



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

June 6, 2012

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

SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2;  
NRC INITIAL LICENSE EXAMINATION REPORT 05000254/2012301(DRS);  
05000265/2012301(DRS)

Dear Mr. Pacilio:

On May 8, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed the initial operator licensing examination process for license applicants employed at your Quad Cities Nuclear Power Station, Units 1 and 2. The enclosed report documents the results of those examinations. An exit meeting was conducted by telephone on May 24, 2012, between Mr. K. Moser, Site Training Director, and Mr. B. Palagi, Chief Operator Licensing Examiner, to review the conduct of the examination.

The NRC examiners administered an initial license examination operating test during the week of April 23, 2012. The written examination was administered by the Quad Cities Nuclear Power Station training department personnel on April 30, 2012. Seven Senior Reactor Operator and three Reactor Operator applicants were administered license examinations. The results of the examinations were finalized on May 14, 2012. The applicants passed all sections of their respective examinations and seven senior operator licenses and three operator licenses were issued.

The written examination and other related written examination documentation will be withheld from public disclosure for 24 months per your request.

In accordance with Title 10 of the Code of Federal Regulations (CFR) 2.390, 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 System

(PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Tamara E. Bloomer, Acting Chief  
Operations Branch  
Division of Reactor Safety

Docket Nos. 50-254; 50-265  
License Nos. DPR-29; DPR-30

Enclosures: 1. Operator Licensing Examination Report 05000254/2012301(DRS);  
05000265/2012301(DRS)  
w/Attachment: Supplemental Information  
2. Simulation Facility Report

cc w/encl: Distribution via ListServ™

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-254; 50-265  
License Nos: DPR-29; DPR-30

Report Nos: 05000254/2012301(DRS); 05000265/2012301(DRS)

Licensee: Exelon Generation Company, LLC

Facility: Quad Cities Nuclear Power Station, Units 1 and 2

Location: Cordova, Illinois

Dates: April 23 – May 24, 2012

Inspectors: B. Palagi, Chief Examiner  
M. Bielby, Examiner  
C. Moore, Examiner  
R. Walton, Examiner

Approved by: Tamara E. Bloomer, Acting Chief  
Operations Branch  
Division of Reactor Safety

## **SUMMARY OF FINDINGS**

IR 05000254/2012301(DRS); 05000265/2012301(DRS); 04/23/2012 - 05/24/2012;  
Exelon Generation Company, LLC; Quad Cities Nuclear Power Station, Units 1 and 2;  
Initial License Examination Report.

The announced initial operator licensing examination was conducted by regional Nuclear Regulatory Commission examiners in accordance with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9 - Supplement 1.

### Examination Summary

Ten of ten applicants passed all sections of their respective examinations. Seven applicants were issued senior operator licenses and three applicants were issued operator licenses. (Section 4OA5.1).

#### **A. NRC-Identified and Self-Revealed Findings**

No findings of significance were identified.

#### **B. Licensee-Identified Violations**

A violation of very low safety significance that was identified by the licensee has been reviewed by the inspectors. Corrective actions planned or taken by the licensee have been entered into the licensee's corrective action program. This violation and corrective action tracking numbers are listed in Section 4OA7 of this report.

## **REPORT DETAILS**

### **4OA5 Other Activities**

#### **.1 Initial Licensing Examinations**

##### **a. Examination Scope**

The U.S. Nuclear Regulatory Commission (NRC) examiners and members of the facility licensee's staff used the guidance prescribed in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9 - Supplement 1, to develop, validate, administer, and grade the written examination and operating test. Members of the facility licensee's staff prepared the outline and developed the written examination and operating test. The NRC examiners validated the proposed examination during the week of April 2, 2012, with the assistance of members of the facility licensee's staff. During the on-site validation week, the examiners audited two license applications for accuracy. The NRC examiners, with the assistance of members of the facility licensee's staff, administered the operating test, consisting of job performance measures (JPMs) and dynamic simulator scenarios, during the period of April 23 through 27, 2012. The facility licensee administered the written examination on April 30, 2012.

##### **b. Findings**

###### **(1) Written Examination**

The NRC examiners determined that the written examination, as proposed by the licensee, was within the range of acceptability expected for a proposed examination. Less than 20 percent of the proposed examination questions were determined to be unsatisfactory and required modification or replacement. All changes made to the proposed examination, were made in accordance with NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," and documented on Form ES-401-9, "Written Examination Review Worksheet," which will be available in 24 months electronically in the NRC Public Document Room or from the Agencywide Documents Access and Management System (ADAMS).

On May 8, 2012, the licensee submitted documentation noting that there were no post-examination comments for consideration by the NRC examiners when grading the written examination. The final as-administered written examination and answer key will be available in 24 months electronically in the NRC Public Document Room or from ADAMS.

The NRC examiners graded the written examination on May 9, 2012, and conducted a review of each missed question to determine the accuracy and validity of the examination questions.

###### **(2) Operating Test**

The NRC examiners determined that the operating test, as originally proposed by the licensee, was within the range of acceptability expected for a proposed examination. Changes made to the operating test, documented in a document titled, "Operating Test Comments," as well as the final as administered dynamic simulator scenarios and JPMs, are available electronically in the NRC Public Document Room or from ADAMS.

The NRC examiners completed operating test grading on May 14, 2012.

(3) Examination Results

Seven applicants at the Senior Reactor Operator (SRO) level and three applicants at the Reactor Operator (RO) level were administered written examinations and operating tests. Each of the applicants passed all portions of their examinations and was issued their respective operating license.

.2 Examination Security

a. Scope

The NRC examiners reviewed and observed the licensee's implementation of examination security requirements during the examination validation and administration to assure compliance with 10 CFR 55.49, "Integrity of Examinations and Tests." The examiners used the guidelines provided in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," to determine acceptability of the licensee's examination security activities.

b. Findings

The licensee identified that, during examination development, the control room simulator's plant process computer was saving sequence of events files on a routine basis. Therefore, had these files been accessed, the integrity of the examination could have been compromised. Although the examination sequence of events files were stored on the simulator process computer, the licensee was able to demonstrate that the files were not readily viewable and required interpretation. Therefore, it was determined that no individuals had an unfair advantage in taking the examination. The inspectors determined that this finding impacted the Mitigating Systems Cornerstone and consulted Inspection Manual Chapter 0609, Appendix I, to assess the impact of this issue on examination security. (4OA7)

4OA6 Meetings

.1 Exit Meeting

The chief examiner conducted an exit meeting on May 24, 2012, with Mr. K. Moser, Site Training Director, by telephone. The chief examiner asked the licensee whether any of the material used to develop or administer the examination should be considered proprietary. No proprietary or sensitive information was identified.

4OA7 Licensee-Identified Violations

The following violation of very low significance (Green) was identified by the licensee and is a violation of NRC requirements, which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a Non-Cited Violation (NCV):

Title 10 CFR 55.49, "Integrity of Examinations and Tests," requires, in part, that the licensee shall not engage in activities that compromises the integrity of any application, test, or examination required by 10 CFR Part 55. Contrary to the above,

on March 30, 2012, at the Clinton Power Station, the licensee identified that the control room simulator's plant process computer model was saving sequence of events files on a routine basis. A licensee investigation determined that the same condition existed at Quad Cities Nuclear Power Station. The licensee determined that some of the files contained examination materials related to examinations required by 10 CFR Part 55. The integrity of a test or examination is considered compromised if any activity, regardless of intent, affected, or, but for detection, would have affected the equitable and consistent administration of the test or examination. Although the examination materials were compromised, the licensee was able to demonstrate that the files were not readily viewable and required interpretation. Therefore, no individuals had an unfair advantage in taking any NRC-related examinations. This issue was documented in the facility's corrective action program as IR1348733. Corrective actions for this issue included revising the simulator's software to delete data from the sequence of events files being generated by the simulator until a longer term fix is decided. The licensee's corporate procedure TQ-QC-201-0113, "Simulator Examination Security Actions Checklist," will add steps to delete data after simulator resets.

The inspectors determined that the failure to control sequence of event files generated by the facility's simulator was a performance deficiency that required a Significance Determination Process evaluation. The inspectors determined that this finding impacted the Mitigating Systems Cornerstone and consulted IMC 0609, Appendix I, to assess the impact of this issue on examination security. The inspectors concluded that a potential examination compromise had occurred and the facility had taken immediate compensatory actions to prevent recurrence of this condition. Based on circumstances described above and the licensee's corrective actions, the inspectors concluded that this finding was of very low safety significance (Green). (NCV 05000254/2012301-01; NCV 05000301265/2012301-01)

ATTACHMENT: SUPPLEMENTAL INFORMATION

**SUPPLEMENTAL INFORMATION**  
**KEY POINTS OF CONTACT**

Licensee

K. Moser, Training Director  
E. Pannell, Operations Training Manager  
C. Burkhart, Examination Lead

Nuclear Regulatory Commission

B. Palagi, Chief Examiner  
M. Bielby, Senior Examiner  
R. Walton, Senior Examiner

**ITEMS OPENED, CLOSED, AND DISCUSSED**

Opened, Closed, and Discussed

Opened

05000254/2012301-01 NCV Failure to Control Sequence of Event Files Generated by  
05000265/2012301-01 the Facility's Simulator

Closed

05000254/2012301-01 NCV Failure to Control Sequence of Event Files Generated by  
05000265/2012301-01 the Facility's Simulator

Discussed

None

## **LIST OF DOCUMENTS REVIEWED**

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

None.

## **LIST OF ACRONYMS USED**

ADAMS	Agencywide Document Access and Management System
CFR	Code of Federal Regulations
DRS	Division of Reactor Safety
JPM	Job Performance Measures
NRC	U.S. Nuclear Regulatory Commission
PARS	Publicly Available Records System
RO	Reactor Operator
SRO	Senior Reactor Operator

## **SIMULATION FACILITY REPORT**

Facility Licensee: Quad Cities Nuclear Power Station, Units 1 and 2

Facility Docket Nos: 50-254; 50-265

Operating Tests Administered: April 23 - 27, 2012

The following documents observations made by the NRC examination team during the initial operator license examination. These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of non-compliance with 10 CFR 55.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information which may be used in future evaluations. No licensee action is required in response to these observations.

During the conduct of the simulator portion of the operating tests, the following items were observed:

<b>ITEM</b>	<b>DESCRIPTION</b>
SBLC Switch	When Standby Liquid Control was actuated the system failed to start.
Rod Select Push Button	When a rod was selected on the rod select matrix the push button stuck in the down position.

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Sincerely,

/RA/

Tamara E. Bloomer, Acting Chief  
Operations Branch  
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