



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

January 27, 2017

South Carolina Electric & Gas Company
ATTN: Mr. Paul Mothena
Manager, Nuclear Training, Unit 2
Virgil C. Summer Nuclear Plant
P. O. Box 88
Jenkinsville, SC 29065

SUBJECT: V. C. SUMMER NUCLEAR PLANT UNIT 2 – NRC OPERATOR
LICENSE EXAMINATION REPORT 5200027/2016301

Dear Mr. Mothena:

During the period of September 12 – 21, 2016 the Nuclear Regulatory Commission (NRC) administered operating tests to employees of your company who had applied for licenses to operate the V. C. Summer Nuclear Plant Unit 2. 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 September 29, 2016.

Two Reactor Operator (RO) and sixteen Senior Reactor Operator (SRO) applicants passed both the operating test and written examination. Two SRO applicants failed the operating test. There were no post-examination comments. A Simulator Fidelity Report is included in this report as Enclosure 2.

The initial examination submittal met the guidelines for quality contained in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 10, following review by the NRC, and changes that were mutually agreed upon between the NRC and your staff.

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- 4662.

Sincerely,

/RA/

Eugene F. Guthrie, Chief
Operations Branch 2
Division of Reactor Safety

Docket No: 5200027
License Nos: NPF-93

Enclosures:

1. Report Details
2. Simulator Fidelity Report

cc: See page 3

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☒ PUBLICLY AVAILABLE

☐ NON-PUBLICLY AVAILABLE

☐ SENSITIVE

☒ NON-SENSITIVE

ADAMS: ☒ Yes ACCESSION NUMBER: _ML_____

☒ SUNSI REVIEW COMPLETE ☐ FORM 665 ATTACHED

OFFICE	RII:DRS	RII:DRS	NRO	RII:DRS	NRO	RI:DRS-OB	RI:DRS-OB
SIGNATURE	MAB7 VIA EMAIL	GXG					
NAME	MBATES	GUTHRIE					
DATE	1/26/2017	1/27/2017					
E-MAIL COPY?	YES NO	YES NO					

OFFICIAL RECORD COPY DOCUMENT NAME: G:\OLEXAMS\SUMMER EXAMINATIONS\INITIAL EXAM 2016 (AP-1000
UNIT 2)\CORRESPONDENCE\WCSUMMER AP1000 2016-301 EXAM REPORT REV 1.DOCX

cc:

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Allendale, SC 29810

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 5200027

License No.: NPF-93

Report No.: 05200027/2016301

Licensee: Southern Carolina Electric and Gas

Facility: V. C. Summer Unit 2

Location: Jenkinsville, South Carolina

Dates: Operating Test – September 12 – 21, 2016
Written Examination – September 29, 2016

Examiners: Mark Bates, Chief Examiner, Senior Operations Engineer
Brian Larson, Senior Operations Engineer
Jim Kellum, Senior Reactor Engineer
Amanda Toth, Operations Engineer
Andreas Goldau, Operations Engineer
Chris Steely, Operations Engineer
Newton Lacy, Operations Engineer

Approved by: Eugene F. Guthrie, Chief
Operations Branch 2
Division of Reactor Safety

SUMMARY

ER 05200027/2016301; operating test September 12-21, 2016 & written exam September 29, 2016; V. C. Summer Unit 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 test and written examination were developed by members of the V. C. Summer staff. The NRC developed the written examination outlines.

The initial operating test, written RO examination, and written SRO examination submitted by your staff met the guidelines for quality contained in NUREG-1021, following review by the NRC, and changes that were mutually agreed upon between the NRC and your staff.

The NRC administered the operating tests during the period of September 12 – 21, 2016. Members of the V. C. Summer training staff administered the written examination on September 29, 2016. Five Senior Reactor Operator (SRO) applicants took a previously administered written examination on May 22, 2015. Two Reactor Operator (RO) and sixteen SRO applicants passed both the operating test and written examination. None of the applicants were issued licenses; licensing action has been delayed pending receipt of additional information.

There were no post-examination comments.

No findings were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA5 Operator Licensing Examinations

a. Inspection Scope

The NRC examiners evaluated each question of the written examination submitted by the licensee to ensure that appropriate changes were made in order for the operating test and written examinations to meet the NUREG-1021 criteria. This exam review was the second of only two AP-1000 license written examinations that the NRC had made a decision to collaborate with the licensee on written exam development. The NRC decided not to evaluate the percentage of submitted written examination and operating test items that required replacement or significant modification, or that clearly did not conform with the intent of the approved knowledge and ability (K/A) statement.

The examiners 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 examiners administered the operating tests during the period of September 12 – 21, 2016. The examiners evaluated two Reactor Operator (RO) and eighteen Senior Reactor Operator (SRO) applicants using the guidelines contained in NUREG-1021. Members of the V. C. Summer training staff administered the written examination on September 29, 2016. Evaluations of applicants and reviews of associated documentation were performed to determine if the applicants, who applied for licenses to operate the V. C. Summer Nuclear Plant Unit 2, met the requirements specified in 10 CFR Part 55, "Operators' Licenses."

Five of the SRO applicants took and passed the written examination that was administered on May 22, 2015. An interim examination report (ML15212A744) was written to document the administration of that written examination as well as to disposition associated post-examination comments made by the operating facility. Applicant performance was documented in non-publicly available correspondence to the licensee (ML16221A238). There was no corresponding operating test administered for that May 2015 written examination; therefore, five of the applicants that passed that written examination were approved by the NRC in accordance with NUREG-1021, revision 10, guidance to take the September 2016 operating test. The May 2015 written examination, combined with the September 2016 operating test, constituted a complete examination for those five applicants.

The examiners 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 examiners developed the written examination sample plan outline. The examiners and members of the V. C. Summer training staff developed both the operating tests and

the written examinations. 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 examiners and the licensee were made per NUREG-1021 and incorporated into the final version of the examination materials.

No issues with examination security were identified.

Two RO applicants and sixteen SRO applicants passed both the operating test and written examination. Two SRO applicants passed the written examination but did not pass the operating test. Issuance of licenses for two RO applicants and sixteen SRO applicants has been delayed pending receipt of additional information. Details concerning the need for additional information has been sent to the individual applicants and the facility licensee.

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. The final written examination was proprietary; at the issuance of this exam report a non-publicly available version of the final RO and SRO examination, with an answer key has been placed in the ADAMS system (ADAMS Accession Numbers ML17026A283 and ML17026A289, respectively).

4OA6 Meetings, Including Exit

Exit Meeting Summary

On September 21, 2016 the NRC examination team discussed generic issues associated with the operating test with Ron Jones, Vice President New Nuclear Operations, and members of the V. C. Summer staff. The examiners asked the licensee if any of the examination material was proprietary. Examination material was identified as proprietary. At the time this report was issued, the NRC had not received redacted versions of the proprietary examination material; therefore, non-publicly available ADAMS Accession Numbers for the RO and SRO examinations were referenced. Material designated by the licensee as proprietary will be handled in accordance with NRC policies and procedures.

KEY POINTS OF CONTACT

Licensee personnel

R. Jones, Vice President – New Nuclear Operations
 D. Lavigne, General Manager – Operational Readiness
 A. Harris, Operations Manager
 P. Mothena, Nuclear Training Manager Units 2 & 3
 S. Meier, Initial Training Supervisor
 J. Lawter, Simulator Engineering Supervisor
 R. Trondson, Project Support Specialist
 S. Dimeler, Unit 2 Exam Lead
 B. Kosbar, Training Instructor
 B. Ciccone, Training Instructor

SIMULATOR FIDELITY REPORT

Facility Licensee: V. C. Summer Unit 2

Facility Docket No.: 5200027

Operating Test Administered: September 12 – 21, 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.

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

<u>Item</u>	<u>Description</u>
SDR#744	During the administration of Job Performance Measure (JPM) "G", the controllers for closing breakers to perform a bus transfer required several clicks of the mouse to initiate the breaker closure.
SDR#742	During the administration of the operating test, it was observed that CPS inappropriately displayed both green and red X's when conditions should have only provided a green X. The issue was noted when performing AOP-104 and other procedures.