



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

July 16, 2012

Mr. Joseph W. Shea  
Manager, Corp. Nuclear Licensing Programs  
Tennessee Valley Authority  
1101 Market Street, LP 4B-C  
Chattanooga, TN 37402-2801

SUBJECT: BROWNS FERRY NUCLEAR PLANT – NRC OPERATOR LICENSE  
EXAMINATION REPORT NOS 05000259/2012301, 05000260/2012301 AND  
05000296/2012301

Dear Mr. Shea:

During the period May 7 - 17, 2012, 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 with those members of your staff identified in the enclosed report. The written examination was administered by your staff on May 18, 2012.

Four Reactor Operator (RO) applicants, four Senior Reactor Operator (SRO) upgrade and five SRO instant applicants were administered both the operating test and written examination. One of these RO applicants was a retake examination. Additionally, two RO and one SRO applicants who were granted waivers for a previously passed operating test were administered only the written examination. A total of sixteen applicants received a portion or the entire examination. All applicants passed the written and the operating examination with the exception of three SRO instant applicants who failed only the written examination. There was one post-examination comment concerning the written examination. This comment, and the NRC resolution of the comment, is summarized in Enclosure 2. A Simulator Fidelity Report is included in this report as Enclosure 3.

Two applicants, one RO and one SRO, who passed the operating test and passed the written exam with a score between 80% and 82% for the RO applicant and a score between 70% and 74% for the SRO applicant were issued a letter identifying that the issuance of their license has been delayed pending any written examination appeals that may impact the licensing decision for their application.

The initial SRO portion of the written examination submitted by your staff failed to meet the guidelines for quality contained in NUREG-1021, Operator Licensing Examination Standards for Power Reactors, Revision 9, Supplement 1, as described in the enclosed report. 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 9, Supplement 1.

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) 997-4436.

Sincerely,

**/RA/**

Mark E. Franke, Chief  
Operations Branch 2  
Division of Reactor Safety

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

Enclosures:

1. Report Details
2. Facility Comments and NRC Resolution
3. Simulator Fidelity Report

cc w/encls. (See page 3)

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ADAMS: X ☐ Yes

ACCESSION NUMBER: \_\_\_\_\_

X ☒ SUNSI REVIEW COMPLETE ☐ FORM 665 ATTACHED

OFFICE	RII:DRS	RII:DRS	RII:DRS	RII:DRP	RUI:DRS		
SIGNATURE	RA	RA	RA	RA	RA		
NAME	RBALDWIN	KSCHAAF	MRICHES	EGUTHRIE	MFRANKE		
DATE	7/16/2012	7/16/2012	7/16/2012	7/16/2012	7/16/2012		
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 2012-301 INITIAL EXAM (RICK)\CORRESPONDENCE\BROWNS FERRY 2012301 EXAMINATION REPORT FINAL RSB REV 0\_MJR 7-16.DOCX

cc w/encls:  
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Browns Ferry Nuclear Plant  
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General Manager  
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Letter to Joseph W. Shea from Mark E. Franke dated July 16, 2012.

SUBJECT: BROWNS FERRY NUCLEAR PLANT – NRC OPERATOR LICENSE  
EXAMINATION REPORT NOS 05000259/2012301, 05000260/2012301 AND  
05000296/2012301

Distribution w/encls:

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

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

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

Report Nos.: 05000259/2012301, 05000260/2012301, and 05000296/2012301

Licensee: Tennessee Valley Authority (TVA), LLC

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

Location: Athens, AL 35611

Dates: Operating Test – May 7 – 17, 2012  
Written Examination – May 18, 2012

Examiners: Richard S. Baldwin, Chief Examiner, Senior Operations Engineer, RII/DRS/OLB2  
Kenneth D. Schaaf, Operations Engineer, RII/DRS/OLB1  
Mark J. Riches, Operations Engineer, RII/DRS/OLB1

Approved by: Mark E. Franke, Chief  
Operations Branch 2  
Division of Reactor Safety

## **SUMMARY OF FINDINGS**

ER 05000259/2012301, 05000260/2012301, and 05000296/2012301; operating test May 7 – 17, 2012, & written exam May 18, 2012; Browns Ferry Nuclear Plant, Operator License Examinations.

Nuclear Regulatory Commission (NRC) examiners conducted an initial examination in accordance with the guidelines in Revision 9, Supplement 1, 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.

The NRC developed the written examination outline. Members of the Browns Ferry Nuclear Plant staff developed both the operating tests and the written examination.

Four Reactor Operator (RO) applicants, four Senior Reactor Operator (SRO) upgrade and five SRO instant applicants were administered both the operating test and written examination. One of these RO applicants was a retake examination. Additionally, two RO and one SRO applicants who were granted waivers for a previously passed operating test were administered only the written examination. A total of sixteen applicants received a portion or the entire examination. All applicants passed the written and the operating examination with the exception of three SRO instant applicants who failed only the written examination. There was one post-examination comment concerning the written examination. This comment, and the NRC resolution of the comment, is summarized in Enclosure 2. A Simulator Fidelity Report is included in this report as Enclosure 3.

Two applicants, one RO and one SRO, who passed the operating test and passed the written exam with a score between 80% and 82% for the RO applicant and a score between 70% and 74% for the SRO applicant were issued a letter identifying that the issuance of their license has been delayed pending any written examination appeals that may impact the licensing decision for their application.

There was one post-examination comment.

No findings were identified.

## REPORT DETAILS

### 4. OTHER ACTIVITIES

#### 4OA5 Operator Licensing Examinations

##### a. Inspection Scope

The NRC developed the written examination outline. Members of the Browns Ferry Nuclear Plant staff developed both the operating tests and the written examination. All examination material was developed in accordance with the guidelines contained in Revision 9, Supplement 1, of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors." 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.

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 examiners evaluated six Reactor Operator (RO) and ten Senior Reactor Operator (SRO) applicants using the guidelines contained in NUREG-1021. The examiners administered the operating tests during the period May 7 – 17, 2012. Members of the Browns Ferry Nuclear Plant training staff administered the written examination on May 18, 2012. Evaluations of applications and reviews of associated documentation were performed to determine if the applicants who applied for licenses to operate the Browns Ferry Nuclear Power Plant met the requirements specified in 10 CFR Part 55, "Operators' Licenses."

##### b. Findings

The NRC determined that the licensee's written examination submittal was outside the range of acceptable quality specified in NUREG-1021. The initial written examination submittal was outside the range of acceptable quality because more than 20 percent [SRO Exam: 6 of 25] of questions sampled for review contained unacceptable flaws. Individual questions were evaluated as unsatisfactory due to questions not meeting the K/A statement contained in the examination outline, questions containing two or more implausible distractors, questions on the SRO examination not written at the SRO license level, and questions containing other unacceptable psychometric flaws.

The NRC determined that the licensee's initial operating test submittal was within the range of acceptability expected for a proposed examination.

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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 (ADAMS under Accession Number ML12188A684). A copy of the final SRO and RO written examination and answer key, with all changes incorporated, and the licensee's post-examination comments may be accessed not earlier than July 03, 2014, in the ADAMS system (ADAMS Accession Numbers ML12188A682 and ML12188A680).

#### 4OA6 Meetings

##### Exit Meeting Summary

On May 17, 2012, the NRC examination team discussed generic issues associated with the operating test with Mr. M. Rasmussen, Operations Manager, 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

J. Davenport, Site Licensing  
M. Rasmussen, Operations Superintendent  
J. Ruby, Examination Team, Operations Training  
J. Emens, Site Licensing Manager  
B. Stetson, Operations Training  
D. Hakenewerth, Operations Examination Facility Representative  
D. Zielinski, Examination Team, Operations Training  
W. Rees, Operations  
J. Barker, Operations DTC  
B. Tidwell, Acting Training Director  
J. Dills, Operations Training Supervisor  
M. Gibson, Examination Team, Operations Training

### NRC personnel

C. Stancil, Resident Inspector

## **FACILITY POST-EXAMINATION COMMENT AND NRC RESOLUTION**

A complete text of the licensee's post examination comments can be found in ADAMS under Accession Number ML 12188A684.

### **SRO Question #92**

#### **LICENSEE COMMENT:**

The question deals with the determination of the required action statement associated with Technical Requirements Manual (TRM) 3.3.5, "Surveillance instrumentation," and the control rod position in accordance with Technical Specification (TS) SR 3.1.3.1, "Determine the position of each Control Rod," associated with the loss of Panel 2-9-9 Cabinet 6, Unit Preferred.

The licensee contends that the initially selected answer, "D," was not correct and that was proven by use of the TRM bases and TRM Table 3.3.5-1 documentation and discussions between the training and operations departments. The licensee states that answering the first part of the question associated with TRM 3.3.5 requires entry into TRM 3.3.5.2.C, which is indicated in the TRM Bases.

Because of this the licensee states that the correct answer should be changed from "D" to "B."

#### **NRC DISCUSSION:**

The NRC agrees with the licensee's comment. Based on the above discussion, the licensee's recommendation is accepted and the answer to the question will be changed from "D" to the new correct answer of "B." The answer key will be changed to reflect that the question's answer was changed to "B."

## SIMULATOR FIDELITY REPORT

Facility Licensee: Browns Ferry Nuclear Plant

Facility Docket No.: 05000259, 05000260, 05000296

Operating Test Administered: May 07 - 17, 2012

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.

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

<u>Item</u>	<u>Description</u>
NONE	NA