOP TESTING AND PLANS</b>            |  | <b>2</b>             |
| 1           | 07/01/2016    | 08/31/2016 | IP 60854.1  | Preoperational Testing of Independent Spent Fuel Storage Facility Installation at Operating Plants |                      |
|             |               |            | <b>BI EP - EP BASELINE INSPECTION / PI VERIFICATION</b> |  | <b>1</b>             |
| 1           | 07/11/2016    | 07/15/2016 | IP 7111402  | Alert and Notification System Testing  |                      |
| 1           | 07/11/2016    | 07/15/2016 | IP 7111403  | Emergency Preparedness Organization Staffing and Augmentation System                               |                      |
| 1           | 07/11/2016    | 07/15/2016 | IP 7111405  | Correction of Emergency Preparedness Weaknesses and Deficiencies                                   |                      |
| 1           | 07/11/2016    | 07/15/2016 | IP 71151  | Performance Indicator Verification   |                      |
|             |               |            | <b>ISFSI - INITIAL LOADING INSPECTION</b>               |  | <b>2</b>             |
| 1           | 09/01/2016    | 12/31/2016 | 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           | 09/26/2016    | 09/30/2016 | IP 71124.07   | Radiological Environmental Monitoring Program  |                      |
| 1           | 09/26/2016    | 09/30/2016 | IP 71151  | Performance Indicator Verification   |                      |
|             |               |            | <b>BI RP - RADIATION PROTECTION BASELINE INSPECTION</b> |  | <b>1</b>             |
| 1           | 11/28/2016    | 12/02/2016 | IP 71124.05   | Radiation Monitoring Instrumentation   |                      |
|             |               |            | <b>OL PREP - INIT PREP/CLINTON 2017</b>                 |  | <b>3</b>             |
| 1           | 01/03/2017    | 01/06/2017 | W90343  | OL - INITIAL EXAM - 2016 OCT-DEC - CLINTON   |                      |
|             |               |            | <b>OL EXAM - INIT EXAM/JAN FEB 2017</b>                 |  | <b>3</b>             |
| 1           | 01/30/2017    | 02/10/2017 | W90343  | OL - INITIAL EXAM - 2016 OCT-DEC - CLINTON   |                      |

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

**Clinton**  
**Inspection / Activity Plan**  
**03/01/2016 - 12/31/2017**

| Unit Number | Planned Dates |            | Inspection Activity  | Title   | No. of Staff on Site |
|-------------|---------------|------------|--|---|----------------------|
|             | Start         | End        |  |   |                      |
| 1           | 03/20/2017    | 04/21/2017 | <b>BI FIRE</b> - TRIENNIAL FIRE PROTECTION AND BAG TRIP<br>IP 7111105T | Fire Protection [Triennial]   | 1                    |
| 1           | 05/15/2017    | 05/19/2017 | <b>BI RP</b> - RADIATION PROTECTION BASELINE INSPECTION<br>IP 71124.01 | Radiological Hazard Assessment and Exposure Controls  | 1                    |
| 1           | 05/08/2017    | 05/29/2017 | <b>ISI</b> - INSERVICE INSPECTION<br>IP 7111108G                       | Inservice Inspection Activities - BWR   | 1                    |
| 1           | 06/19/2017    | 06/23/2017 | <b>BI RP</b> - RADIATION PROTECTION BASELINE INSPECTION<br>IP 71124.08 | Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation | 1                    |
| 1           | 07/10/2017    | 07/14/2017 | <b>BI RP</b> - RADIATION PROTECTION BASELINE INSPECTION<br>IP 71124.02 | Occupational ALARA Planning and Controls  | 1                    |
| 1           | 07/17/2017    | 07/21/2017 | <b>BI HS</b> - TRIENNIAL HEAT SINK INSPECTION<br>IP 7111107T           | Heat Sink Performance   | 2                    |
| 1           | 09/11/2017    | 09/29/2017 | <b>BI PI&amp;R</b> - BIENNIAL PI&R IINSPECTION<br>IP 71152B            | Problem Identification and Resolution   | 1                    |
| 1           | 09/18/2017    | 09/22/2017 | <b>BI RP</b> - RADIATION PROTECTION BASELINE INSPECTION<br>IP 71124.06 | Radioactive Gaseous and Liquid Effluent Treatment   | 1                    |
| 1           | 09/18/2017    | 09/22/2017 | IP 71151   | Performance Indicator Verification  |                      |
| 1           | 10/16/2017    | 10/20/2017 | <b>OL-RQ</b> - BIENNIAL REQUAL PROGRAM INSPECTION<br>IP 7111111B       | Licensed Operator Requalification Program   | 2                    |
| 1           | 10/30/2017    | 11/03/2017 | <b>BI EP</b> - EP EXERCISE INSPECTION / PI VERIFICATION<br>IP 7111401  | Exercise Evaluation   | 5                    |
| 1           | 10/30/2017    | 11/03/2017 | IP 7111406   | Drill Evaluation  |                      |
| 1           | 10/30/2017    | 11/03/2017 | IP 7111408   | Exercise Evaluation – Scenario Review   |                      |
| 1           | 10/30/2017    | 11/03/2017 | IP 71151   | Performance Indicator Verification  |                      |

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