

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos. 50-352, 50-353
License Nos. NPF-39, NPF-85

Report Nos. 50-352/97-02 (OL), 50-353/97-02 (OL)

Licensee: PECO Energy Company
P. O. Box 195
Wayne, PA 19087-0195

Facility: Limerick Nuclear Generating Station, Units 1 and 2

Dates: January 20 - 24, 1997

Chief Examiner: D. Florek, Sr. Operations Engineer, Region 1

Examiners: C. Sisco, Operations Engineer, Region 1
J. Caruso, Operations Engineer, Region 1

Approved by: Glenn W. Meyer, Chief
Operator Licensing and Human Performance Branch
Division of Reactor Safety

EXECUTIVE SUMMARY

Limerick Generating Station, Units 1 and 2
Inspection Report 50-352/97-02 (OL) and 50-353/97-02 (OL)

Operations

The applicants were generally well prepared for the examination, and as a result, 6 of 7 applicants passed the examinations and were subsequently issued licenses. One RO applicant failed the walkthrough portion of the operating examination.

In numerous areas of the operating test, the applicants consistently demonstrated very good performance, including teamwork, communications, prioritization by SROs, use of prints, and use of alarm response procedures. Several applicants were unable to successfully reset a group 7A isolation.

PECO Energy did not have a complete understanding of the NRC Examiner Standards in the development of their proposed initial examination. Significant interactions between the NRC and PECO Energy were required to meet the NRC Examiner Standards. In the end, PECO Energy was successful in developing a high quality examination.

Report Details

I. Operations

O5 Operator Training and Qualifications

O5.1 Operator Initial Examinations

a. Scope

The examiners administered initial examinations to three RO and four SRO applicants in accordance with NUREG-1021, "Examiner Standards," Revision 7. The examinations were prepared by PECO Energy using the pilot operator licensing initial examination process, and were approved, administered (operating test), and graded by NRC.

b. Observations and Findings

The results of the initial examinations are summarized below:

	SRO	RO	Pass/Fail
Written	4/0	3/0	7/0
Operating	4/0	2/1	6/1
Overall	4/0	2/1	6/1

The examinations were prepared by PECO Energy using the pilot operator licensing initial examination process. This process authorized PECO Energy to develop the initial license examination and administer the written portion of the examinations. The PECO Energy staff involved with the development of these examinations signed security agreements to ensure the integrity of the initial examination process.

PECO Energy submitted their proposed sample plan on November 14, 1996. The PECO Energy proposed sample plan was not consistent with the NRC Examiner Standards. The PECO Energy proposed sample plan did not recognize the differences between the skyscraper model groupings of the SRO and RO and, as a result, the RO examination sample plan did not meet the NRC model. In addition, the PECO proposed sample plan did not address the simulator portion of the examination.

PECO Energy submitted a revised sample plan and proposed SRO and RO examinations for NRC approval on December 10, 1996. The sample plan was acceptable but the examinations required significant modifications to meet NRC Examiner Standards. The following is a summary of the changes that were required of the proposed examination.

- Approximately 80% of the written examination required changes principally due to question construction. The written question topic and difficulty were generally acceptable but distractors were often easily eliminated, thereby reducing the testing validity of the questions.
- Two of the 20 JPMs required substitution. One JPM task was incompatible with the assigned safety function, and the other JPM did not satisfy the requirements of a control room task.
- Approximately 50% of the JPM followup questions required revision or substitution, as the question did not relate to the system or JPM or the question was not sufficiently discriminating.
- Three of the five administrative JPMs in the RO examination and four of four administrative JPMs did not meet the requirements for a JPM. Additional questions were developed in these areas. In addition, the SRO administrative JPMs did not test at a SRO level.
- The proposed simulator scenarios were deficient in technical specification assessment and normal evolution to assess all of the applicants. In addition, one of the three scenarios did not contain sufficient malfunctions to assess the required examination competencies in that the crew could successfully respond to the scenario if they took no actions and relied upon automatic plant response. Operator actions were not adequately identified. Modifications were made to the scenarios to address these problems.

The NRC Chief Examiner met with the PECO Energy examination team on December 19, 1996 and December 31, 1996 and held numerous telephone discussions to resolve the difficulties in the examination. On January 6, 1997, PECO Energy provided an examination which corrected almost all of the examination problems. The NRC examination team held examination preparation visits on January 8-10, 1997. On January 15, 1997, the examination team reviewed the final simulator examination that reflected concerns identified in the prior visit. As a result of all of the NRC and PECO Energy interaction, a high quality examination was developed and administered.

PECO Energy administered the written examinations on January 20, 1997. The NRC examiners administered the operating examinations, January 21-24, 1997.

At the exit meeting PECO Energy provided the grading of the written examination and identified comments on two questions. A copy of the January 24, 1997 PECO Energy letter is contained in Attachment 3. The NRC accepted the PECO Energy comments on the written examination. The examiners reviewed the grading of the written examinations and concurred with the grading by PECO Energy.

During the walkthrough portion of the operating test, several applicants performed poorly in the following area:

Performing a reset of Group 7A isolation in accordance with procedure GP-8.

During the operating test, the following items were significant and consistent positive observations.

P&ID, electrical, and logic prints were effectively used by the applicants.

Teamwork within the crews was very good.

Communication within the crews was very good. Crew briefings were concise, timely, and appropriate. The applicants were very poised. A concern from the previous examination on inconsistent non-verbal communication had been effectively addressed.

SRO prioritization techniques were effective such that all crew members understood the SRO-directed important tasks.

Procedures, including alarm response procedures, were effectively used during the scenarios.

c. Conclusions

The applicants were generally well prepared for the examination, and as a result, 6 of 7 applicants passed the examinations and were subsequently issued licenses. One RO applicant failed the walkthrough portion of the operating examination.

PECO Energy did not have a complete understanding of the NRC Examiner Standards in the development of their proposed initial examination. Significant interactions between the NRC and PECO Energy were required to meet the NRC Examiner Standards. In the end, PECO Energy was successful in developing a high quality examination.

E.8 Review of UFSAR Commitments

A recent discovery of a licensee operating their facility in a manner contrary to the updated final safety analysis report (UFSAR) description highlighted the need for a special focused review that compares plant practices, procedures and/or parameters to the UFSAR descriptions. While performing the examination activities discussed in this report, the examiner reviewed portions of the UFSAR that related to a selected examination question. The particular section reviewed was UFSAR Figure 9.3.7. The selected examination question reviewed was consistent with the UFSAR.

V. Management Meetings

X1 Exit Meeting Summary

At the conclusion of the examination, the examiners discussed their observations of the examination process with members of PECO Energy management. PECO Energy management acknowledged the examiner observations. The PECO Energy personnel present at the exit included the following:

- R. Boyce, LGS Plant Manager
- T. Dougherty, LGS Operations Training Manager
- L. Hopkins, LGS Training Director
- J. Hutton, LGS Sr. Manager Operations
- L. MacEntee, PBAPS Operations Training Manager
- P. Orphanos, LGS LOR Lead Instructor
- R. Reiner, LGS LOT Lead Instructor
- G. Stewart, LGS Engineer Experience Assessment

Attachments:

1. SRO Examination and Answer Key
2. RO Examination and Answer Key
3. PECO Energy Comments on the written examination
4. Simulator Fidelity Report

ATTACHMENT 1

SRO EXAMINATION AND ANSWER KEY

ATTACHMENT 2

RO EXAMINATION AND ANSWER KEY

ATTACHMENT 3

PECO COMMENTS ON WRITTEN EXAMINATION

ATTACHMENT 4

SIMULATION FACILITY REPORT

Facility Licensee: Limerick Generating Station Units 1 & 2

Facility Docket Nos: 50-352 & 353

Operating Tests Administered from: January 21- 24, 1997

This form is used only to report simulator 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.

None