



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
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ATLANTA, GEORGIA 30303-8931

May 19, 2004

South Carolina Electric & Gas Company  
ATTN: Mr. Stephen A. Byrne  
Senior Vice President, Nuclear Operations  
Virgil C. Summer Nuclear Station  
P. O. Box 88  
Jenkinsville, SC 29065

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION - NRC EXAMINATION REPORT  
05000395/2004301

Dear Mr. Mr. Byrne:

During the period April 19-22, 2004, the Nuclear Regulatory Commission (NRC) administered operating tests to employees of your company who had applied for licenses to operate the Virgil C. Summer Nuclear Station. At the conclusion of the examination, the examiners discussed the examination questions and preliminary findings with those members of your staff identified in the enclosed report. The written examination was administered by your staff on April 28, 2004.

All six Reactor Operator applicants passed both the written and operating examinations. A Simulation Facility Report is included in this report as Enclosure 2. There were three post examination comments. Post examination comment resolutions are 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 NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this letter, please contact me at (404) 562-4638.

Sincerely,  
**/RA/**  
Michael E. Ernstes, Chief  
Operator Licensing and  
Human Performance Branch  
Division of Reactor Safety

Docket No.: 50-395  
License No.: NPF-12

Enclosures: (See page 2)

Enclosures: 1. Report Details  
2. Simulation Facility Report  
3. Post Examination Comment

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NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 50-395

License No.: NPF-12

Report No.: 05000395/2004301

Licensee: South Carolina Electric & Gas (SCE&G) Company

Facility: Virgil C. Summer Nuclear Station

Location: P. O. Box 88  
Jenkinsville, SC 29065

Dates: Operating Test, April 19 - 22, 2004  
Written Examination, April 28, 2004

Examiners: Richard S. Baldwin, Chief, Senior Operations Engineer  
Lee R. Miller, Senior Operations Examiner

Approved by: M. Ernstes, Chief  
Operator Licensing and Human Performance Branch  
Division of Reactor Safety

## SUMMARY OF FINDINGS

ER 05000395/2004301; 04/19 - 22/04; Virgil C. Summer Nuclear Station; Licensed Operator Examinations.

The NRC developed the written examination, the NRC and licensee co-developed the operating test. The operator licensing initial examination outlines were developed by the NRC and the details to those outlines were developed by the licensee, reviewed by the NRC and administered by NRC examiners in accordance with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Draft Revision 9. The examination implemented the operator licensing requirements of 10 CFR §55.41, and §55.45.

The NRC administered the operating examinations April 19 - 22, 2004. The licensee administered the written examination on April 28, 2004. All six Reactor Operator applicants passed the operating and written examinations.

No significant issues were identified.

## Report Details

### 4. OTHER ACTIVITIES (OA)

#### **4OA5** Operator Licensing Initial Examinations

##### a. Inspection Scope

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##### a. Inspection Scope

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The examiners reviewed the licensee's examination security measures while preparing and administering the examinations to ensure examination security and integrity complied with 10 CFR 55.49, Integrity of examinations and tests.

The examiners evaluated six Reactor Operator (RO) applicants who were being assessed under the guidelines specified in NUREG-1021. The examiners administered the operating tests during the period of April 19 - 22, 2004. Members of the Virgil C. Summer Nuclear Station training staff administered the written examination on April 28, 2004. The evaluations of the applicants and review of documentation were performed to determine if the applicants, who applied for licenses to operate the VC Summer Nuclear Station, met requirements specified in 10 CFR Part 55.

##### b. Findings

No findings of significance were identified.

The licensee's operating examination submittal was within the range of acceptability expected for a proposed examination. All six RO applicants passed both the operating test and written examination. The licensee submitted three post examination comments concerning the written examination. The RO written examination and answer key, and licensee's post examination comments may be accessed in the ADAMS system (ADAMS Accession Numbers, MLO41320360 and MLO41320358).

**40A6 Meetings**Exit Meeting Summary

On April 23, 2004, the examination team discussed generic issues with Mr. K. Nettles and members of his staff. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

## PARTIAL LIST OF PERSONS CONTACTED

Licensee personnel

B. Davis, Training Instructor, Operations  
C. Dickey, Training Instructor, Operations.  
D. Edwards, Control Room Supervisor  
S. Furstenburg, Manager, Nuclear Training  
D. Gatlin, Manager, Operations  
A. Koon, Supervisor, Operations Training  
K. Nettles, General Manager, Nuclear Support  
R. Quick, Senior Training Instructor, Operations  
R. Sweet, Supervisor, Licensing

NRC personnel

J. Reese, Acting Senior Resident Inspector

## SIMULATION FACILITY REPORT

Facility Licensee: Virgil C. Summer Nuclear Station Unit 1

Facility Docket No.: 05000395

Operating Tests Administered on: April 19-22, 2004

This form is to be used only to report observations. These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of noncompliance with 10 CFR 55.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information that may be used in future evaluations. No licensee action is required in response to these observations.

While conducting the simulator portion of the operating tests, the following items were observed:

<u>ITEM</u>	<u>DESCRIPTION</u>
Panel 6108 Power Spike	There appeared to be a power spike on this board during one simulator scenario. All the meters and indications on this board oscillated. The board returned to normal and it appeared that the fluxuation did not effect the simulator performance. This event was not repeated during the rest of the scenarios.



## NRC Resolutions to Virgil C Summer Nuclear Station Initial Post Exam Comments

### RO QUESTION #11:

Comment: The question asks what is the response of the pressurizer level system with the selector switch in the 460/461 position, when a leak develops in the sensing line on transmitter 460's reference leg near the connection to the D/P Cell. The answer key indicates answer "B" as the correct answer (i.e., a rise in LT-460, a decrease in charging flow, a decrease in actual pressurizer level and pressurizer deviation alarm will come in). The licensee recommends a change of the correct answer to "D" (i.e., a rise in LT-460, an increase in charging flow, a decrease in pressurizer level, and pressurizer heaters will energize). This recommendation is based on the system line up. LT-460 is only used for indication while LT-461 is used to control charging and other functions of the control system. The question asked the expected plant response for the failure of LT-460, which is to provide indication. The initial answer would have been correct if the question asked the same information about LT-461, which is the controlling channel. The licensee used the simulator in two different instances, (different steam space leak rates of 10 and 75 gpm respectively) to determine the expected response. In each case, the simulator proved that answer "D" was the correct answer. The licensee recommends that answer "B" be replaced with answer "D."

NRC Resolution: Recommendation accepted. Review of the additional reference material confirmed that for selection switch position 460/461, "D" is the correct answer. The answer key was changed to reflect that "D" as the only correct answer.

### RO QUESTION #15:

Comment: The question asks what could cause an CMPTR ROD DEV alarm. The answer key indicates "D" (An IPCS computer Alarm) as the correct answer. This answer was obtained from the annunciator response procedure (ARP) for the above alarm. The licensee points out that the ARP's list of probable causes is not encompassing and that other items not listed could also cause this annunciator to go into alarm. The licensee recommends that "C" (An error or failure from both DRPI data cabinets) could also be an answer. This recommendation is based on System Matter Expert (SME) opinion. The SME states that "Without specifically stating what the failure mode is, it is possible to have this alarm in response to many types of DRPI data cabinet failures."

NRC Resolution: Recommendation accepted. Review of additional reference material provided and SME opinion, confirmed that, under certain conditions, "C" could be an additional correct answer. The answer key was changed to reflect "C" as an additional correct answer.

**RO QUESTION #38:**

**Comment:** The question asks what would be the effect on the ESFLS system when performing maintenance on XIT-5901 while in an A1 work week. Because of this maintenance APN-5901 power was obtained from APN-1FA. The normal feeder breaker for APN-1FA, trips open due to a fault. The answer key indicates that "C" ("A" Train loads will remain connected and ESFLS will be disabled) is the correct answer. The licensee recommends that answer "D" ("B" Train Loads will remain connected and ESFLS will be disabled) also be considered an additional correct answer. The licensee states that the stem does not stipulate that a vital bus is lost and it does not stipulate that ESFLS on Train "B" will not be actuated. They additionally state that Train "A" or "B" running equipment will remain running. Therefore the first part of distractors "C" and "D" are correct. When APN-1FA power is lost, this causes the "A" train of ESFLS to be lost, rendering it disabled. The second part of distractor "C" and "D" stated the same information, that "ESFLS is disabled." The licensee correlated that if ESFLS Train "A" was disabled due to the conditions in the stem, then the assumption could be made that this was equivalent to the words used in distractors "C" and in the case for distractor "D" since the words did not specifically state the "B" Train of ESFLS then both distractors would answer the question adequately. The licensee recommended that both answers "C" and "D" are acceptable.

**NRC Resolution:** Recommendation accepted. The possible answers, distractors "C" and "D," did not specify the respective train of ESFLS that was affected or the whole ESFLS system. This inadvertently increased the number possible answers. The question was written with the understanding that the train designation at the beginning of the distractor was carried throughout the entire distractor and encompassed the train of ESFLS. The licensee pointed out that not designating the train affected could result in confusion when deciding which answer was correct. In light of this new information, it was decided that an additional answer of "D" be allowed. The answer key was changed to allow "D" as an additional correct answer.