



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

April 6, 2004

Carolina Power and Light Company
ATTN: Mr. James Scarola
Vice President - Harris Plant
Shearon Harris Nuclear Power Plant
P. O. Box 165, Mail Code: Zone 1
New Hill, North Carolina 27562-0165

SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT- NRC EXAMINATION
REPORT 05000400/2004-301

Dear Mr. Scarola:

During the period February 23-27, 2004, the Nuclear Regulatory Commission (NRC) administered operating examinations to employees of your company who had applied for licenses to operate the Shearon Harris Nuclear Power Plant. 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 March 4, 2004.

Six Reactor Operator (RO) applicants and two Senior Reactor Operator (SRO) applicants passed both the written and operating examinations. One SRO and one RO applicant passed the operating examination but failed the written examination. There were no post exam comments. A Simulation Facility Report is included in this report as Enclosure 2.

The NRC determined that the overall written examination submittal was outside the acceptable quality range expected by the NRC. Future examination submittals should incorporate any lessons learned from this effort.

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 By Mark Lesser For/
Michael E. Ernstes, Chief
Operator Licensing and
Human Performance Branch
Division of Reactor Safety

Docket No.: 50-400
License No.: NPF-63
Enclosures: (See page2)

Enclosures: 1. Report Details
2. Simulation Facility Report

cc w/encls:

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NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 05000400

License No.: NPF-63

Report No.: 0500400/2004301

Licensee: Carolina Power and Light Company

Facility: Shearon Harris Nuclear Power Plant

Location: 5413 Shearon Harris Road
New Hill, NC 27562

Dates: Operating Examination - February 23 - 27, 2004
Written Examinations - March 4, 2004

Examiners: Lee Miller, Chief, Senior Operations Examiner
Gerard Laska, Chief, (Under Instruction) Operations
Examiner
Ronald Aiello, Senior Operations Engineer

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

SUMMARY OF FINDINGS

ER 05000400/2004-301; 2/23-27/2004 and 3/4/2004; Shearon Harris Nuclear Power Plant; Licensed Operator Examination.

The operator licensing initial examinations 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, §55.43, and §55.45.

The NRC administered the operating examinations February 23 - 27, 2004. The licensee administered the written examination on March 4, 2004. All applicants passed the operating examination. One RO applicant and one SRO applicant failed the written examinations. Six applicants were issued operator licenses commensurate with the level of examination administered. One SRO applicant's license and one RO applicant's license were denied. There were no post exam comments. Two of the RO applicants who passed both the operating and the written examinations were not issued licenses pending resolution of any potential written examination appeals.

The NRC determined that the overall written examination submittal was outside the acceptable quality range expected by the NRC. The licensee's operating examination submittal was within the range of acceptability expected for a proposed examination. The examination changes agreed upon between the NRC and the facility were made in accordance with NUREG-1021. The NRC identified a generic weakness in applicant performance and procedure usage during a Job Performance Measure requiring electrical circuit breaker manipulation.

Report Details

4. OTHER ACTIVITIES (OA)

4OA5 Operator Licensing Initial Examinations

a. Inspection Scope

The licensee developed the written and operating examinations in accordance with the guidelines specified in NUREG-1021, Draft Revision 9.

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

The examiners evaluated seven RO and three SRO applicants who were being assessed under the guidelines specified in NUREG-1021. The examiners administered the operating tests during the period February 23 - 27, 2004. Members of the Harris Nuclear Plant training staff administered the written examination on March 4, 2004. The evaluations of the applicants and review of documentation were performed to determine if the applicants, who applied for licenses to operate the Harris Nuclear Plant, met the requirements specified in 10 CFR Part 55.

b. Findings

Six ROs and two SROs passed both the operating and written examinations. One SRO applicant and one RO applicant passed the operating examination, but failed the initial written examination. The licensee submitted no post examination comments concerning the written or operating examinations. The RO and SRO written examinations and answer keys, examination references and statement of no post examination comments may be accessed in the ADAMS system (ADAMS Accession Numbers, ML040790069, ML040790077, ML040790071 and ML040790067).

During the review of the draft written exam, the examiners identified approximately 40% of the questions on the RO exam, and approximately 80% of questions on the SRO portion of the exam contained unacceptable flaws in accordance with NUREG-1021. This resulted in the written submittal being outside the acceptable quality range expected by the NRC. The written examination date was changed from February 20, 2004 to March 4, 2004, to accommodate the required changes and normal reviews for the written examination. The delay allowed the licensee and NRC to ensure that a quality exam that was both fair and discriminating was prepared and given. The details of the flaws were provided to the training staff on NRC Form ES 401-9. It was also identified that nineteen of the one hundred questions submitted were from the previous two NRC exams given at Harris which is an unusually high number for a systematically and randomly developed examination. The examiners determined that the systematic and random selection of K/As for the sample plan was acceptable. However, the question selection process was biased in that questions were chosen from the previous two exams instead of a random selection of questions from any exam bank.

The exam team noted common errors and repetitive misapplication of procedural steps during the performance of a Job Performance Measure (JPM). During the performance of JPM (a), "Transfer 6.9KV Buses from Unit Auxiliary Transformers to the Startup Auxiliary Transformers", the applicants were to open the 102 breaker which feeds the 6.9 KV buses from the Unit Auxiliary Transformer. All but one applicant failed to open Breaker 102 in accordance with step 7.2.1.9.b of OP-156.02 "Open 102 Breaker" on the first attempt because they did not use the "THINK" switch. There was no procedure guidance listed in OP-156.02 directing the operator to use the "THINK" switch in conjunction with taking the 102 breaker to the open position. This prolonged the 6.9 KV buses being fed in parallel from both transformers.

40A6 Meetings

Exit Meeting Summary

On February 27, 2004, the examination team discussed generic issues with Mr. James Scarola 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

J. Scarola, Site Vice President.
 B. Waldrep, Plant General Manager
 B. Duncan, Director Site Operations
 J. Warner, Manager Shift Operations
 E. McCartney, Training Manager
 C. Kamlaris, Superintendent Operations Training
 H. Carter, Supervisor Operator Initial Training
 J. Caves, Supervisor Licensing
 M. Wallace, Senior Specialist Licensing

NRC

R. Musser, Senior Resident Inspector

SIMULATION FACILITY REPORT

Facility Licensee: Shearon Harris Nuclear Power Plant

Facility Docket No.: 05000400

Operating Tests Administered on: February 23 - 27, 2004

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, are not 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> |
|---------------------------------|--|
| Boric Acid Transfer Pumps | During conduct of the operating test, the simulator did not consistently replicate the trip of a boric acid transfer pump. The malfunction, the boric acid transfer pump trip, was implemented on three different occasions with different results. The simulator response to the pump trip resulted in the applicants performing different actions. |
| Simulator Power Supply | During conduct of the operating test, a section of the main control panel experienced a complete loss of power. The scenario was stopped, the simulator was repaired and the scenario was successfully restarted. This caused a one and one-half hour delay. The delay resulted in one crew receiving a different scenario at the end of the examination week. |
| Charging-Safety Injection Pumps | During the preparation week the simulator did not appear to model the Charging-Safety Injection Pumps running with a shut off head. Due to the pumps not being modeled for this, the examiners changed the direction of the scenario. |
| Improper Simulator Set-up | During scenario # 1 set-up for the third crew the simulator operator manually adjusted the step counter for control bank D rods. When control rods were moved by the crew during a power reduction the rods moved in the wrong order. The crew responded as if it was a malfunction. This malfunction was added to the scenario form ES - D1 for the appropriate crew. |