



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

April 10, 2018

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

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2—NRC INTEGRATED INSPECTION
REPORT 05000456/2018503; 05000457/2018503

Dear Mr. Hanson:

On March 8, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an Emergency Preparedness Inspection at your Braidwood Station, Units 1 and 2. On March 8, 2018, the NRC inspectors discussed the results of this inspection with the Site Vice President, Ms. M. Marchionda, and other members of your staff. The results of this inspection are documented in the enclosed report.

The NRC inspectors did not identify any finding or violation of more-than-minor significance.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/RA/

Steven K. Orth, Chief
Plant Support Branch
Division of Reactor Safety

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

Enclosure:
IR 05000456/2018503; 05000457/2018503

cc: Distribution via LISTSERV®

Letter to Brian C. Hanson from Steven K. Orth dated April 10, 2018

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REPORT 05000456/2018503; 05000457/2018503

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Numbers: 50-456; 50-457; 72-073

License Numbers: NPF-72; NPF-77

Report Numbers: 05000456/2018503; 05000457/2018503

Enterprise Identifier: I-2018-503-0000

Licensee: Exelon Generation Company, LLC

Facility: Braidwood Station, Units 1 and 2

Location: Braceville, IL

Dates: March 5, 2018, through May 8, 2018

Inspectors: G. Hansen, Senior Emergency Preparedness Inspector
M. Garza, Emergency Preparedness Inspector
J. McGhee, Senior Resident Inspector
D. Sargis, Reactor Engineer

Approved by: S. Orth, Chief
Plant Support Branch
Division of Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring licensee's performance by conducting an Emergency Preparedness Inspection at Braidwood Station, Units 1 and 2, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

List of Findings and Violations

No findings or violations were identified.

Additional Tracking Items

None

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures in effect at the beginning of the inspection unless otherwise noted. Currently approved Inspection Procedures with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>.

Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71114.01—Exercise Evaluation (1 Sample)

On March 7, 2018, the inspectors evaluated the Biennial Emergency Plan Exercise. The exercise scenario simulated an event at Braidwood Station that initiated with the declaration and notification of an Alert in response to a hazardous plant condition. The scenario conditions simulated the escalation of the significance of the event, requiring the declaration and notification of a Site Area Emergency and a General Emergency, as well as the development of Protective Action Recommendations that were communicated to the required state and local government agencies.

71114.08—Exercise Evaluation—Scenario Review (1 Sample)

The inspectors reviewed and evaluated the proposed scenario for the March 7, 2018, Biennial Emergency Plan Exercise.

OTHER ACTIVITIES—BASELINE

71151—Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below. (3 Samples)

- (1) EP01: Drill/Exercise Performance—1 Sample (July 1, 2017, through December 31, 2017)
- (2) EP02: Emergency Response Organization Drill Participation—1 Sample (July 1, 2017, through December 31, 2017)
- (3) EP03: Alert And Notification System Reliability—1 Sample (July 1, 2017, through December 31, 2017)

INSPECTION RESULTS

No findings or violations were identified.

EXIT MEETINGS AND DEBRIEFS

The inspectors confirmed that proprietary information was controlled to protect from public disclosure. No proprietary information was documented in this report.

- On March 8, 2018, the inspectors presented the Emergency Preparedness Inspection results to the Site Vice President, Ms. M. Marchionda, and other members of the licensee staff.

DOCUMENTS REVIEWED

71114.01—Exercise Evaluation (71114.01)

- EP-AA-1000; Exelon Nuclear Standardized Radiological Emergency Plan; Revisions 29
- EP-AA-1001; Exelon Nuclear Radiological Emergency Plan Annex for Braidwood Station; Revision 34
- EP-AA-1001, Addendum 3; Emergency Action Levels for Braidwood Station; Revision 3
- EP-AA-111; Emergency Classification and Protective Action Recommendations; Revision 21
- EP-AA-111-F-02; Braidwood PAR Flowchart; Revision H
- EP-AA-112; Emergency Response Organization (ERO)/Emergency Response Facility (ERF) Activation and Operation; Revision 18
- EP-AA-112-400; Emergency Operations Facility Activation and Operation; Revision 13
- EP-AA-113; Personnel Protective Action; Revision 13
- EP-AA-114; Notifications; Revision 14
- EP-AA-122; Drills and Exercise Program; Revision 19
- EP-AA-125-1001; EP Performance Indicator Guidance; Revision 9
- Two Years of Drill and Exercise Timelines; 03/2016–03/2018
- Braidwood 2016 NRC Exercise Evaluation Report; 04/27/2016
- Braidwood September 20, 2016 Focused Area Drill 2014 Evaluation Report; 09/23/2016
- Braidwood December 20, 2016 Emergency Exposure Drill Evaluation Report; 12/22/2016
- Braidwood 4th Quarter 2016 Performance Indicator Drills Report; 01/04/2017
- Braidwood 2017 2nd Half Health Physics Drill Findings and Observations Report; 11/23/2017
- Braidwood 2017 Core Damage Assessment Drill Report; 12/05/2017
- Braidwood 4th Quarter 2017 Performance Indicator Drills Report; 12/11/2017
- Two Year List of Drill and Exercise Corrective Action Program Issues; 03/2016–03/2018
- AR 02622561; EP DEP PI Drill Used Duplicate Players; 02/05/2016
- AR 02638642; Comments and Improvement Items from Jan-Feb EP Drills; 03/10/2016
- AR 02667962; Adverse Trend in DEP Failures/Needs Improvement in LORT; 05/11/2016
- AR 02679189; EP—Medical Drill Issue; 06/08/2016
- AR 02718795; EP—ERO Focus Area Drill (FAD) Lessons Learned; 09/22/2016
- AR 03957101; EP—12/20/2016 DEP Drill Lessons Learned; 12/28/2016
- AR 03970916; EP—Near Miss on OYE Drill Scenario Confidentiality; 02/06/2017
- AR 04084139; Braidwood EP 12-13-2017 4th Quarter Call In Drill; 12/14/2017
- AR 04103315; Braidwood EP Pre-Exercise Failed Overall Objective J.1; 02/12/2018
- AR 04103318; Braidwood EP Pre-Exercise Failed Facility Objective B.6; 02/12/2018

71114.08—Exercise Evaluation—Scenario Review

- Braidwood Station 2018 NRC Graded Exercise 60 Day Submittal; 12/20/2018

71151—Performance Indicator Verification (71151)

- NRC Performance Indicator Data; Emergency Preparedness—Alert and Notification System Reliability; 3rd Quarter 2017–4th Quarter 2017
- NRC Performance Indicator Data; Emergency Preparedness—NRC ERO Drill Participation; 3rd Quarter 2017–4th Quarter 2017

- NRC Performance Indicator Data; Emergency Preparedness—Drill/Exercise Performance;
3rd Quarter 2017—4th Quarter 2017
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Revision 7