



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET, SW, SUITE 23T85  
ATLANTA, GEORGIA 30303-8931

June 19, 2006

South Carolina Electric & Gas Company  
ATTN: Mr. Jeffrey B. Archie  
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  
05000395/2005301

Dear Mr. Archie:

During the period December 12 - 16, 2005, the Nuclear Regulatory Commission (NRC) administered operating examinations 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 January 10, 2006.

One senior reactor operator (SRO) applicant passed both the written and operating examinations. Five reactor operators (RO) and three SRO applicants passed the operating tests but failed the written examination. There were fifty-six post examination comments on the written exam and one post examination comment on the operating exam. The written examination comments are summarized in an NRC letter addressed to you dated March 24, 2006, which may be accessed in the ADAMS system (ADAMS Accession Number, ML060830449). The one operating test post examination comment is summarized in Enclosure 2. A Simulation Facility Report is included in this report in 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) 562-4647.

Sincerely,

/RA/

James H. Moorman, III, Chief  
Operations Branch  
Division of Reactor Safety

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

Enclosures: (See page 2)

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

cc w/encls:

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Sincerely,  
**/RA/**  
James H. Moorman, III, Chief  
Operations Branch  
Division of Reactor Safety

Docket No.: 50-395  
License No.: NPF-12  
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NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 50-395

License No.: NPF-12

Report No.: 05000395/2005301

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

Facility: Virgil C. Summer Nuclear Station

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

Dates: Operating Tests - December 12 - 16, 2005  
Written Examination - January 10, 2006

Examiners: S. Rose, Chief, Senior Operations Examiner  
M. Chitty, Operations Engineer  
R. Monk, Resident Inspector, Browns Ferry

Approved by: James H. Moorman, III, Chief  
Operations Branch  
Division of Reactor Safety

## SUMMARY OF FINDINGS

ER 05000395/2005301; 12/12 - 16/2005 & 01/10/2006; Virgil C. Summer Nuclear Station; Licensed Operator Examinations.

The NRC examiners conducted operator licensing initial examinations in accordance with the guidance in NUREG-1021, Revision 9, "Operator Licensing Examination Standards for Power Reactors." This examination implemented the operator licensing requirements of 10 CFR §55.41, §55.43, and §55.45.

The NRC administered the operating tests during the period of December 12 - 16, 2005. Members of the Virgil C. Summer Nuclear Station training staff administered the written examination on January 10, 2006. The written examinations and the operating test outlines were developed by the NRC. The operating test details were developed by the Virgil C. Summer Nuclear Station training staff.

One senior reactor operator (SRO) applicant passed both the operating test and written examination. Five reactor operator (RO) applicants and three SRO applicants passed the operating tests but failed the written examination. Two of the SRO applicants that failed the written examination, also failed the SRO portion of that examination. The other SRO that failed the written examination, failed overall, however, passed the SRO portion of that examination. One SRO applicant passed the operating test and scored between 80 and 82 percent on the written examination. The applicant was issued a letter notifying him that he passed the examination and that issuance of his license has been delayed pending any written examination appeals that may impact the licensing decision for his application. There were fifty-six post examination comments on the written exam and one post examination comment on the operating exam.

The poor performance of the licensed operator applicants on the January 10, 2006, NRC written examination, 8 of 9 applicants receiving a failing score, resulted in the NRC performing an inspection of licensed operator training programs. The results of this inspection will be documented in a separate inspection report, 05000395/2006010.

No findings of significance were identified.

## Report Details

### **4. OTHER ACTIVITIES**

#### 4OA5 Operator Licensing Initial Examinations

##### a. Inspection Scope

The NRC developed operating test outlines and written examinations in accordance with NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9. The licensee's examination team reviewed the proposed examinations. Examination changes agreed upon between the NRC and the licensee were made according to NUREG-1021 and incorporated into the final version of the examination materials.

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 five RO and four SRO applicants who were being assessed under the guidelines specified in NUREG-1021. The examiners administered the operating tests during the period of December 12 - 16, 2005. Members of the Virgil C. Summer Nuclear Station training staff administered the written examination on January 10, 2006. The evaluations of the applicants and review of documentation were performed to determine if the applicants, who applied for licenses to operate the Virgil C. Summer Nuclear Station, met requirements specified in 10 CFR 55, "Operators' Licenses."

##### b. Findings

No findings of significance were identified.

The NRC determined that the details provided by the licensee for the walkthrough and simulator tests were within the range of acceptability expected for the proposed tests. One SRO applicant passed both the operating test and written examination. Five RO and three SRO applicants passed the operating tests but failed the written examination. Two of the SRO applicants that failed the written examination, also failed the SRO portion of that examination. The other SRO applicant, that failed the written examination, failed overall, however, passed the SRO portion of that examination.

The combined RO and SRO written examinations with knowledge and abilities (K/As) question references/answers, examination references and licensee's post examination comments may be accessed in the ADAMS system (ADAMS Accession Numbers, ML060830455, ML061530063 and ML060320297).

The exam team noted a number of generic weaknesses during the operating test. Several applicants demonstrated a weakness in the ability to locate and manipulate controls in an accurate and timely manner associated with Diesel Generator operation. Several applicants did not verify proper control rod movement during rod withdrawal, therefore, had difficulty identifying when a control rod became stuck during a dropped rod recovery. Some applicants did not consistently utilize annunciator response

procedures. The SRO applicants were not consistent with verification of Technical Specifications (TS). One SRO relied on memory, not utilizing the TS manual and subsequently violated a one-hour Limiting Condition for Operation (LCO). Details of the job performance measure and performance inadequacies were discussed with the facility Operations Training Supervisor for evaluation and determination of remedial training.

The poor performance of the licensed operator applicants on the January 10, 2006, NRC written examination, eight of nine applicants receiving a failing score, resulted in the NRC performing an inspection of licensed operator training programs. The results of this inspection will be documented in a separate NRC inspection report, 05000395/2006010.

#### 4OA6 Meetings

##### Exit Meeting Summary

On December 16, 2005, the examination team discussed generic issues with Mr. Dan Gatlin, Plant Manager, 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

A. Koon, Operations Training Supervisor  
M. Brown, Manager Quality Services  
D. Watson, Operations Training Instructor  
G. Lippard, Manager Operations  
M. Johnson, Control Room Supervisor, Operations Representative  
A. Cribb, Acting Licensing Supervisor  
K. Nettles, General Manager Nuclear Support Services  
G. Moffatt, Manager Nuclear Training  
D. Gatlin, Plant Manager  
W. Quick, Supervisor Initial Training Programs

##### NRC personnel

J. Zeiler, Senior Resident Inspector

## Virgil C. Summer Nuclear Station 2005-301

### NRC Resolution to the Virgil C. Summer Nuclear Station Post Examination Comments

A complete text of the licensee's post-exam comments can be found in ADAMS under Accession Number ML060320297.

NRC comment resolutions for the written examination comments can be found in ADAMS under Accession Number ML060830449.

#### **Job Performance Measure (JPM): JPA-001: Review of Work Package for Spent Fuel Pool Heat Exchanger 'A'**

##### **LICENSEE COMMENT:**

Step 5 of JPA-001 should not be a critical step. Step 5 of the JPM relates to the examinee's review of the green Preventative Maintenance Task Sheet (PMTS). The examinee was expected to review the PMTS and use Attachment VI, "Scheduling Package Checklist," of OAP-102.1, "Conduct of Operations Scheduling Unit," to ensure all pertinent package data is included and is correct. One aspect of this review is to conduct a risk assessment of the impact that the activity (tagout of the Spent Fuel Pool (SFP) heat exchanger), including the impact on Equipment Out Of Service (EOOS). This EOOS determination is initially made by the Operations Scheduling SRO. When the Operations Scheduling SRO completes the evaluation, he stamps the PMTS to indicate his EOOS impact conclusions. It then is verified by the duty Shift Supervisor (SS) along with Work Control Center personnel. The actual critical portion of the SS review is the risk assessment itself, not the application of the stamp. The SS would conduct the risk assessment when the out-of-service component was entered into the EOOS program.

Therefore, the absence of the EOOS stamp is not critical, as the risk evaluation would be conducted regardless of the presence, or absence, of the stamp. In addition, the Spent Fuel Cooling Heat Exchanger is not considered within the EOOS profile. Therefore, the EOOS stamp is not relevant to the activity assigned for the JPM.

##### **NRC RESOLUTION:**

The facility's recommendation is accepted. Step 5 of JPM JPA-001 will not be graded as a critical step in the performance of the JPM. The initiating cue to the applicants stated to "assume all Scheduling pre-reviews have been performed as required," this would indicate to the applicant that the risk analysis would have been performed. The absence of the EOOS stamp would therefore be an administrative oversight and not critical for the accomplishment of the assigned task. However, the applicant was expected to identify this oversight, and failure to do so would warrant a comment for the performance of this JPM.



## SIMULATION FACILITY REPORT

Facility Licensee: Virgil C. Summer Nuclear Station

Facility Docket No.: 05000395

Operating Tests Administered on: December 12 - 16, 2005

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 IP 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 tests, examiners observed the following items:

1. During one of the scenarios the 'C' Steam Generator blowdown flow failed to indicate properly. (CER Number 05-4521)
2. During a large steam line break on 'C' Steam Generator, scenario number 2, the RCS exhibited large swings in 'A' loop cold leg temperature. (CER Number 05-4547)