



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II**

245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

August 24, 2018

Mr. Joseph W. Shea
Vice President, Nuclear Licensing
Tennessee Valley Authority
1101 Market Street, LP 3R-C
Chattanooga, TN 37402-2801

**SUBJECT: BROWNS FERRY NUCLEAR PLANT – NRC OPERATOR LICENSE
EXAMINATION REPORT NOS. 05000259/2018301, 05000260/2018301,
05000296/2018301**

Dear Mr. Shea:

During the period July 16-19, 2018 the Nuclear Regulatory Commission (NRC) administered operating tests to employees of your company who had applied for licenses to operate the Browns Ferry Nuclear 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 July 25, 2018.

All applicants passed both the operating test and written examination. There were no post-examination comments. A Simulator Fidelity Report is included in this report as Enclosure 2.

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 11.

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: 50-259, 50-260, 50-296
License Nos: DPR-33, DPR-52, and DPR-68

Enclosures: 1. Report Details
2. Simulator Fidelity Report

cc: Distribution via Listserv

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05000296/2018301

Distribution:

D. Bacon, RII

G. McCoy, RII

☒ PUBLICLY AVAILABLE☐ NON-PUBLICLY AVAILABLE☐ SENSITIVE☒ NON-SENSITIVEADAMS: ☒ Yes ACCESSION NUMBER: _____☐ SUNSI REVIEW COMPLETE ☐ FORM 665 ATTACHED

OFFICE	RII:DRS	RII: DRS	RII: DRS	RII:DRS	TTC	RII:DRS	
SIGNATURE	DXB2 EMAIL	NTL2 EMAIL	JXV3 EMAIL	DED EMAIL	MPE1 EMAIL	GJM1	
NAME	DBACON	NLACY	JVIERA	DDUMBACHER	MEMRICH	GMCCOY	
DATE	8/13/2018	8/13/2018	8/14/2018	8/14/2018	8/13/2018	8/24/2018	
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\OLEXAMS\BROWNS FERRY EXAMINATIONS\BF 2018-301 INITIAL
EXAM (Dan)\CORRESPONDENCE\BROWNS FERRY 2018-301 FINAL EXAM REPORT.DOCX

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-259, 50-260, 50-296

License Nos.: DPR-33, DPR-52, DPR-68

Report Nos.: 05000259/2018301, 05000260/2018301, 05000296/2018301

Licensee: Tennessee Valley Authority (TVA), LLC

Facility: Browns Ferry Nuclear Plant, Units 1, 2, and 3

Location: Athens, AL 35611

Dates: Operating Test – July 16-19, 2018
Written Examination – July 25, 2018

Examiners: Daniel Bacon, Chief Examiner, Senior Operations Engineer
David Dumbacher, Senior Operations Engineer
Matthew Emrich, Senior Reactor Technology Instructor
Newton Lacy, Operations Engineer
Joseph Viera, Operations Engineer

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

SUMMARY

ER 05000259/2018301, 05000260/2018301, 05000296/2018301; operating test July 16-19, 2018 & written exam July 25, 2018; Browns Ferry Nuclear Plant; Operator License Examinations.

Nuclear Regulatory Commission (NRC) examiners conducted an initial examination in accordance with the guidelines in Revision 11 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 Browns Ferry Nuclear 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 July 16-19, 2018. Members of the Browns Ferry Nuclear Plant training staff administered the written examination on July 25, 2018. All five Reactor Operator (RO) and both of the Senior Reactor Operator (SRO) applicants passed both the operating test and written examination. All applicants were issued licenses commensurate with the level of examination administered.

There were no post-examination comments.

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 (RO and SRO 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 July 16-19, 2018. The NRC examiners evaluated five Reactor Operator (RO) and two Senior Reactor Operator (SRO) applicants using the guidelines contained in NUREG-1021. Members of the Browns Ferry Nuclear Plant training staff administered the written examination on July 25, 2018. Evaluations of applicants and reviews of associated documentation were performed to determine if the applicants, who applied for licenses to operate the Browns Ferry Nuclear Plant, met the requirements specified in 10 CFR Part 55, "Operators' Licenses."

The NRC evaluated the performance or 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 Browns Ferry Nuclear 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 11 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. All applicants passed both the operating test and written examination and 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 did not submit any post-examination comments. A copy of the final RO and SRO written examinations and answer keys, with all changes incorporated, may be accessed not earlier than July 27, 2020, in the ADAMS system (ADAMS Accession Number ML18214A571 and ML18214A572).

4OA6 Meetings, Including Exit

Exit Meeting Summary

On July 19, 2018 the NRC examination team discussed generic issues associated with the operating test with Mr. Glen Pry, General Manager Site Operations, and members of the Browns Ferry Nuclear Plant staff. The examiners asked the licensee if any of the examination material was proprietary. No proprietary information was identified.

KEY POINTS OF CONTACT

Licensee personnel

G. E. Pry, General Manager, Site Operations
 J. A. Kent, Director, Plant Support
 M. G. McAndrew, Director, Operations
 R. D. Busick, Operations Training Manager
 R. Joplin, Corporate Exam Program Manager
 G. Smith, NRC Exam Facility Representative
 T. Brown, Corporate Regulatory Affairs
 M. Schulte, Examination Author
 M. Tharpe, Examination Author
 M. King-Patterson, Site Licensing
 J. Paul, Site Licensing Manager
 D. Binkley, Simulator Services Manager/Exam Team Supervisor

NRC personnel

T. Stephen, Senior Resident Inspector
 M. Kirk, Resident Inspector

Facility Licensee: Browns Ferry Nuclear Plant

Facility Docket No.: 50-259, 50-260, 50-296

Operating Test Administered: July 16-19, 2018

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.