UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

November 1, 2010

Mr. Michael J. Pacilio
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer, Exelon Nuclear
4300 Winfield Rd.
Warrenville, IL 60555

SUBJECT: LIMERICK GENERATING STATION, UNITS 1 AND 2 - NRC EXAMINATION REPORT 05000352/2010301 and 05000353/2010301

Dear Mr. Pacilio:

On October 15, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an initial operator licensing examination at Limerick Generating Station, Units 1 and 2. The enclosed report documents the examination findings, which were discussed on October 25, 2010, with Mr. Robert Dickinson of your staff.

The examination included the evaluation of four reactor operator applicants, five instant senior reactor operator applicants, and five upgrade senior reactor operator applicants. The written and operating examinations were developed using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1. The license examiners determined that all 14 applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses were issued on October 25, 2010.

No findings were identified during this examination.

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).

Sincerely,

Samuel L. Hansell, Chief
Operations Branch
Division of Reactor Safety

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

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/RA/

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NAME	JCaruso	SHansell				
DATE	10/28/10	10/30/10				

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Enclosure: NRC Examination Report 05000352/2010301 and 05000353/2010301
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Dockets:	50-352, 50-353
Licenses:	NPF-39, NPF-85
Report:	05000352/2010301 and 05000353/2010301
Licensee:	Exelon Generation Company, LLC
Facility:	Limerick Generating Station, Units 1 and 2
Location:	Sanatoga, PA 19464
Dates:	October 4-8, 2010 (Operating Test Administration) October 15, 2010 (Written Examination Administration) October 20, 2010 (Licensee Submitted Post Exam Package) October 12-20, 2010 (NRC Examination Grading) October 25, 2010 (Licenses Issued)
Examiners:	J. Caruso, Chief Examiner, Operations Branch J. D' Antonio, Senior Operations Engineer J. Tomlinson, Operations Engineer P. Presby, Senior Operations Engineer
Approved by:	Samuel L. Hansell, Chief Operations Branch Division of Reactor Safety

SUMMARY OF FINDINGS

ER 05000352/2010301; 05000353/2010301; October 4 - 15, 2010; Limerick Generating Station Units 1 and 2; Initial Operator Licensing Examination Report.

NRC examiners evaluated four reactor operator applicants, five instant senior reactor operator applicants, and five upgrade senior reactor operator applicants at Limerick Generating Station, Units 1 and 2. The facility licensee developed the examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1. The written examination was administered by the facility on October 15, 2010. NRC examiners administered the operating tests on October 4-8, 2010. The license examiners determined that all 14 applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued.

A. NRC-Identified and Self-Revealing Findings

No findings were identified.

B. Licensee-Identified Violations

No findings were identified.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Mitigating Systems – Reactor Operator (RO) and Senior Reactor Operator (SRO) Initial License Examination

.1 License Applications

a. Scope

The examiners reviewed all 14 license applications submitted by the licensee to ensure that each applicant satisfied relevant license eligibility requirements. The applications were submitted on NRC Form 398, "Personal Qualification Statement," and NRC Form 396, "Certification of Medical Examination by Facility Licensee." The examiner also audited six of the license applications in detail to confirm that they accurately reflected the subject applicant's qualifications. This audit focused on the applicant's experience and on-the-job training, including control manipulations that provided significant reactivity changes.

b. Findings

No findings were identified.

.2 Operator Knowledge and Performance

a. Examination Scope

On October 15, 2010, the licensee proctored the administration of the written examinations to all 14 applicants. The licensee staff graded the written examinations in parallel with the NRC, analyzed the results, and presented their analysis to the NRC on October 20, 2010.

The NRC examination team administered the various portions of the operating examination to all 14 applicants October 4-8, 2010. The four applicants for reactor operator licenses participated in two to three dynamic simulator scenarios, in a control room and facilities walkthrough test consisting of 11 system tasks, and an administrative test consisting of four administrative tasks. The five applicants seeking an instant senior operator license participated in three dynamic simulator scenarios, a control room and facilities walkthrough test consisting of 10 system tasks, and an administrative test consisting of five administrative tasks. The five applicants seeking an upgrade senior operator license participated in one dynamic simulator scenario, a control room and facilities walkthrough test consisting of five system tasks, and an administrative test consisting of five administrative tasks.

b. Findings

All 14 applicants passed all parts of the operating test. For the written examinations, the reactor operator applicants' average score was 91.66 percent and ranged from 86.66 to 96.00 percent, the senior operator applicants' average score was 90.30 percent and ranged from 86.00 to 96.00 percent. The overall written examination average was 90.71 percent. The text of the examination questions, the licensee's examination analysis, and the licensee's post-examination comments may be accessed in the ADAMS system under the accession numbers noted in the attachment.

Chapter ES-403 and Form ES-403-1 of NUREG 1021 require the licensee to analyze the validity of any written examination questions that were missed by half or more of the applicants. The licensee conducted this performance analysis for three questions that met these criteria and submitted the analysis to the chief examiner. This analysis concluded that all three of these questions were valid as written. There were no post written examination comments submitted by the licensee.

.3 Initial Licensing Examination Development

a. Examination Scope

The facility licensee developed the examinations in accordance with NUREG-1021, Revision 9, Supplement 1. All licensee facility training and operations staff involved in examination preparation, validation, and administration were listed on a security agreement. The facility licensee submitted both the written and operating examination outlines on July 20, 2010. The chief examiner reviewed the outlines against the requirements of NUREG-1021, Revision 9, Supplement 1, and provided comments to the licensee. The facility licensee submitted the draft examination package on August 20, 2010. The chief examiner reviewed the draft examination package against the requirements of NUREG-1021, Revision 9, Supplement 1, and provided comments to the licensee on the examination on September 1, 2010. The NRC conducted an onsite validation of the operating examinations and provided further comments during the week of September 6, 2010. The licensee satisfactorily completed comment resolution for the operating test on September 29, 2010, and for the written examination on October 12, 2010.

b. Findings

The NRC approved the initial examination outline and advised the licensee to proceed with the operating examination development.

The examiners determined that the written and operating examinations initially submitted by the licensee were within the range of acceptability expected for a proposed examination.

No findings were identified.

.4 Simulation Facility Performance

a. Examination Scope

The examiners observed simulator performance with regard to plant fidelity during the examination validation and administration.

b. Findings

No findings were identified.

.5 Examination Security

a. Examination Scope

The examiners reviewed examination security efforts for the examination during both the onsite preparation week and examination administration week for compliance with NUREG-1021 requirements. Plans for simulator security and applicant control were reviewed and discussed with licensee personnel.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

The chief examiner presented examination results to Mr. Robert Dickinson, Training Director on October 25, 2010.

The licensee did not identify any information or materials used during the examination as proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

R. Dickinson, Training Director
C. Goff, Operations Training Manager
D. Monahan, Training Instructor
J. Mihm, Training Instructor
B. Shultz, Shift Manager-Facility Representative

NRC Personnel

J. Caruso, Chief Examiner
J.D' Antonio, Senior Operations Engineer
J. Tomlinson, Operations Engineer
P. Presby, Senior Operations Engineer (Part Time)

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened/Closed/Discussed

NONE

ADAMS DOCUMENTS REFERENCED

Accession No. ML102920669 – FINAL-Written Exam
Accession No. ML102920676 – FINAL-Operating Exam (Sections A, B, and C)

Facility: Limerick Generating Station Units 1 and 2
Facility Docket No.: 50-352; 50-353
Operating Test Administered on: October 4 - 8, 2010

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.

While conducting the simulator portion of the operating tests, examiners observed the following item:

Item	Description
1	During the JPM administration, a number of applicants remarked that the minimum flow valve should have opened upon receipt of the HPCI low flow alarm. The Limerick simulator coordinator indicated the alarm should have been delayed along with the minimum flow valve opening (on both HPCI and RCIC) since the alarm has the same set point as the minimum flow valve and receives input from the same 'saturated' low range flow transmitter. This is a long term simulator modeling deficiency, most likely introduced when the simulator modeling was changed ten years ago (i.e., year 2000 to address the transmitter saturation issue that also causes delayed opening of the minimum flow valves).