



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

July 19, 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 INITIAL LICENSE EXAMINATION
REPORT 05000456/2018301; 05000457/2018301

Dear Mr. Hanson:

On June 18, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed the initial operator licensing examination process for license applicants employed at your Braidwood Station. The enclosed report documents the results of those examinations. Preliminary observations noted during the examination process were discussed on June 7, 2018, with Mr. T. Leaf, Operations Director, and other members of your facility's staff. An exit meeting was conducted by telephone on June 27, 2018, between Ms. M. Marchionda-Palmer, Site Vice President, and Mr. R. Baker, Operator Licensing Chief Examiner, to review the proposed final grading of the written examination for the license applicants. During the telephone conversation, the NRC confirmed that the station did not have any post-examination comments requiring resolution.

The NRC examiners administered an initial license examination operating test during the weeks of May 29, 2018, and June 4, 2018. The written examination was administered by the Braidwood Station Training Department personnel, on June 8, 2018. Four Senior Reactor Operator and five Reactor Operator applicants were administered license examinations. The results of the examinations were finalized on July 9, 2018. All nine applicants passed all sections of their respective examinations and four applicants were issued senior operator licenses and five applicants were issued operator licenses for Braidwood Station Unit 1 only.

The administered written examinations and operating tests, as well as documents related to the development and review of the examinations (outlines, proposed examinations, review comments, and resolutions, etc.), will be withheld from public disclosure for 24 months until June 18, 2020.

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 Title 10 of the *Code of Federal Regulations*, Part 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA Randal Baker Acting for/

Robert J. Orlikowski, Chief
Operations Branch
Division of Reactor Safety

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

Enclosures:

1. OL Examination Report
05000456/2018301; 05000457/2018301
2. Simulation Facility Fidelity Report

cc: Distribution via LISTSERV®
R. Cameron, Training Director,
Braidwood Station

Letter to Bryan C. Hanson from Robert J. Orlikowski dated July 19, 2018

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2—NRC INITIAL LICENSE EXAMINATION
REPORT 05000456/2018301; 05000457/2018301

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-456; 50-457

License Nos: NPF-72; NPF-77

Report No: 05000456/2018301; 05000457/2018301

Licensee: Exelon Generation Company, LLC

Facility: Braidwood Station, Units 1 and 2

Location: Braceville, IL

Dates: May 29, 2018, through June 18, 2018

Inspectors: R. Baker, Senior Operations Engineer, Chief Examiner
C. Zoia, Senior Operations Engineer, Examiner
J. Seymour, Operations Engineer, Examiner

Approved by: R. Orlikowski, Chief
Operations Branch
Division of Reactor Safety

SUMMARY

Examination Report 05000456/2018301; 05000457/2018301; 05/29/2018-06/18/2018; Exelon Generation Company, LLC; Braidwood Station, Units 1 and 2; Initial License Examination Report.

The announced initial operator licensing examination was conducted by regional Nuclear Regulatory Commission examiners in accordance with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 11.

Examination Summary

Nine of nine applicants passed all sections of their respective examinations. Four applicants were issued senior operator licenses and five applicants were issued operator licenses for Unit 1 only. (Section 4OA5.1).

REPORT DETAILS

4OA5 Other Activities

.1 Initial Licensing Examinations

a. Examination Scope

The U.S. Nuclear Regulatory Commission (NRC) examiners and members of the facility licensee's staff used the guidance prescribed in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 11, to develop, validate, administer, and grade the written examination and operating test. The NRC examiners prepared the written examination outline and members of the facility licensee's staff prepared the operating test outlines. Members of the facility licensee's staff developed the written examination and operating test. The NRC examiners validated the proposed examination, with the assistance of members of the facility licensee's staff, during the week of April 30, 2018. During the first week of the onsite examination administration, the examiners audited two of the license applications for accuracy. The NRC examiners, with the assistance of members of the facility licensee's staff, administered the operating test, consisting of job performance measures and dynamic simulator scenarios, during the period of May 29, 2018, through June 6, 2018. The facility licensee administered the written examination on June 8, 2018.

b. Findings

(1) Written Examination

The NRC examiners determined that the written examination, as proposed by the licensee, was within the range of acceptability expected for a proposed examination. Less than 20 percent of the proposed examination questions were determined to be unsatisfactory and required modification or replacement. All changes made to the proposed written examination were made in accordance with NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," and were documented on Form ES-401-9, "Written Examination Review Worksheet." The written examination outlines and worksheets, the proposed written examination and worksheets, as well as the final Form ES-401-9, and the final as-administered examination and answer key, will be publicly available electronically in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Document Access and Management System (ADAMS) on June 18, 2020. (ADAMS Accession Numbers ML17164A334, ML17164A335, ML17164A319, and ML17164A328, respectively.)

On June 18, 2018, the licensee submitted documentation noting that there were no post-examination facility licensee comments, and no post-examination applicant comments for consideration by the NRC examiners when grading the written examination.

The NRC examiners graded the written examination on June 26, 2018, and conducted a review of each missed question to determine the accuracy and validity of the examination questions.

(2) Operating Test

The NRC examiners determined that the operating test, as originally proposed by the licensee, was within the range of acceptability expected for a proposed examination. All changes made to the operating test were made in accordance with NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," and were documented on Form ES-301-7, "Operating Test Review Worksheet." The operating test outlines and worksheets, the proposed operating test and worksheets, as well as the final Form ES-301-7, and the final as-administered operating test, will be available electronically in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS, on June 18, 2020. (ADAMS Accession Numbers ML17164A334, ML17164A335, ML17164A319, and ML17164A328, respectively.)

On June 18, 2018, the licensee submitted documentation noting that there were no post-examination facility licensee comments, and no post-examination applicant comments for consideration by the NRC examiners when grading the operating test.

The NRC examiners completed operating test grading on July 3, 2018.

(3) Examination Results

Four applicants at the Senior Reactor Operator level and five applicants at the Reactor Operator level were administered written examinations and operating tests. All applicants passed all portions of their examinations and were issued their respective operating licenses for Braidwood Station, Unit 1 only on July 9, 2018.

.2 Examination Security

a. Scope

The NRC examiners reviewed and observed the licensee's implementation of examination security requirements during the examination validation and administration to assure compliance with Title 10 of the *Code of Federal Regulations*, Part 55.49, "Integrity of Examinations and Tests." The examiners used the guidelines provided in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," to determine acceptability of the licensee's examination security activities.

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Debrief

The chief examiner presented the examination team's preliminary observations and findings on June 7, 2018, to Mr. T. Leaf, Operations Director, and other members of the Braidwood Operations and Training Department staff.

.2 Exit Meeting

A telephone exit meeting was conducted on June 27, 2018, by Mr. R. Baker, Operator Licensing Chief Examiner, with Ms. M. Marchionda-Palmer, Site Vice President. The NRC confirmed that there were no post-examination comments during the telephone discussion. The examiner confirmed that one job performance measures utilized proprietary material, which will be handled appropriately, and that no additional proprietary or sensitive information was identified during the examination or debrief/exit meetings.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

M. Marchionda-Palmer, Site Vice President
A. Ferko, Plant Manager
T. Leaf, Operations Director
R. Cameron, Training Director
F. Jordan, Regulatory Assurance Manager

U.S. Nuclear Regulatory Commission

D. Kimble, Senior Resident Inspector
D. Betancourt, Resident Inspector
R. Baker, Chief Examiner

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened, Closed, and Discussed

None.

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access and Management System
NRC	U.S. Nuclear Regulatory Commission

SIMULATION FACILITY FIDELITY REPORT

Facility Licensee: Braidwood Station, Units 1 and 2

Facility Docket Nos: 50-456; 50-457

Operating Tests Administered: May 29, 2018, through June 6, 2018

The following documents observations made by the U.S. Nuclear Regulatory Commission examination team during the initial operator license examination. These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of non-compliance with Title 10 of the *Code of Federal Regulations*, Part 55.45(b). These observations do not affect U.S. Nuclear Regulatory Commission certification or approval of the simulation facility other than to provide information which may be used in future evaluations. No licensee action is required in response to these observations.

During the conduct of the simulator portion of the operating tests, the following items were observed:

ITEM	DESCRIPTION
SWO 0134295	On the May 30, 2018, during the final event of the last simulator scenario of the day, the 1PM04J panel annunciator spontaneously went into "test." The silence and acknowledge buttons were unable to clear the condition, and the condition was overridden by the booth operator. The annunciator button module was replaced prior to conducting subsequent scenarios.