



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BLVD.
KING OF PRUSSIA, PA 19406-2713

August 23, 2017

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

SUBJECT: THREE MILE ISLAND NUCLEAR GENERATING STATION UNIT 1
INITIAL OPERATOR LICENSING EXAMINATION REPORT 05000289/2017301

Dear Mr. Hanson:

On July 3, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an examination at Three Mile Island Unit 1. The enclosed examination report documents the examination results, which were discussed on August 3, 2017, with Mr. Joe Dullinger, Operations Director and other members of your staff.

The examination included the evaluation of six applicants for reactor operator licenses and, six applicants for instant senior reactor operator licenses. The written examinations and operating tests were developed using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 10. The license examiners determined that applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses were issued on August 3, 2017.

No findings were identified during this examination.

In accordance with Title 10 of "*Code of Federal Regulation (CFR)*," 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's Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Documents Access Management System (ADAMS). ADAMS is accessible from the NRC's Website <http://www.nrc.gov/reading-rm/adams.html#web-based-adams> (the Public Electronic Reading Room).

Sincerely,

/RA/

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

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

B. Hanson

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cc w/encl: (via ListServ)

Enclosure:

Examination Report 05000289/2017-301

w/Attachment: Supplementary Information

THREE MILE ISLAND NUCLEAR GENERATING STATION UNIT 1 INITIAL OPERATOR
LICENSING EXAMINATION REPORT 05000289/2017301, DATED AUGUST 23, 2017

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

Dockets No. 50-289

Licenses: DPR-50

Report: 05000289/2017301

Licensee: Exelon Generation, LLC

Facility: Three Mile Island Nuclear Generating Station, Unit 1

Location: Middletown PA 17057-0480

Dates: 6/23/2017 (Written Examination Administration)
6/26/2017 – 7/3/2017 (Operating Test Administration)
8/2/2017 (Licensee Submitted Post Exam Support Materials)
8/2/2017 (NRC Examination Grading)
8/3/2017 (Licenses Issued)

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

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

Enclosure

SUMMARY

ER 05000289/2017301; 6/26/2017- 7/3/2017; Three Mile Island Nuclear Generating Station, Unit 1; Initial Operator Licensing Examination Report.

Five NRC examiners evaluated the competency of six applicants for reactor operator licenses and six applicants for instant senior reactor operator licenses at Three Mile Island Nuclear Generating 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 June 23, 2017. The NRC examiners administered the operating tests on June 26 - July 3, 2017.

The NRC examiners determined that all applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued.

A. NRC-Identified and Self-Revealing Findings

No findings were identified.

B. Licensee-Identified Violations

None.

REPORT DETAILS

4. OTHER ACTIVITIES (OA)

4OA5 Other Activities Initial Operator License Examination

1. License Applications

a. Scope

The examiners reviewed all twelve 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 June 23, 2017, the licensee proctored the administration of the written examinations to all applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis to the NRC.

The NRC examination team administered the various portions of the operating tests to all twelve applicants on June 26 - July 3, 2017. The six applicants for reactor operator licenses participated in three dynamic simulator scenarios, in a control room and facilities walkthrough test consisting of eleven system tasks, and an administrative test consisting of four administrative tasks. The six applicants seeking an instant senior reactor 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.

b. Findings

All applicants passed all parts of the operating test. In accordance with current NRC policy, the public release of this operating test in ADAMS will be delayed for two years from the date of this Examination Report. For the written examinations, the reactor operator applicants' average score was 87.99 percent and ranged from 80 to 97.33 percent, the senior operator applicants' average score was 92.5 percent and ranged from 87 to 98 percent. The overall written examination average was 90.24 percent. 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.

The NRC examiners completed the final grading of the written examination on August 2, 2017, and conducted a review of each missed question to determine the accuracy and validity of the examination questions. In accordance with current NRC policy, the public release of this written examination in ADAMS will be delayed for two years from the date of this Examination Report. 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 the attachment.

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 all questions that met these criteria and submitted the analysis to the chief examiner.

The licensee submitted two post-examination comments in their post exam submittal. The NRC reviewed the facility's post-exam comment submittal package and accepted facility recommendations on both questions. Two correct answers were accepted for questions #14 and #47. The text of the examination questions, the licensee's examination analysis, and the licensee's post-examination comments with the NRC resolutions may be accessed in the ADAMS system under the accession numbers noted in the Attachment 1. In accordance with current NRC policy the public release of this written examination will be delayed for two years from this Examination Report.

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 involved in examination preparation and validation were listed on a security agreement. The facility licensee submitted both the written examination and operating test outlines on March 30, 2017. 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 April 24, 2017. The chief examiner reviewed the draft examination package against the requirements of NUREG-1021, and provided comments to the licensee on the examination. The NRC conducted an onsite validation of the operating test and provided further comments during the week of May 29, 2017. The licensee satisfactorily completed comment resolution prior to administration of the examination.

b. Findings

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

The examiners determined that the written examinations and operating tests 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, Revision 10 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. Joe Dullinger, Operations Director, and other members of the licensee's management staff on August 03, 2017. The licensee acknowledged the findings presented.

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

ATTACHMENTS:

1. Supplementary Information
2. Simulator Fidelity Report

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

Ed Carreras, Operations Training Manager
T. Beaver, Exam Author

NRC Personnel

Z. Hollcraft, Senior Resident Inspector
J. D'Antonio, Chief Examiner

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE

Closed

NONE

Discussed

NONE

ADAMS DOCUMENTS REFERENCED

ADAMS Accession No. ML17233A134 - Final Written Examination and Answer Key

ADAMS Accession No. ML17233A135 – Final Operating Test

Note: In accordance with current NRC policy, the public release of the written examination and operating test in ADAMS will be delayed for two years from the date of this Examination Report.

ADAMS Accession No. ML17230A285 – Final Post Exam Comments, Resolutions, and Technical References

Use for all previously undocumented deficiencies encountered on the simulator. If none, then delete this page.

ES-501**Simulator Fidelity Report****Attachment 2**Facility Licensee: TMIFacility Docket No.: 50-289Operating Test Administered: 7/3/2017

This form is to be used only to report observations. These observations do not constitute audit or inspection findings and, without further verification and review in accordance with IP 71111.11, are not indicative of noncompliance with 10 CFR 55.46. No licensee action is required in response to these observations.

While conducting the simulator portion of the operating tests, examiners observed the following items:

Item	Description
1	4kv busses on the same transformer indicating unexplained voltage differences