



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET, SW, SUITE 23T85  
ATLANTA, GEORGIA 30303-8931

December 3, 2009

Mr. Dennis R. Madison  
Vice President  
Southern Nuclear Operating Company, Inc.  
Edwin I. Hatch Nuclear Plant  
11028 Hatch Parkway North  
Baxley, GA 31513

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT – NRC OPERATOR LICENSE  
EXAMINATION REPORT 05000321/2009302 AND 05000366/2009302

Dear Mr. Madison:

During the period October 26 – 30, 2009, the Nuclear Regulatory Commission (NRC) administered operating tests to employees of your company who had applied for licenses to operate the Edwin I. Hatch Nuclear Plant Units 1 and 2. At the conclusion of the tests, the examiners discussed preliminary findings related to the operating tests and the written examination submittal with those members of your staff identified in the enclosed report. The written examination was administered by your staff on November 12, 2009.

All applicants passed both the operating test and written examination. There was one post-examination comment. This comment and the NRC resolution of the comment is summarized in Enclosure 2. A Simulation Facility 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.html> (the Public Electronic Reading Room).

If you have any questions concerning this letter, please contact me at (404) 562-4550.

Sincerely,

**/RA/**

Malcolm T. Widmann, Chief  
Operations Branch  
Division of Reactor Safety

Docket Nos: 50-321, 50-366  
License Nos: DPR-57, NPF-5

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

cc: w/encl: (See Page 2)

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NAME	BCaballero	MWidmann	SSchaeffer				
DATE	12/01/2009	12/02/2009	12/02/2009				
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11028 Hatch Parkway North  
Baxley, GA 31513

SNC

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Letter to Dennis R. Madison from Malcolm T. Widmann dated December 03, 2009

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT – NRC OPERATOR LICENSE  
EXAMINATION REPORT 05000321/2009302 AND 05000366/2009302

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E. Morris, SRI-Hatch

**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket No.: 50-321, 50-366

License No.: DPR-57, NPF-5

Report No.: 05000321/2009302 and 05000366/2009302

Licensee: Southern Nuclear Operating Company (SNC)

Facility: Edwin I. Hatch Nuclear Plant, Units 1 & 2

Location: 11030 Hatch Parkway N.  
Baxley, GA 31513

Dates: Operating Test – October 26 – 30, 2009  
Written Examination – November 12, 2009

Examiners: B. Caballero, Chief Examiner, Operations Engineer  
M. Riches, Operations Engineer  
K. Schaaf, Operations Engineer

Approved by: Malcolm T. Widmann, Chief  
Operations Branch  
Division of Reactor Safety

Enclosure 1

## **SUMMARY OF FINDINGS**

ER 05000321/2009302 and 05000366/2009302; October 26 – 30, 2009, & November 12, 2009; Edwin I. Hatch Nuclear Plant, Units 1 & 2; Operator License Examinations.

Nuclear Regulatory Commission (NRC) examiners conducted an initial examination in accordance with the guidelines in Revision 9, Supplement 1, 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.

Members of the Edwin I. Hatch staff developed both the operating tests and the written examination.

The NRC administered the operating tests during the period October 26 – 30, 2009. Members of the Edwin I. Hatch training staff administered the written examination on November 12, 2009. All Senior Reactor Operator (SRO) applicants passed both the operating test and written examination. One Reactor Operator (RO) passed both the operating test and written examination. All applicants were issued licenses commensurate with the level of examination administered.

There was one post-examination comment.

No findings of significance were identified.

## REPORT DETAILS

### 4. OTHER ACTIVITIES

#### 4OA5 Operator Licensing Examinations

##### a. Inspection Scope

Members of the Edwin I. Hatch staff developed both the operating tests and the written examination. All examination material was developed in accordance with the guidelines contained in Revision 9, Supplement 1, of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors." The NRC examination team 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.

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 examiners evaluated eight Senior Reactor Operator (SRO) applicants and one Reactor Operator (RO) applicant using the guidelines contained in NUREG-1021. The examiners administered the operating tests during the period October 26 – 30, 2009. Members of the Edwin I. Hatch training staff administered the written examination on November 12, 2009, to eight SRO applicants and one RO applicant. Evaluations of applicants and reviews of associated documentation were performed to determine if the applicants, who applied for licenses to operate the Edwin I. Hatch Nuclear Plant, met the requirements specified in 10 CFR Part 55, "Operators' Licenses."

##### b. Findings

No findings of significance were identified.

The NRC determined, using NUREG-1021, that the licensee's examination submittal (operating and written) was within the range of acceptability expected for a proposed examination.

All eight Senior Reactor Operator (SRO) applicants passed both the operating test and written examination. One Reactor Operator (RO) passed both the operating test and written examination. One RO applicant and eight SRO applicants were issued licenses.

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 a post-examination comment for the operating examination. A copy of the final RO and SRO written examinations and answer keys, with all changes incorporated, and the licensee's post-examination comment may be accessed in the ADAMS system (ADAMS Accession Numbers ML093240204, ML093240230, and ML093240214).

4OA6 Meetings, Including Exit

Exit Meeting Summary

On October 30, 2009, the NRC examination team discussed generic issues associated with the operating test with Mr. Sonny L. Bargeron, Plant Manager, and members of the Edwin I. Hatch Nuclear Plant 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

S. L. Bargeron, Plant Manager  
G. R. Brinson, Operations Manager  
C. Edmund, Plant Instructor - Lead  
S. Grantham, Training Manager  
D. Tootle, Operations Training Manager  
K. Wainright, Operations Initial Training Lead Instructor

NRC personnel

E. Morris, Senior Resident Inspector  
P. Niebaum, Resident Inspector



## **NRC Resolution to the Facility Comment**

A complete text of the licensee's post examination comment can be found in ADAMS under Accession Number ML093240214.

### **Job Performance Measure (JPM) # Sim 1: Start an Adjustable Speed Drive (ASD) from the Control Room (alternate path JPM)**

#### **LICENSEE COMMENT:**

In summary, the licensee requested that the standard for JPM Step #9 (critical step) be changed to delete the time requirement for completing the step because: 1) there was no technical basis for a time requirement, 2) the time requirement listed in the standard for Step #9 was incorrect, and 3) the JPM was not "time-critical." The original post exam comment submitted by the licensee can be viewed in ADAMS under number ML093240214.

#### **NRC DISCUSSION:**

The JPM contained nine total steps, including the following two critical steps:

Step #6 (critical step): Starting the ASD

Step #9 (critical step): Tripping the ASD following a loss of cooling and associated alarms

Step #9 of the JPM required the operator to place the ASD control switch to the STOP position (or depress the SHUTDOWN pushbutton) *within 5 minutes* after receiving three alarms which indicated that a loss of ASD cooling had occurred and that the ASD automatic trip had failed. The licensee's draft JPM submittal included the 5 minute time requirement for Step #9, which was based on the licensee's approximation that an applicant would take 1 minute to address each of the 3 alarms [3 minutes], 1 minute to dispatch an operator to the local ASD panel, and 1 minute to stop the ASD. [Total 5 minutes]

Before the operating exam was administered, the licensee's exam team identified that there was no documented technical basis for how long the ASD transformer could be operated following a loss of cooling and a failure of the automatic trip. The licensee's Operations Management expectation for the Step #9 completion time was that each applicant was required to stop the ASD within 10 minutes, i.e., "double" the time that it would take to address the alarms and dispatch a local operator. However, the final JPM Step #9 standard did not reflect the 10 minute time expectation, i.e., it still included the 5 minute time requirement.

The licensee further contends that the JPM was not "time critical" because the JPM did not include a task standard that was required to be completed within a time period specified in a regulation or a facility commitment to the NRC. When the JPM was administered to the applicants, the examiners provided the following initiating cue to the applicants, as listed on the cue sheet:

*"Start 2A Recirc Pump in accordance with 34SO-B31-001-2, Reactor Recirculation System, Section 7.1.3"*

The examiners did not tell the applicants that the task (or any portion of the task) was "time critical."

After the operating examination had been administered, the licensee contacted the ASD vendor to determine the amount of time that the ASD transformer could be operated with a loss of cooling. The vendor's analysis (provided with the licensee's post exam comments) did not provide a definitive time range when damage to the unit would occur following a loss of cooling.

The NRC agrees with the licensee that the time requirement for Step #9 was incorrect because there was no documented technical basis associated with how long the ASD transformer could be operated following a loss of cooling. The licensee's Operations Management expectation for the applicants to stop the ASD within 10 minutes was not documented in plant procedures. Since the validation time of the JPM was 15 minutes, the time requirement for completing the *entire* JPM, in accordance with NUREG 1021, Rev. 9, Supplement 1, Appendix E, D.5, was twice the validated time, i.e., 30 minutes, when an applicant was not making reasonable progress towards completion of the JPM.

The entire JPM, including the two critical steps, provided sufficient discriminatory value even without a time requirement standard for Step #9.

#### **NRC RESOLUTION**

The standard for Step #9 was revised to only require the applicant to place the ASD control switch to the STOP position (or depress the SHUTDOWN pushbutton) after the three annunciators alarmed without the occurrence of an expected automatic trip, i.e., the time requirement for completing Step #9 was deleted.

## SIMULATOR FIDELITY REPORT

Facility Licensee: Edwin I. Hatch

Facility Docket No.: 50-321, 50-366

Operating Test Administered: October 26 – 30, 2009

This form is 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>
1.	The Room Cooler Switch 2T41-B012 on Panel 2H11-P657 is labeled as "2A MG Set" even though the Adjustable Speed Drives (ASDs) have been installed on the Unit 2 reference plant. (SCR 20091107)
2.	<p>The simulator does not trigger the following control panel alarms and the associated SPDS values for ASD cooling water malfunctions. Consequently the training staff is required to override the following alarms and also make the SPDS screens unavailable (i.e., turn the screens OFF) to the applicants and/or licensed operators.</p> <ul style="list-style-type: none"><li>• ASD Cooling Fault (602-125)</li><li>• ASD Cooling Trouble (602-126)</li><li>• ASD A Fatal Fault (602-102)</li></ul> <p>ANSI/ANS-3.5-1985, Nuclear Power Plant Simulators For Use in Operator Training, Section 3.1.2, Plant Malfunctions, Item (6) identifies that loss of service water or cooling to individual components shall be included. (SCR 20091103)</p>
3.	The label is loose on the Reactor Building Pressure recorder on the simulator back panel. (SCR 20091107)
4.	The 2C RBCCW Pump Switch was not working during the validation week, i.e., the pump could not be manually started. (SCR 20091107)