



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

March 23, 2020

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

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2 – INITIAL
OPERATOR LICENSING EXAMINATION REPORT 05000317/2020301 AND
05000318/2020301

Dear Mr. Hanson:

On February 7, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an examination at Calvert Cliffs Nuclear Power Plant, Units 1 and 2. The enclosed examination report documents the examination results, which were discussed on March 11, 2020, with Mr. Michael Milbradt, Site Training Director, and other members of your staff.

The examination included the evaluation of eight applicants for reactor operator licenses, seven applicants for instant senior reactor operator licenses, and two applicants for upgrade senior reactor operator licenses. The written and operating examinations were developed using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 11. The license examiners determined that all 17 applicants satisfied the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 55, and the appropriate licenses were issued on March 11, 2020.

No findings were identified during this examination.

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."

Sincerely,

X /RA/

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

Docket Nos. 05000317 and 05000318
License Nos. DPR-53 and DPR-69

Enclosure:
As stated

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SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2 – INITIAL OPERATOR LICENSING EXAMINATION REPORT 05000317/2020301 AND 05000318/2020301 DATED MARCH 23, 2020

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

Docket Nos. 05000317 and 05000318

License Nos DPR-53 and DPR-69

Report Nos. 05000317/2020301 and 05000318/2020301

Licensee: Exelon Generation Company, LLC

Enterprise Identifier: L-2020-OLL-0001

Facility: Calvert Cliffs Nuclear Power Plant, Units 1 and 2

Location: Lusby, MD

Dates: January 27 - February 5, 2020 (Operating Test Administration)
February 7, 2020 (Written Examination Administration)
February 13, 2020 (Licensee Submitted Post Exam Package)
February 17 - 28, 2020 (NRC Examination Grading)
March 11, 2020 (Licenses Issued)

Examiners: T. Setzer, Chief Examiner, Operations Branch
J. DeMarshall, Senior Operations Engineer
T. Hedigan, Operations Engineer
P. Ott, Operations Engineer
D. Silk, Senior Operations Engineer

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

SUMMARY

ER 05000317/2020301 and 05000318/2020301; 01/27/2020 – 02/07/2020; Calvert Cliffs Nuclear Power Plant, Units 1 and 2; Initial Operator Licensing Examination Report.

Five NRC examiners evaluated the competency of eight applicants for reactor operator licenses, seven applicants for instant senior reactor operator licenses, and two applicants for upgrade senior reactor operator licenses. The facility developed the examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 11.

The written examination was administered by the facility on February 7, 2020. NRC examiners administered the operating tests on January 27 – February 5, 2020. The NRC examiners determined that all 17 applicants satisfied the requirements of Title 10 of the *Code of Federal Regulations* (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 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 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 February 7, 2020, 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 on February 13, 2020.

The NRC examination team administered the various portions of the operating examination to all applicants on January 27 - February 5, 2020. The applicants for reactor operator licenses participated in at least two 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 applicants seeking an instant senior reactor operator license participated in at least two dynamic simulator scenarios, a control room and facilities walkthrough test consisting of 10 system tasks, and an administrative test consisting of five administrative tasks. The applicants seeking an upgrade senior reactor 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.

b. Findings

All 17 applicants passed all parts of the operating test and the written examination. For the written examinations, the reactor operator applicants' average score was 93.4 percent and ranged from 86.6 to 98.6 percent; the senior operator applicants' average score was 91.1 percent and ranged from 85.0 to 96.0 percent. The text of the examination questions may be accessed in the ADAMS system under the accession

numbers noted in the Attachment. 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. Licensee training staff performed this analysis and forwarded it to the Chief Examiner. There were no post-examination comments provided by the licensee.

.3 Initial Licensing Examination Development

a. Examination Scope

The facility developed the examinations in accordance with NUREG-1021, Revision 11. All licensee facility training and operations staff involved in examination preparation and validation were listed on a security agreement. The NRC developed the written exam outline and provided it to the licensee on June 27, 2019. The licensee submitted the operating examination outline on August 29, 2019. The Chief Examiner reviewed the outlines against the requirements of NUREG-1021 and provided comments to the licensee. The licensee submitted the draft examination package on November 12, 2019. The Chief Examiner reviewed the draft examination package against the requirements of NUREG-1021 and provided comments to the licensee. The NRC conducted an onsite validation of the operating examinations and provided further comments during the week of January 6 - 10, 2020. The licensee satisfactorily completed comment resolution on January 17, 2020.

b. Findings

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, Revision 11 requirements. Plans for simulator security and applicant control were reviewed and discussed with licensee personnel.

b. Findings

No findings were identified.

On December 6, 2019, the Chief Examiner was notified by the licensee that a qualified contract instructor supporting Operations training provided feedback to ILT students on their human performance and control room board skills following three simulator practice scenarios. No feedback related to technical performance was provided. The contract instructor was an authorized person for the NRC initial license examination and was signed on to the exam security agreement in accordance with Exelon procedure TQ-AA-201, "Exam Security and Administration," Revision 17. As such this person was procedurally restricted from participating in any activities associated with candidates in this license class.

Exelon procedure TQ-AA-201-F03, "Exam Security Briefing Checklist," discusses prohibited activities for personnel who have signed on to the exam security agreement. Specifically, the procedure prohibits members of the exam security agreement from performing on-floor instruction in the simulator, holding coaching sessions, or evaluating trainee performance in the simulator. The Chief Examiner reviewed the issue and determined that the actions of the contract instructor did not meet the guidance contained in procedure TQ-AA-201-F03.

The Chief Examiner determined that the failure to adhere to the exam security requirements of procedure TQ-AA-201-F03 for individuals who are on an exam security agreement when interacting with ILT students was a performance deficiency that was within Exelon's ability to foresee and correct. The performance deficiency was not willful and traditional enforcement does not apply.

The performance deficiency was screened using NRC Inspection Manual Chapter (IMC) 0612, Appendix B, "Additional Issue Screening Guidance," and IMC 0612, Appendix E, "Examples of Minor Issues." The Chief Examiner determined that the performance deficiency was minor, because it is similar to example 3j of IMC 0612, Appendix E. Specifically, this issue represented a singular, isolated instance of a minor lapse in exam security controls in which no programmatic exam security concerns were identified. Therefore, this performance deficiency was determined to be minor in significance and has been entered into the licensee's corrective action program (AR 04302074).

Licensee corrective actions included removing the contract instructor's qualifications and prohibiting the instructor from supporting further ILT activities. An extent of condition was performed and all Operations instructors and ILT students were briefed on the issue and fleet exam security requirements. NRC corrective actions included requiring the licensee to rewrite the exam scenarios with changes to approximately 50 percent of all malfunctions and major events.

4OA6 Meetings, Including Exit

The Chief Examiner presented the examination results to Mr. Michael Milbradt, Site Training Director, and other members of the licensee's staff on March 11, 2020. The licensee acknowledged the observations presented.

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

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

Mike Milbradt, Site Training Director
Ryan Baker, Manager, Operations Training
John Wilson, ILT Program Lead
Kevin Swiger, Exam Author
Megan Parlett, Exam Author

ITEMS OPENED, CLOSED, AND DISCUSSED

None

ADAMS DOCUMENTS REFERENCED

Accession No. ML20057E559 – 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 2 years.)

Accession No. ML20057E560 – FINAL-Operating Exam (Note: In accordance with current NRC policy, the release of this operating examination in ADAMS to the public will be delayed for 2 years.)