



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

January 27, 2017

William R. Gideon
Site Vice President
Brunswick Steam Electric Plant
8470 River Road, SE (M/C BNP001)
Southport, NC 28461

**SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT – NRC EXAMINATION REPORT
05000325/2016301 AND 05000324/2016301**

Dear Mr. Gideon:

During the period November 29 through December 6, 2016, the Nuclear Regulatory Commission (NRC) administered operating tests to twelve employees of your company who had applied for licenses to operate Brunswick Steam Electric Plant. At the conclusion of the tests, the examiners discussed preliminary findings related to the operating tests and the written examination submittal with those members of your staff identified in the enclosed report. The written examination was administered by your staff on December 14, 2016.

The only Reactor Operator (RO) and eight Senior Reactor Operator (SRO) applicants passed both the operating test and written examination. One SRO passed the written examination while the operating test was waived. There was one post-examination comment. Ten applicants were issued licenses commensurate with the level of examination administered. A Simulator Fidelity Report is included in this report as Enclosure 3.

The initial examination submittal was within the range of acceptability expected for a proposed examination. All examination changes agreed upon between the NRC and your staff were made according to NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 10.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm.adams.html> (the Public Electronic Reading Room).

If you have any questions concerning this letter, please contact me at (404) 997-4551.

Sincerely,

/RA/

Gerald J. McCoy, Chief
Operations Branch 1
Division of Reactor Safety

Docket Nos.: 50-325, 50-324
License Nos.: DPR-71, DPR-62

Enclosures:

1. Report Details
2. Facility Post-Examination Comments
and NRC Resolutions
3. Simulator Fidelity Report

cc: Distribution via Listserv

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 SENSITIVE
 NON-SENSITIVE
 ADAMS: Yes
 ACCESSION NUMBER: _____
 SUNSI REVIEW COMPLETE
 FORM 665 ATTACHED

OFFICE	RII:DRS	RII:DRS	RII:DRS	RII:DRS			
SIGNATURE	DRL2 VIA EMAIL	DXB2 VIA EMAIL	JDB10 VIA EMAIL	GJM1			
NAME	DLANYI	DBACON	JBUNDY	GMCCOY			
DATE	1/25/2017	1/27/2017	1/24/2017	1/27/2017			
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\OLEXAMS\BRUNSWICK EXAMINATIONS\INITIAL EXAM 2016-301\CORRESPONDENCE\BRUNSWICK 2016-301 EXAM REPORT.DOCX

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 50-325, 50-324

License No.: DPR-71, DPR-62

Report No.: 05000325/2016301, 05000324/2016301

Licensee: Duke Energy Progress, Inc.

Facility: Brunswick Steam Electric Plant, Units 1 and 2

Location: Southport, NC

Dates: Operating Test – November 29 through December 6, 2016
Written Examination – December 14, 2016

Examiners: David Lanyi, Chief, Senior Operations Engineer
Daniel Bacon, Senior Operations Engineer
Jason Bundy, Operations Engineer

Approved by: Gerald J. McCoy, Chief
Operations Branch 1
Division of Reactor Safety

SUMMARY

ER 05000325/2016301, 05000324/2016301; operating test November 29 through December 6, 2016 & written exam December 14, 2016; Brunswick Steam Electric Plant, Units 1 and 2; Operator License Examinations.

Nuclear Regulatory Commission (NRC) examiners conducted an initial examination in accordance with the guidelines in Revision 10 of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors." This examination implemented the operator licensing requirements identified in 10 CFR §55.41, §55.43, and §55.45, as applicable.

Members of the Brunswick Steam Electric Plant staff developed both the operating tests and the written examination. The initial operating test, written RO examination, and written SRO examination submittals met the quality guidelines contained in NUREG-1021.

The NRC administered the operating tests during the period November 29 through December 6, 2016. Members of the Brunswick Steam Electric Plant training staff administered the written examination on December 14, 2016. The only Reactor Operator (RO) and eight Senior Reactor Operator (SRO) applicants passed both the operating test and written examination. One SRO passed the written examination while the operating test was waived. Ten applicants were issued licenses commensurate with the level of examination administered.

There was one post-examination comment.

No findings were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA5 Operator Licensing Examinations

a. Inspection Scope

The NRC evaluated the submitted operating test by combining the scenario events and JPMs in order to determine the percentage of submitted test items that required replacement or significant modification. The NRC also evaluated the submitted written examination questions (Reactor Operator and Senior Reactor Operator questions considered separately) in order to determine the percentage of submitted questions that required replacement or significant modification, or that clearly did not conform with the intent of the approved knowledge and ability (K/A) statement. Any questions that were deleted during the grading process, or for which the answer key had to be changed, were also included in the count of unacceptable questions. The percentage of submitted test items that were unacceptable was compared to the acceptance criteria of NUREG-1021, "Operator Licensing Standards for Power Reactors."

The NRC reviewed the licensee's examination security measures while preparing and administering the examinations in order to ensure compliance with 10 CFR §55.49, "Integrity of examinations and tests."

The NRC administered the operating tests during the period November 29 through December 6, 2016. The NRC examiners evaluated one Reactor Operator (RO) and ten Senior Reactor Operator (SRO) applicants using the guidelines contained in NUREG-1021. Members of the Brunswick Steam Electric Plant training staff administered the written examination on December 14, 2016 to eleven SRO applicants and one RO applicant. Evaluations of applicants and reviews of associated documentation were performed to determine if the applicants, who applied for licenses to operate the Brunswick Steam Electric Plant, met the requirements specified in 10 CFR Part 55, "Operators' Licenses."

The NRC evaluated the performance and fidelity of the simulation facility during the preparation and conduct of the operating tests.

b. Findings

No findings were identified.

The NRC developed the written examination sample plan outline. Members of the Brunswick Steam Electric Plant training staff developed both the operating tests and the written examination. All examination material was developed in accordance with the guidelines contained in Revision 10 of NUREG-1021. The NRC examination team reviewed the proposed examination. Examination changes agreed upon between the NRC and the licensee were made per NUREG-1021 and incorporated into the final version of the examination materials.

Using NUREG-1021, the NRC determined that the licensee's initial examination submittal was within the range of acceptability expected for a proposed examination.

Nine applicants passed both the operating test and written examination and one applicant passed the written examination while the operating test was waived. These ten applicants were issued licenses.

Copies of all individual examination reports were sent to the facility Training Manager for evaluation of weaknesses and determination of appropriate remedial training.

The licensee submitted one post-examination comment concerning the written examination. A copy of the final RO and SRO written examinations and answer keys, with all changes incorporated, and the licensee's post-examination comment may be accessed not earlier than December 14, 2018 in the ADAMS system (ADAMS Accession Numbers ML17012A304, ML17017A385, and ML17017A389, respectively).

4OA6 Meetings, Including Exit

Exit Meeting Summary

On December 6, 2016, the NRC examination team discussed generic issues associated with the operating test with Karl Moser, Plant General Manager, and members of the Brunswick Steam Electric Plant staff. The examiners asked the licensee if any of the examination material was proprietary, or if any of the examination material received should be withheld from public disclosure. No proprietary information was identified. No information was identified that required withholding from public disclosure.

KEY POINTS OF CONTACT

Licensee personnel

K. Moser, Plant General Manager
K. Krueger, Operations Manager
J. Ferguson, NOS Manager
M. Similey, Manager, Acting Training Director
A. Padleckas, AOM- Training
J. Bryant, Regulatory Affairs
J. Buckingham, Training
D. Grube, Training
W. Murray, Regulatory Affairs
E. Ray, Training

FACILITY POST-EXAMINATION COMMENTS AND NRC RESOLUTIONS

A complete text of the licensee's post-examination comments can be found in ADAMS under Accession Number ML17017A389

Item

RO QUESTION #15: K/A 217000 A1.01

Comment:

The licensee contended that only answer "A" is correct.

The question stated that following a loss of feedwater, Reactor Core Isolation Cooling (RCIC) initiated and then tripped on low suction pressure. Reactor water level was given at 150 inches and the flow controller was in Manual and set at 200 gpm. The question then stated that RCIC suction was transferred to the torus, the turbine trip and throttle valve was closed and then re-opened, and the PF push button on the RCIC flow controller was depressed. The question asked what the RCIC flow rate would be.

The licensee contended that the answer stated in the key (C. 400 gpm) was technically incorrect. The licensee stated the flowrate will not go to 400 gpm because the injection valve would not automatically re-open unless level was below Low Level 2 (105 inches). They stated that with the level at 150 inches, the injection valve would remain closed since the injection signal would not seal in. Therefore the injection flow would be 0 gpm (answer A).

NRC Resolution

The licensee's recommendation was accepted.

The NRC agreed that for the conditions given in the question, the injection valve would not automatically open. Therefore the correct flowrate should be 0 gpm.

The answer key has been changed to identify A as the correct answer.

SIMULATOR FIDELITY REPORT

Facility Licensee: Brunswick Steam Electric Plant

Facility Docket No.: 05000325, 05000324

Operating Test Administered: November 29– December 6, 2016

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 Inspection Procedure 71111.11 are not indicative of noncompliance with 10 CFR 55.46. No licensee action is required in response to these observations.

No simulator fidelity or configuration issues were identified.