



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

September 1, 2015

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

**SUBJECT: MID-CYCLE ASSESSMENT LETTER FOR BRAIDWOOD STATION,
UNITS 1 AND 2 (REPORT 05000456/2015005; 05000457/2015005)**

Dear Mr. Hanson:

On August 13, 2015, the U. S. Nuclear Regulatory Commission (NRC) completed its mid-cycle performance review of Braidwood Station, Units 1 and 2. The NRC reviewed the most recent quarterly performance indicators (PIs) in addition to inspection results and enforcement actions from July 1, 2014 through June 30, 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 that overall, Braidwood Station, Units 1 and 2, operated in a manner that preserved public health and safety and met all cornerstone objectives. The NRC determined the performance at Braidwood Station, Units 1 and 2, during the most recent quarter 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 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 second half of the inspection plan are tentative and may be revised at the end-of-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.

In response to the accident at Fukushima, the Commission issued Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," which requires licensees to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities following a beyond-design-basis external event. Additionally, the Commission issued Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," which requires licensees to have a reliable means of remotely monitoring wide-range Spent Fuel Pool levels to support effective prioritization of event mitigation and recovery actions in the event of a beyond-design-basis external event. The NRC

is conducting audits of licensee efforts towards compliance with these Orders. The audit has been completed for the first unit at Braidwood, and the information gathered will aid staff in development of the ultimate Safety Evaluation for the site. After the NRC staff receives the Final Compliance letter for the site, the Final Safety Evaluation will be issued. Then, the NRC staff will confirm through inspections the full implementation of the orders mentioned above performing Temporary Instruction 191, "Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans".

In accordance with Title 10 of the *Code of Federal Regulations* (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 Agencywide Documents Access and Management 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 630-826-9620 with any questions you have regarding this letter.

Sincerely,

/RA/

Eric R. Duncan, Chief
Branch 3
Division of Reactor Projects

Docket Nos. 50-456; 50-457
License Nos. NPF-72; NPF-77

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

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is conducting audits of licensee efforts towards compliance with these Orders. The audit has been completed for the first unit at Braidwood, and the information gathered will aid staff in development of the ultimate Safety Evaluation for the site. After the NRC staff receives the Final Compliance letter for the site, the Final Safety Evaluation will be issued. Then, the NRC staff will confirm through inspections the full implementation of the orders mentioned above 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 requested by NRC in March 12, 2012."

In accordance with Title 10 of the *Code of Federal Regulations* (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 Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

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Docket Nos. 50-456; 50-457
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Enclosure:
Braidwood Station Units 1 and 2
Inspection/Activity Plan

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Braidwood
Inspection / Activity Plan
09/01/2015 - 12/31/2017

| Unit Number | Planned Dates | | Inspection Activity | Title | No. of Staff on Site |
|-------------|---------------|------------|---|---|----------------------|
| Start | End | | | | |
| | | | BI OLRQ - BIENNIAL REQUAL PROGRAM INSPECTION | | 2 |
| 1, 2 | 09/14/2015 | 09/18/2015 | IP 711111B | Licensed Operator Requalification Program | |
| | | | BI ISI - INSERVICE INSPECTION UNIT 2 | | 2 |
| 2 | 10/05/2015 | 10/30/2015 | IP 7111108P | Inservice Inspection Activities - PWR | |
| | | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 1 | 10/19/2015 | 10/23/2015 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1 | 10/19/2015 | 10/23/2015 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| | | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 1 | 01/25/2016 | 01/29/2016 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1 | 01/25/2016 | 01/29/2016 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1 | 01/25/2016 | 01/29/2016 | IP 71151 | Performance Indicator Verification | |
| | | | CDBI - COMPONENT DESIGN BASIS INSPECTION | | 6 |
| 1, 2 | 02/22/2016 | 03/25/2016 | IP 7111121 | Component Design Bases Inspection | |
| | | | ISFSI - CASK LOADING | | 1 |
| 1, 2 | 04/01/2016 | 04/30/2016 | IP 60855.1 | Operation of an Independent Spent Fuel Storage Installation at Operating Plants | |
| | | | BI EP - EP EXERCISE INSPECTION/ PI VERIFICATION | | 5 |
| 1, 2 | 04/04/2016 | 04/08/2016 | IP 7111401 | Exercise Evaluation | |
| 1, 2 | 04/04/2016 | 04/08/2016 | IP 7111406 | Drill Evaluation | |
| 1, 2 | 04/04/2016 | 04/08/2016 | IP 7111408 | Exercise Evaluation – Scenario Review | |
| 1, 2 | 04/04/2016 | 04/08/2016 | IP 71151 | Performance Indicator Verification | |
| | | | PI&R - BIENNIAL PI&R INSPECTION | | 4 |
| 1, 2 | 07/11/2016 | 07/29/2016 | IP 71152B | Problem Identification and Resolution | |
| | | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 1 | 05/23/2016 | 05/27/2016 | IP 71124.07 | Radiological Environmental Monitoring Program | |
| | | | OL PREP - INIT PREP/AUGUST 2016 | | 2 |
| 1 | 08/08/2016 | 08/12/2016 | W90342 | OL - INITIAL EXAM - 2016 AUG-SEPT - BRAIDWOOD | |
| | | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 1 | 08/15/2016 | 08/19/2016 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1 | 08/15/2016 | 08/19/2016 | IP 71124.04 | Occupational Dose Assessment | |
| | | | OL EXAM - INIT EXAM/SEPTEMBER 2016 | | 3 |
| 1 | 09/05/2016 | 09/12/2016 | W90342 | OL - INITIAL EXAM - 2016 AUG-SEPT - BRAIDWOOD | |
| | | | ISI - INSERVICE INSPECTION ON UNIT 1 | | 1 |
| 1 | 09/26/2016 | 10/22/2016 | IP 7111108P | Inservice Inspection Activities - PWR | |

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

Braidwood
Inspection / Activity Plan
09/01/2015 - 12/31/2017

| Unit Number | Planned Dates | | Inspection Activity | Title | No. of Staff on Site |
|-------------|---------------|------------|--|---|----------------------|
| Start | End | | | | |
| | | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 1 | 10/03/2016 | 10/07/2016 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1 | 10/03/2016 | 10/07/2016 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1 | 10/03/2016 | 10/07/2016 | IP 71151 | Performance Indicator Verification | |
| | | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 1 | 01/23/2017 | 01/27/2017 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| | | | BI ENG - TRIENNIAL MODIFICATIONS/50.59 INSPECTION | | 3 |
| 1, 2 | 02/06/2017 | 02/24/2017 | IP 711117T | Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications | |
| | | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 1 | 04/24/2017 | 04/28/2017 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1 | 04/24/2017 | 04/28/2017 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1 | 04/24/2017 | 04/28/2017 | IP 71151 | Performance Indicator Verification | |
| | | | ISI - INSERVICE INSPECTION UNIT 2 | | 1 |
| 2 | 04/17/2017 | 05/13/2017 | IP 7111108P | Inservice Inspection Activities - PWR | |
| | | | TI191 - FLEX/MITIGATING STRATEGIES/SFPI | | 4 |
| 1, 2 | 06/19/2017 | 06/23/2017 | IP 2515/191 | Inspection of Licensee's Responses to Order EA-12-049, EA-12-051 & EP Info Request March 12, 2012 | |
| | | | OL-RQ - BIENNIAL REQUAL PROGRAM INSPECTION | | 2 |
| 1, 2 | 08/14/2017 | 08/18/2017 | IP 7111111B | Licensed Operator Requalification Program | |
| | | | BI EP - EP BASELINE INSPECTION/ PI VERIFICATION | | 1 |
| 1, 2 | 10/02/2017 | 10/06/2017 | IP 7111401 | Exercise Evaluation | |
| 1, 2 | 10/02/2017 | 10/06/2017 | IP 7111403 | Emergency Preparedness Organization Staffing and Augmentation System | |
| 1, 2 | 10/02/2017 | 10/06/2017 | IP 7111405 | Correction of Emergency Preparedness Weaknesses and Deficiencies | |
| 1, 2 | 10/02/2017 | 10/06/2017 | IP 71151 | Performance Indicator Verification | |
| | | | BI ENG - TRIENNIAL HEAT SINK INSPECTION | | 2 |
| 1, 2 | 11/13/2017 | 11/17/2017 | IP 7111107T | Heat Sink Performance | |

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