



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

October 17, 2016

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 05000456/2016301; 05000457/2016301

Dear Mr. Hanson:

On September 22, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed the Initial Operator Licensing Examination process for license applicants employed at your Braidwood Station, Units 1 and 2. The enclosed report documents the results of those examinations. An exit meeting was conducted to discuss issues identified during the examination on September 15, 2016, with M. Marchionda and other members of your staff. On September 29, 2016, Mr. Walton, Chief Operator Licensing Examiner, left a phone message with Mr. Reynolds, Regulatory Affairs, and K. Dovas, Training Manager, with the results of the final grading of the examination of the license applicants.

The NRC examiners administered an initial License Examination Operating Test during the weeks of September 6 – 15, 2016. The written examination was administered by training department personnel on September 16, 2016. The 5 Senior Reactor Operator and 7 Reactor Operator applicants were administered license examinations. The results of the examinations were finalized on September 28, 2016. The 12 applicants passed all sections of their respective examinations and 5 were issued Senior Operator Licenses and 7 were issued Operator Licenses.

The written examination, other related written examination documentation and operating test will be withheld from public disclosure for 24 months per your request.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public

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Sincerely,

*/RA/*

Robert Orlikowski, Chief  
Operations Branch  
Division of Reactor Safety

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

Enclosure:  
Operator Licensing Examination Report  
05000456/2016301; 05000457/2016301

cc: Distribution via LISTSERV®  
K. Dovas, Training Manager, Braidwood Station

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-456; 50-457  
License No: NPF-72; NPF-77

Report No: 05000456/2016301; 05000457/2016301

Licensee: Exelon Generation Company, LLC

Facility: Braidwood Station, Units 1 and 2

Location: Braceville, Illinois

Dates: September 6 - 22, 2016

Inspectors: R.K. Walton, Chief Examiner  
D. McNeil, Examiner  
J. Seymour, Examiner

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

Enclosure

## **SUMMARY**

Examination Report 05000456/2016301; 05000457/2016301; 9/6/2016 - 9/22/2016; Exelon Generation Company, LLC; Braidwood Station, Units 1 and 2; Initial License Examination Report.

The announced initial operator licensing examination was conducted by regional U.S. Nuclear Regulatory Commission examiners in accordance with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9-Supplement 1.

### Examination Summary:

The 12 of 12 applicants passed all sections of their respective examinations. The 5 applicants were issued Senior Operator licenses and 7 applicants were issued Operator licenses. (Section 40A5.1).

## REPORT DETAILS

### 40A5 Other

#### .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 10, to develop, validate, administer, and grade the written examination and operating test. Members of the facility licensee's prepared the outline and developed the written examination and operating test. The NRC examiners validated the proposed examination during the week of July 25, 2016, with the assistance of members of the facility licensee's staff. During the on-site validation week, the examiners audited all 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 September 6 -15, 2016. The facility administered the written examination on September 16, 2016.

##### 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 documented on Form ES-401-9, "Written Examination Review Worksheet," which will be available electronically in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS).

On September 22, 2016, the licensee submitted documentation noting that there were no post-examination comments for consideration by the NRC examiners when grading the written examination. The proposed written examination, as well as the final as-administered examination and answer key (ADAMS Accession Number ML16286A482) will be available in 24-months electronically in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS.

The NRC examiners graded the written examination on September 27, 2016, 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. Changes made to the operating test, documented in a document titled, "Braidwood Operating Test Comments," are available electronically in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. The final as-administered dynamic simulator scenarios and Job Performance Measures will be available in ADAMS after a 2-year delay.

The NRC examiners completed operating test grading on September 28, 2016.

(3) Examination Results

The 5 applicants at the Senior Reactor Operator level and 7 applicants at the Reactor Operator level were administered written examinations and operating tests. All 12 applicants passed all portions of their examinations and were issued their respective operating licenses on September 28, 2016.

.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, Section 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.

40A6 Management Meetings

.1 Exit Meeting

The chief examiner conducted an exit meeting on September 15, 2016, with M. Marchionda, Site Vice President, and other members of your staff. The examiners asked the licensee whether any of the material used to develop or administer the examination should be considered proprietary. No 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, Site Vice President  
A. Ferko, Plant Manager  
P. Rauch, Operations Director  
K. Dovas, Training Director  
R. Cameron, Operations Training  
B. Kemper, Operations Training  
S. Reynolds, Regulatory Assurance Manager

#### U.S. Nuclear Regulatory Commission

E. Sanchez, Acting Senior Resident Inspector  
D. Betancourt, Resident Inspector  
RK Walton, Chief Examiner  
D. McNeil, Examiner  
J. Seymour, Examiner

### **ITEMS OPENED, CLOSED, AND DISCUSSED**

#### Opened, Closed, and Discussed

None

### **LIST OF ACRONYMS USED**

ADAMS	Agency-Wide Document Access and Management System
CFR	<i>Code of Federal Regulations</i>
NRC	U.S. Nuclear Regulatory Commission
PARS	Publicly Available Records System

## SIMULATION FACILITY FIDELITY REPORT

Facility Licensee: Braidwood Station

Facility Docket No: 50-456; 50-457

Operating Tests Administered: September 6 - 15, 2016

The following documents observations made by the NRC 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 10 CFR 55.45(b). These observations do not affect NRC 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
SWR 0132483	Annunciator Reset Push Button on 1PM06J failed resulting in flashing of annunciators during performance of JPM. The annunciator module was replaced. Cause was a stuck contact.
	JPM e, "Cycle RV/IV for Surveillance" was changed from cycling the #1 left side RV/IV stop valves to the #2 left side RV/IV stop valves due to unanticipated plant oscillations when cycling the #1 left side valves. The oscillations did not occur when cycling #2 left side valves as expected from performing the surveillance in the plant.



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Sincerely,

*/RA/*

Robert Orlikowski, Chief  
Operations Branch  
Division of Reactor Safety

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K. Dovas, Training Manager, Braidwood Station

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