



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

October 28, 2019

Mr. Brad Berryman
President and Chief Nuclear Officer
Susquehanna Nuclear, LLC
769 Salem Blvd., NUCSB3
Berwick, PA 18603

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 – INITIAL
OPERATOR LICENSING EXAMINATION REPORT 05000387/2019301 AND
05000388/2019301

Dear Mr. Berryman:

On September 4, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an examination at the Susquehanna facility. The enclosed examination report documents the examination results, which were discussed on October 7, 2019, with Mr. J. Goodbred, Training Manager, and other members of your staff.

The examination included the evaluation of seven applicants for reactor operator licenses, five applicants for instant senior reactor operator licenses, and three applicants for upgrade senior reactor operator licenses. The NRC developed the written and operating examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 11. The license examiners determined that all applicants satisfied the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 55, and the appropriate licenses were issued on October 4, 2019.

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,

/RA/

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

Docket Nos. 50-387 and 50-388
License Nos. NPF-14 and NPF-22

Enclosure:
Examination Report 05000387/2019301 and
05000388/2019301 w/Attachment:
Supplementary Information

cc w/encl: Distribution via ListServ

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 – INITIAL OPERATOR LICENSING EXAMINATION REPORT 05000387/2019301 AND 05000388/2019301 DATED OCTOBER 28, 2019

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

Docket Nos. 50-387 and 50-388

License Nos. NPF-14 and NPF-22

Report Nos. 05000387/2019301 and 05000388/2019301

Licensee: Susquehanna Nuclear, LLC

Enterprise Identifier: L-2019-OLL-0015

Facility: Susquehanna Steam Electric Station, Units 1 and 2

Location: Berwick, PA 18603

Dates: August 26–29, 2019 (Operating Test Administration)
September 4, 2019 (Written Examination Administration)
September 11, 2019 (Licensee Submitted Post Exam Package)
August 29 - September 18, 2019 (NRC Examination Grading)
October 4, 2019 (Licenses Issued)

Examiners: T. Fish, Chief Examiner
B. Fuller, Senior Operations Engineer
T. Hedigan, Operations Engineer
C. Lally, Operations Engineer
C. Crisden, Examiner Trainee
T. Wingfield, Examiner Trainee

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

SUMMARY

ER 05000387/2019301 and 05000388/2019301; 8/25/2019 - 9/4/2019; Susquehanna Steam Electric Station; Initial Operator Licensing Examination Report.

Four NRC examiners evaluated the competency of seven applicants for reactor operator licenses, five applicants for instant senior reactor operator licenses, and three applicants for upgrade senior reactor operator licenses. The NRC developed the examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 11. The written examination was administered by the facility on September 4, 2019. NRC examiners administered the operating tests August 26–29, 2019. The NRC examiners determined that all applicants satisfied the requirements of Title 10 of the *Code of Federal Regulations* (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 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 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 September 4, 2019, 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 September 11, 2019.

The NRC examination team administered the various portions of the operating examination August 26–29, 2019. The applicants for reactor operator licenses participated in at least two 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 applicants for instant senior reactor operator licenses participated in at least two 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 applicants for upgrade senior reactor operator licenses participated in at least one 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

No findings were identified.

All applicants passed the operating test and the written examination. For the written examinations, the reactor operator applicants' average score was 89.5 percent and ranged from 86.6 to 93.3 percent. The senior operator applicants' average score

was 93.1 percent and ranged from 89.0 to 98.0 percent. The text of the examination questions may be accessed in the ADAMS system under the accession number noted in the Attachment. In accordance with current NRC policy, the release of the 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 analysis and submitted it to the chief examiner.

.3 Initial Licensing Examination Development

a. Examination Scope

The NRC 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 conducted an onsite validation of the operating examinations during the weeks of June 24 and July 28, 2019.

b. Findings

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 weeks 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.

On August 22, 2019, the facility exam team notified the Chief Examiner that they had failed to password-protect an email they had sent earlier that same day to the Region I exam team. Specifically, titles of the simulator and in-plant job performance measures (JPMs) were not encrypted (the JPMs themselves were appropriately encrypted). The facility promptly recalled the email, ensured only the Region I exam team had opened the email, and issued a condition report (CR-2019-10868) which documented the error and associated corrective actions facility staff initiated. Facility staff and the Region I exam team concluded no exam compromise occurred. The exam team nevertheless replaced five of the eleven JPMs as a precautionary measure.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

The chief examiner presented the examination results to Mr. J. Goodbred, Training Manager, and other members of licensee management staff on October 7, 2019.

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

G. VanDenBerg, Facility Reviewer
G. Jensen, Facility Reviewer

ITEMS OPENED, CLOSED, AND DISCUSSED

CR-2019-10868 Facility exam team failure to password-protect email sent to Region I

ADAMS DOCUMENTS REFERENCED

Accession No. ML19298B558 – FINAL-Written Exam (Note: In accordance with current NRC policy, the release of this examination in ADAMS to the public will be delayed for two years.)

Accession No. ML19298B559 – FINAL-Operating Exam (Note: In accordance with current NRC policy, the release of this examination in ADAMS to the public will be delayed for two years.)