



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION I  
2100 RENAISSANCE BLVD., SUITE 100  
KING OF PRUSSIA, PA 19406-2713

December 3, 2015

Mr. Bryan Hanson  
Senior Vice President, Exelon Generation  
President and Chief Nuclear Officer, Exelon Nuclear  
4300 Winfield RD  
Warrenville, IL 60555

**SUBJECT: THREE MILE ISLAND NUCLEAR STATION, UNIT 1 - NRC INITIAL OPERATOR  
LICENSING EXAMINATION REPORT NO. 05000289/2015301**

Dear Mr. Hanson:

On October 6, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an examination at Three Mile Island Station, Unit 1. The enclosed report documents the examination findings, which were discussed on November 3, 2015, with Mr. Lynn Florey, Training Manager, and other members of your staff.

The examination included the evaluation of four applicants for reactor operator licenses, two applicants for instant senior operator licenses, and one applicant for an upgrade senior operator license. The written and operating examinations were developed using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 10. The license examiners determined that all of the applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses were issued on November 3, 2015.

No findings were identified during this examination.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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 Agencywide Documents Access and Management System (ADAMS).

B. Hanson

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Sincerely,

**/RA/**

Donald E. Jackson, Chief  
Operations Branch  
Division of Reactor Safety

Docket No. 50-289  
License No. DPR-50

Enclosure:  
NRC Initial Operator Licensing Examination  
Report No. 05000289/2015301  
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

B. Hanson

-2-

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**EXAMINATION REPORT**

**U.S. NUCLEAR REGULATORY COMMISSION  
REGION I**

Dockets: 50-289  
Licenses: DPR-50  
Report: 05000289/2015301  
Licensee: Exelon Generation Company, LLC  
Facility: Three Mile Island Nuclear Station, Unit 1  
Location: Middletown, PA 17057  
Dates: September 28-October 2, 2015 (Operating Test Administration)  
October 6, 2015 (Written Examination Administration)  
October 13, 2015 (Licensee Submitted Post Exam Package)  
October 14-November 2, 2015 (NRC Examination Grading)  
November 3, 2015 (Licenses Issued)

Examiners: P. Presby, Chief Examiner, Operations Branch  
T. Hedigan, Operations Engineer  
J. D'Antonio, Senior Operations Engineer  
B. Fuller, Senior Operations Engineer

Approved By: Donald E. Jackson, Chief  
Operations Branch  
Division of Reactor Safety

## **SUMMARY**

ER 05000289/2015301; September 28-October 2, 2015 and October 6, 2015; Three Mile Island Nuclear Station, Unit 1; Initial Operator Licensing Examination Report.

NRC examiners evaluated the competency of four applicants for reactor operator licenses, two applicants for instant senior operator licenses and one applicant for an upgrade senior operator license at Three Mile Island Nuclear Station, Unit 1. The facility licensee developed the examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 10. The written examination was administered by the facility on October 6, 2015. NRC examiners administered the operating tests on September 28 - October 2, 2015. The license examiners determined that all of the applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued.

No findings were identified.

## REPORT DETAILS

### 4. OTHER ACTIVITIES (OA)

#### 4OA5 Other Activities (Initial Operator License Examination)

##### .1 License Applications

###### a. Scope

The examiners reviewed all seven license applications submitted by the licensee to ensure the applications reflected that each applicant satisfied relevant license eligibility requirements. The applications were submitted on NRC Form 398, "Personal Qualification Statement," and NRC Form 396, "Certification of Medical Examination by Facility Licensee." The examiners also audited two of the license applications in detail to confirm that they accurately reflected the subject applicant's qualifications. This audit focused on the applicant's experience and on-the-job training, including control manipulations that provided significant reactivity changes.

###### b. Findings

No findings were identified.

##### .2 Operator Knowledge and Performance

###### a. Examination Scope

On October 6, 2015, the licensee proctored the administration of the written examinations to all seven applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis to the NRC on October 13, 2015.

The NRC examination team administered the various portions of the operating examination to all seven applicants on September 28 - October 2, 2015. The four applicants for reactor operator licenses participated in two or three dynamic simulator scenarios, in a control room and facilities walkthrough test consisting of 11 system tasks, and an administrative test consisting of four administrative tasks. The two applicants seeking an instant senior operator license participated in three dynamic simulator scenarios, a control room and facilities walkthrough test consisting of ten system tasks, and an administrative test consisting of five administrative tasks. The one applicant for an upgrade senior operator license participated in two dynamic simulator scenarios, a control room and facilities walkthrough test consisting of five system tasks, and an administrative test consisting of five administrative tasks.

Enclosure

b. Findings

All seven of the applicants passed all parts of the operating test. For the written examinations, the reactor operator applicants' average score was 93.00 percent and ranged from 92.00 to 94.67 percent, the senior operator applicants' average score was 91.67 percent and ranged from 87.00 to 96.00 percent. The overall written examination average was 92.43 percent. The NRC examiners completed the final grading of the written examination on November 2, 2015, and conducted a review of each missed question to determine the accuracy and validity of the examination questions. The text of the examination questions, the licensee's examination analysis, and the licensee's post-examination comments may be accessed in the ADAMS system under the accession numbers noted in Attachment 1. In accordance with current NRC policy, the release of this written examination in ADAMS to the public will be delayed for two years.

Chapter ES-403 and Form ES-403-1 of NUREG 1021 require the licensee to analyze the validity of any written examination questions that were missed by half or more of the applicants. The licensee conducted this performance analysis for four questions that met these criteria and submitted the analysis to the chief examiner. This analysis concluded that the questions were valid as written.

.3 Initial Licensing Examination Development

a. Examination Scope

The facility licensee developed the examinations in accordance with NUREG-1021, Revision 10. All licensee facility training and operations staff personnel involved in examination preparation and validation were listed on a security agreement. The facility licensee submitted both the written and operating examination outlines on June 30, 2015. The chief examiner reviewed the outlines against the requirements of NUREG-1021, and provided comments to the licensee. The facility licensee submitted the draft examination package on August 14, 2015. The chief examiner reviewed the draft examination package against the requirements of NUREG-1021, and provided comments to the licensee on the examination on August 25, and September 22, 2015. The NRC conducted an onsite validation of the operating examinations and provided further comments during the week of August 31, 2015. The licensee satisfactorily completed op-test and written comment resolution on September 22, 2015.

b. Findings

The NRC approved the initial examination outline and advised the licensee to proceed with the operating examination development.

The examiners determined that the written and operating examinations initially submitted by the licensee were within the range of acceptability expected for a proposed examination.

No findings were identified.

.4 Simulation Facility Performance

a. Examination Scope

The examiners observed simulator performance with regard to plant fidelity during the examination validation and administration.

b. Findings

No findings were identified.

.5 Examination Security

a. Examination Scope

The examiners reviewed examination security for examination development and during both the onsite preparation week and examination administration week for compliance with NUREG-1021 requirements. Plans for simulator security and applicant control were reviewed and discussed with licensee personnel.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

The chief examiner presented the examination results to Mr. Lynn Florey, Training Manager, and other members of the licensee's management staff on November 3, 2015. The licensee acknowledged the results presented.

The licensee did not identify any information or materials used during the examination as proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION



**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

Licensee Personnel

L. Florey, Operations Training Manager  
M. Harty, Facility Representative  
R. Megill, Exam Developer  
T. Beaver, Exam Developer

NRC Personnel

D, Werkheiser, Senior Resident Inspector

**ITEMS OPENED, CLOSED, AND DISCUSSED**

None

**ADAMS DOCUMENTS REFERENCED**

Accession No. ML15292A369	FINAL-Written Exam (Note: In accordance with current NRC policy, the release of this written examination in ADAMS to the public will be delayed for two years.)
Accession No. ML15292A370	FINAL-Operating Exam