



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

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

July 5, 2005

Southern Nuclear Operating Company, Inc.  
ATTN: Mr. D. E. Grissette, Vice President  
P. O. Box 1295  
Birmingham, AL 35201-1295

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC EXAMINATION REPORT  
05000424/2005301 AND 05000425/2005301

Dear Mr. Grissette:

During the period May 17 - 25, 2005, the Nuclear Regulatory Commission (NRC) administered operating examinations to employees of your company who had applied for licenses to operate the Vogtle Electric Generating Plant Units 1 and 2. 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 May 27, 2005.

One reactor operator (RO) and six senior reactor operator (SRO) applicants passed both the written and operating examinations. One RO and two SRO applicants passed the operating tests but failed the written examination. There were five post examination comments. These comments are 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 enclosure 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  
Operator Licensing Branch  
Division of Reactor Safety

Docket Nos.: 50-424, 50-425  
License Nos.: NPF-68, NPF-81

Enclosures: (See page 2)

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

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NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-424, 50-425

License Nos.: NPF-68, NPF-81

Report No.: 05000424/2005301 and 05000425/2005301

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Vogtle Electric Generating Plant

Location: 7821 River Road  
Waynesboro, GA 30830

Dates: Operating Tests - May 17 - 25, 2005  
Written Examination - May 27, 2005

Examiners: R. Baldwin, Chief, Senior Operations Examiner  
S. Rose, Senior Operations Engineer  
M. Bates, Operations Engineer  
M. Chitty, License Examiner Trainee  
F. Ehrhardt, Operations Engineer, Trainee

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

## **SUMMARY OF FINDINGS**

ER 05000424/2005301, ER 05000425/2005301; 5/17 - 25/2005; Vogtle Electric Generating Plant, Units 1 and 2; 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 May 17 - 25, 2005. Members of the Vogtle Electric Generating Plant training staff administered the written examination on May 27, 2005. The written examinations and the operating test outlines were developed by the NRC, the operating test details were developed by the Vogtle Electric Generating Plant training staff.

One Reactor Operators (RO) and six Senior Reactor Operators (SRO) passed both the operating test and written examination. One RO and two SRO applicants passed the operating tests but failed the written examination. One of the SRO's that failed the written examination, passed the examination overall, however, he failed the SRO portion of that examination. The other SRO that failed the written examination, failed overall, and also failed the SRO portion of that examination. All of the applicants who passed their examinations were issued operator licenses commensurate with the level of examination administered. There were five post examination comments.

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 two RO and eight SRO applicants who were being assessed under the guidelines specified in NUREG-1021. The examiners administered the operating tests during the period of May 17 - 25, 2005. Members of the Vogtle Electric Generating Plant training staff administered the written examination on May 27, 2005. The evaluations of the applicants and review of documentation were performed to determine if the applicants, who applied for licenses to operate the Vogtle Electric Generating Plant, 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 RO and six SRO applicants passed both the operating test and written examination. One RO and two SRO applicants passed the operating tests but failed the written examination. One of the SRO's that failed the written examination, passed the written examination overall, however, he failed the SRO portion of that examination. The other SRO that failed the written examination, failed overall, and also failed 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, ML0516705460, ML0516705400 and ML051810518).

The exam team noted generic weaknesses ending crew briefs, plant announcements and reporting of parameter trends. Copies of these reports were sent to the facility Training Manager for evaluation and determination of appropriate remedial training.

#### 4OA6 Meetings

##### Exit Meeting Summary

On May 25, 2005, the examination team discussed generic issues with Mr. W. Kitchens 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

R. Brigdon, Training & Emergency Preparedness, Senior Operations Instructor - LORQ  
R. Brown, Training and Emergency Preparedness Manager  
D. Scukanec, Training & Emergency Preparedness, Operations Training Supervisor  
W. Kitchens, General Manager, Plant Vogtle  
L. Mansfield, Nuclear Operations Training Supervisor  
K. Pope, Operations Unit Supervisor  
C. Salter, Operations Training Instructor

##### NRC personnel

T. Morrissey, Resident Inspector

NRC Resolution to the Vogtle Post Examination Comments

A complete text of the licensee's post-exam comments can be found in ADAMS under Accession Number ML051710172.

**RO QUESTION # 65**

**COMMENT:** The question concerns itself with a release being conducted in accordance with Procedure 13202-2, "Gaseous Releases." During this release the flow transmitter A-FT-0014 fails low. The question asks the required actions in accordance with the Procedure 13202-2. The licensee recommends that both distractors "C" and "D" be accepted as correct answers.

The licensee states that the Offsite Dose Calculation Manual (ODCM) allows the release to continue with the failure of A-FT-0014. The licensee contends that ODCM Section 3.1 applies with this flow transmitter failure. ODCM Section 3.1 refers to ODCM Table 3-1, which states that Action 46 is applicable when A-FT-0014 is inoperable. Action 46 requires that flow rate be estimated at least once every four hours. The licensee contends there is conflicting information concerning the ODCM and Procedure 13202-2. The NRC disagrees with this comment. It is true that the ODCM allows for a continued, uninterrupted release; however, Procedure 13202-2, Step 2.2.3 clearly requires the release to be terminated upon failure of A-FT-0014. The NOTE on Page 5 allows for the release to then be recommenced when the actions of ODCM Section 3.1 have been completed. The procedure is more restrictive than the ODCM, but not in conflict. By adhering to the procedure, the operator also ensures compliance with the ODCM. The question clearly asked the requirements of the procedure, not the less restrictive requirements of the ODCM.

Failure to terminate the release upon the failure of the flow transmitter would result in an unmonitored flow indication for the release prior to the ODCM required calculations being completed. Therefore, to be in compliance with Procedure 13202-2 and the ODCM, upon the failure of the flow transmitter, the release must be terminated, the calculations performed, and then the release may be reinitiated. The NRC believes the action in accordance with Procedure 13202-2 is consistent with that of the ODCM.

Distractor "C" clearly states that the release did not need to be terminated, which is clearly not in accordance with Procedure 13202-2. Distractor "D" requires the release to be terminated, which is the action required by Limitation Step 2.2.3 of the release procedure. The stem of the question clearly asks the actions concerning Procedure 13202-2

**NRC RESOLUTION:**

Recommendation not accepted. No change to the answer key is warranted.



**SRO QUESTION # 88**

**COMMENT:** This question concerns itself with a situation where a loss of power occurs and both Emergency Diesel Generators' (EDGs) voltage regulators experience a common mode failure. Information is provided for "A" and "B" EDG concerning alarms and output voltages. The applicant was tasked to determine what actions the USS should direct to mitigate the electrical problems. The licensee recommends that both distractors "A" and "C" be accepted as correct answers.

The licensee identifies that the stem of the question provides information concerning a "common voltage regulator malfunction" and control over both Emergency Diesel Generators (EDGs) is affected. The licensee contends that in this situation there is no definitive procedural guidance for the situation provided in the stem. The licensee states the only guidance is provided in 10020-C, "EOP and AOP Rules of Usage," Section 3.0 Step 3.1.1. Which in part states:

"...Operators are expected to take actions that stabilize the plant and mitigate consequences of events after performing AOP or EOP Immediate Operator Actions when the following conditions exist:

"...c. System failures require operator intervention for reactor or personnel safety."

The licensee states that operators would not have control over either of the EDGs voltage output as stated in the stem. In this instance the SRO could opt to stop both EDGs and swap them over to the alternate voltage regulators. This would be of concern about the ability to control the EDGs to prevent equipment damage. Distractors "A" and "C" concern themselves with stopping either one or two EDGs and swapping to the alternate voltage regulators for one or two EDGs. The licensee states that "stopping the DGs to protect equipment is consistent with our expectations." Additionally, the licensee states that stopping both EDGs to restore control of EDG output voltage is a viable success path for the situation postulated in the stem.

The NRC agrees with this comment, it is recognized that distractor "C" (the original correct answer) is a subset of distractor "A." Since there is no definitive guidance concerning the operation of the EDGs in this situation both answers "A" and "C" will be accepted as correct.

**NRC RESOLUTION:**

Recommendation accepted. The answer key will be changed to identify that both distractors "A" and "C" are correct answers.

## SRO QUESTION #90

**COMMENT:** The licensee contends that applicant X inadvertently filled in "B" on his answer sheet, vice "D" that he selected on his exam package. The licensee recommends that the answer on the examination package be accepted as the correct answer.

The licensee stated that the original exam package had been under control of personnel covered under the exam security agreements since applicant X turned the examination package over to the proctor following the examination on 5/27/05.

The NRC reviewed the initial (original) examination package supplied via the Vogtle Nuclear Plant Training Department. This review revealed that applicant X was not consistent in his markings of the correct answer on the original exam package. There were approximately six questions that indicated different methods for representing the answer on the exam package as compared to the answer he marked on his exam answer sheet. These included the following: the same answer circled on the exam package as on the answer sheet; multiple answers circled on the exam package, one of which was listed on the answer sheet; no answers circled on the exam package, answers marked with check marks that correspond with the answer on the answer sheet; no marks at all on the exam package, nothing represented the answer on the answer sheet; and a different answer on the exam package from that on the exam answer sheet.

Based on this evaluation, the NRC could not determine, from the applicant's various methods for marking the examination package, that applicant X intended to mark anything but his original answer, (B) on the answer sheet.

**NRC RESOLUTION:**

Recommendation not accepted. The question will stand as originally graded with the applicant's incorrect answer choice "D" as indicated on the official NRC examination answer sheet.

## SRO QUESTION # 94

**COMMENT:** The question concerns an emergency down power with the loss of all annunciators and the appropriate emergency classification associated with this event. The licensee recommends that both distractors “B” and “D” be accepted as correct answers.

The licensee presented information concerning a question that was asked by an applicant during the examination concerning this question. The key to answering this question was based on the understanding on what “emergency down power” terminology meant. The applicant’s question was asked to clarify if the emergency down power was being conducted in accordance with Procedure 18013-C, “Rapid Power Reduction.” This information was key to answering this question, because if the “emergency down power” was accomplished in this procedure then the “emergency down power” would not have been considered a “transient.” The Operations Manager provided guidance that if the down power was accomplished outside of Procedure 18013-C, then the emergency down power would be considered a “transient.” The licensee points out that “considering the emergency down power a transient was vital in calling the loss of annunciators an ALERT. If the student thought the ‘emergency down power’ was not a transient, the correct declaration would be a NOUE.”

During the examination the licensee contacted the NRC proctor to discuss the response that they (the licensee proctors) should provide to the applicant who posed the question. At that time, the decision was made to inform the entire class, in order to, “clarify” a transient was in progress. During the discussion between the examiner proctor and the licensee proctor the licensee proctor stated that the information he will provide will clearly make this a transient. This was done by presenting the following statement to all the applicants, “The emergency down power is not being performed in accordance with 18013-C.” In the post examination comments the licensee reports that this clarification cleared up the issue for the applicant who originally posed the question; however, it did the opposite for the other applicants. This caused the other applicants to believe the emergency down power was even less significant and thus not a transient.

The NRC believes that all applicants were provided the necessary clarifying instructions to identify a transient was occurring to answer the question correctly.

**NRC RESOLUTION:**

Recommendation not accepted, no change to the answer key is warranted.

**SRO Question # 97**

**Comment:** This question concerns itself with procedural allowances of a simultaneous dual Waste Monitor Tank release. The licensee recommends that both distractors "A" and "C" be accepted as corrected answers.

The licensee points out that procedure 36015-C, "Radioactive Liquid Effluent Release Permit Generation and Data Control Computer Method," requires the approval of the "Chemistry Manager" for simultaneous release of waste monitor tanks on different units. This is identified in Step 2.9 of 36015-C. The question was written using Procedure 13216-2. In the Precautions and Limitation section of Procedure 13216-2, Step 2.1.6, identifies that the "Chemistry Superintendent" would authorize a release of more than one Waste Monitor Tank. A discrepancy between the two procedures was identified.

The licensee stated that the "most" correct response would be distractor "A," which states:

- A. Two Tanks may never be released at the same time under any conditions.

This is an incorrect statement based on Step 2.9 of Procedure 36015-C and Procedure 13216-2, as stated above. The original answer distractor "C" identified the "Chemistry Superintendent" as the contact that is necessary to be contacted for authorization under this circumstance. The licensee no longer has a Chemistry Superintendent position on their staff.

**NRC Resolution:**

Recommendation not accepted. Since the distractors provided do not have a correct answer, this question will be deleted from the examination. The answer key will be changed to reflect this question was deleted from the examination.

## SIMULATION FACILITY REPORT

Facility Licensee: Vogtle Electric Generating Plant Units 1 and 2

Facility Docket Nos.: 05000424 and 05000425

Operating Tests Administered on: May 17 - 25, 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:

4. While transferring Steam Generator (S/G) controllers from automatic to manual and then back to automatic the controllers did not have the expected effect on the system. (Modification Number 2005-05-001)
5. During a LOCA scenario, with S/G's depressurized to 200 psig, the RCS exhibited large swings in temperature. Reactor Vessel Level Indicating System (RVLIS) level was approximately 4%. The temperature swings were more pronounced when the Safety Injection Accumulators injected. (Modification Number 2005-05-010)