



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

September 16, 2016

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

**SUBJECT: WATTS BAR NUCLEAR POWER PLANT – NRC OPERATOR LICENSE
EXAMINATION REPORT 05000390/2016301 and 05000391/2016301**

Dear Mr. Shea:

During the period July 18 -22, 2016, the Nuclear Regulatory Commission (NRC) administered operating tests to employees of your company who had applied for licenses to operate the Watts Bar 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 July 27, 2016.

Six Reactor Operator (RO) applicants and one Senior Reactor Operator (SRO) applicant passed both the operating test and written examination. A RO applicant and a SRO applicant failed the written examination. There was one post-administration comment concerning the operating test. This comment and the NRC resolution of this comment are summarized in Enclosure 2. A Simulator Fidelity Report is included in this report as Enclosure 3.

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: 50-390, 50-391
License Nos: NPF-91, NPF-96

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

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OFFICE	RII:DRS	RII:DRS					
SIGNATURE	DRL2	GJM1					
NAME	LANYI	MCCOY					
DATE	9/16/2016	9/16/2016	9/ /2016	9/ /2016	9/ /2016	9/ /2016	9/ /2016
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 50-390, 50-391

License No.: NPF-90, NPF-96

Report No.: 05000390, 05000391/2016301

Licensee: Tennessee Valley Authority

Facility: Watts Bar Nuclear Plant, Units 1 and 2

Location: Spring City, Tennessee

Dates: Operating Test – July 18 - 22, 2016
Written Examination – July 27, 2016

Examiners: D. Lanyi, Chief Examiner, Senior Operations Engineer
A. Toth, Operations Engineer
E. Lea, Regional Governmental Liaison Officer

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

SUMMARY

ER 05000390/2016301, 05000391/2016301; operating test July 18-22, 2016 & written exam July 27, 2016; Watts Bar Nuclear 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.

The operating tests and written examination were developed by the NRC.

The NRC administered the operating tests during the period July 18-22, 2016. Members of the Watts Bar Nuclear Plant training staff administered the written examination on July 27, 2016. Six Reactor Operator (RO) applicants and one Senior Reactor Operator (SRO) applicant passed both the operating test and written examination. Seven 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 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 18-22, 2016. The NRC examiners evaluated seven Reactor Operator (RO) and two Senior Reactor Operator (SRO) applicants using the guidelines contained in NUREG-1021. Members of the Watts Bar Nuclear Plant training staff administered the written examination on July 27, 2016. Evaluations of applicants and reviews of associated documentation were performed to determine if the applicants, who applied for licenses to operate the Watts Bar 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, the written examination, and the operating test. All examination material was developed in accordance with the guidelines contained in Revision 10 of NUREG-1021. The licensee 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.

Six RO applicants and one SRO applicant passed both the operating test and written examination. One RO applicant and one SRO applicant passed the operating test but did not pass the written examination. Three RO applicants were issued licenses.

Three RO applicants and one SRO applicant passed the operating test, but passed the written examination with overall scores between 80% and 82%. Each of these applicants was issued a letter stating that they passed the examination and issuance of their license has been delayed pending any written examination appeals that may impact the licensing decision for their application.

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 operating test. A copy of the final written examination and answer key, with all changes incorporated, and the licensee's post-examination comment may be accessed not earlier than

July 27, 2018, in the ADAMS system (ADAMS Accession Number(s) ML16257A714, ML16257A721 and ML 16257A723.

40A6 Meetings, Including Exit

Exit Meeting Summary

On July 22, 2016 the NRC examination team discussed generic issues associated with the operating test with Walter Smith, Operations Training Manager, and members of the Watts Bar 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

W. Smith Jr, Operations Training Manager
M. Bottorff, Operations Superintendent
R. Joplin, TVA Corporate Exam Program Manager
J. Thompson, ILT Supervisor
B. McInay, WBN Facility Representative
T. Gabosch, Operations Instructor/Exam Project Manager
B. Leapley, Operations Instructor/Exam Developer
S. Taylor, Operations Instructor/Exam Developer
J. Perkins, Operations Instructor/ILT 1606 Lead Instructor
D. Jackson, Operations Instructor
J. Weiss, Operations Instructor
W. Brickenstein, Operations Instructor
D. Jones, Operations Instructor

NRC personnel

J. Nadel, Senior Resident Inspector

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 ML 16257A723.

Item

Scenario 2, Event 1 (A-A ERCW Pump Trips, Resulting in a Loss of A Train Essential Raw Cooling Water (ERCW) Header Pressure and Flow).

Comment

The licensee recommends that Technical Specification (TS) 3.6.12, Ice Condenser Doors, Condition B be added to the Scenario Guide as an expected TS entry.

The original construction of the scenario had two ERCW pumps running on both the A and B trains. The event was intended to allow observation of the crews' responses when one of the ERCW pumps tripped. It was expected that the crews would start one of the other available A train ERCW pumps to restore pressure and flow per 0-AOI-13, Loss of ERCW. However during the preparatory week, the examiners noted that a crew may choose to NOT start a second pump because with only one pump running, flow and pressure were adequate.

The scenario was changed to have only one ERCW pump running in each train for each of the scenarios. That way, when the ERCW pump tripped, the crew would be forced to start a backup pump. Due to the change in the simulator setup, the event proved to have a larger magnitude rise in lower containment temperature. This rise in temperature was large enough to cause the air mass inside lower containment to expand to the point where the lower containment doors "puffed open". With the doors indicating not fully closed, TS 3.6.12, Condition B entry was appropriate.

NRC Resolution

The licensee's recommendation was accepted

The Scenario 2 Scenario Guide was amended as discussed.

SIMULATOR FIDELITY REPORT

Facility Licensee: Watts Bar Nuclear Plant, Units 1 and 2

Facility Docket No.: 50-390, 50-391

Operating Test Administered: July 18-22, 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.