

September 19, 2001

Mr. Oliver D. Kingsley, President  
Exelon Nuclear  
Exelon Generating Company, LLC  
Quad Cities Nuclear Power Station  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: QUAD CITIES NUCLEAR POWER STATION  
INITIAL LICENSE EXAMINATION REPORT 50-254/2001-301(DRS);  
50-265/2001-301(DRS)

Dear Mr. Kingsley:

On August 13, 2001, the NRC completed initial operator licensing examinations at your Quad Cities Nuclear Power Station. The enclosed report presents the results of the examination.

Quad Cities Nuclear Power Station training department personnel administered the written examination on August 13, 2001, and NRC examiners administered the operating examination during the week of August 6, 2001. Two reactor operator and four senior reactor operator applicants were administered license examinations. The results of the examinations were finalized on August 27, 2001. All six applicants passed all sections of their respective examinations and were issued reactor operator licenses or senior reactor operator licenses, as applicable.

In accordance with 10 CFR 2.790 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 control system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

We will gladly discuss any questions you have concerning this examination.

Sincerely,

**/RA/**

Roy J. Caniano, Deputy Director  
Division of Reactor Safety

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

Enclosures: 1. Operator Licensing Examination Report  
50-254/2001-301(DRS); 50-265/2001-301(DRS)  
2. Facility Comments and NRC Resolutions  
3. Simulation Facility Report  
4. Written Examination and Answer Keys (RO & SRO)

cc w/encls 1, 2, & 3: W. Bohlke, Senior Vice President, Nuclear Services  
C. Crane, Senior Vice President - Mid-West Regional  
J. Cotton, Senior Vice President - Operations Support  
J. Benjamin, Vice President - Licensing and Regulatory Affairs  
R. Krich, Director - Licensing  
H. Stanley, Operations Vice President  
J. Skolds, Chief Operating Officer  
R. Helfrich, Senior Counsel, Nuclear  
DCD - Licensing  
T. J. Tulon, Site Vice President  
G. Barnes, Quad Cities Station Manager  
W. Beck, Regulatory Affairs Manager  
W. Leach, Manager - Nuclear  
Vice President - Law and Regulatory Affairs  
Mid American Energy Company  
M. Aguilar, Assistant Attorney General  
Illinois Department of Nuclear Safety  
State Liaison Officer, State of Illinois  
State Liaison Officer, State of Iowa  
Chairman, Illinois Commerce Commission

cc w/encls 1, 2, 3, & 4: Roger O. Armitage, Training Manager.

O. Kingsley

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Mid American Energy Company  
M. Aguilar, Assistant Attorney General  
Illinois Department of Nuclear Safety  
State Liaison Officer, State of Illinois  
State Liaison Officer, State of Iowa  
Chairman, Illinois Commerce Commission

cc w/encls 1, 2, 3, & 4: Roger O. Armitage, Training Manager.

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 50-254/2001-301(DRS); 50-265/2001-301(DRS)

Licensee: Exelon Generating Company, LLC

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

Location: 22710 206<sup>th</sup> Avenue North  
Cordova, IL 61242

Dates: August 6 through August 13, 2001

Examiners: D. McNeil, Chief Examiner  
P. T. Young, Examiner  
B. Palagi (Certifying Examiner)

Approved by: David E. Hills, Chief  
Operations Branch  
Division of Reactor Safety

## SUMMARY OF FINDINGS

ER 05000254-01-301(DRS), ER 05000265-01-301(DRS), on 08/06-10/2001 and 08/13/2001, Exelon Generation Company, LLC, Quad Cities Nuclear Power Station, Units 1 & 2. Initial License Examination Report.

The announced operator licensing initial examination was conducted by regional examiners in accordance with the guidance of NUREG-1021, "Operating Licensing Examination Standards for Power Reactors," Revision 8, Supplement 1.

### Examination Summary:

Two reactor operator and four senior reactor operator applicants were administered written examinations and operating tests for initial operator licensing. All candidates passed all portions of their respective examinations and were issued applicable licenses (Section 4OA5.1).

## Report Details

### **4. OTHER ACTIVITIES (OA)**

#### 4OA5 Other

##### .1 Initial Licensing Examinations

###### a. Inspection Scope

The NRC examiners conducted announced Senior Reactor Operator (SRO) and Reactor Operator (RO) initial examinations during the week of August 6, 2001. The NRC staff used the guidance established in NUREG-1021, "Operating Licensing Examination Standards for Power Reactors," Revision 8, Supplement 1, to prepare the examination outline and to develop the written examination and operating test. The NRC examiners administered the operating test on August 6 through August 10, 2001. The facility's training staff administered the written examination on August 13, 2001. Two RO and four SRO applicants were examined.

###### b. Findings

###### Written Examination

The NRC developed the written examination. The licensee reviewed the written examination for technical accuracy from July 16 through 19, 2001, during the pre-examination verification and validation week. Examination changes, agreed upon between the NRC and the licensee, were incorporated into the written examination in accordance with the guidelines provided in NUREG-1021.

The licensee's training department personnel administered the written examination on August 13, 2001, in accordance with NUREG-1021. The NRC examiners independently graded the written examination and concluded that all six applicants passed. Two answer key errors were detected immediately after grading the written examinations and the answer key was amended. The licensee provided post-examination comments on three written examination questions that were administered to the applicants. Two of these questions appeared on both the RO examination and SRO examinations, one question appeared only on the RO examination. The licensee's specific comments and the NRC's resolution of these comments are included in Enclosure 2 to this report. The written examinations were re-graded following the answer key amendments and resolution of the licensee's post examination comments.

###### Operating Test

The NRC developed the operating test. The licensee reviewed the operating examination for technical accuracy from July 16 through 18, 2001, during the pre-examination verification and validation week. Examination changes, agreed upon between the NRC and the licensee, were incorporated into the operating test according to NUREG-1021. No post examination comments were submitted by the licensee.

## Examination Results

Two RO and four SRO applicants were administered written examinations and operating tests for initial operator licensing. The applicants passed all sections of their respective examinations and were issued applicable operator licenses.

### .2 Examination Security

#### a. Inspection Scope

The examiners reviewed and observed the licensee's implementation of examination security requirements during the pre-examination verification and validation week and during the examination administration week.

#### b. Findings

The NRC examiners determined that the licensee's examination security practices associated with the pre-examination verification and validation week and administration of the operator license examinations were satisfactory.

### 4OA6 Management Meetings

#### Exit Meeting

The NRC examiners presented preliminary observations and findings to Mr. George Barnes and other members of the licensee management on August 10, 2001. The licensee acknowledged the observations and findings presented. No proprietary information was identified during the examination nor during the exit meeting.



## KEY POINTS OF CONTACT

### Licensee

R. Armitage, Plant Training Manager  
W. Beck, Regulations Assurance Manager  
G. Barnes, Plant Manager  
D. Decker, Simulator Coordinator  
T. Hanley, Shift Operations Supervisor  
M. McDowell, Operations Manager  
C. Schronick, ILT Instructor  
A. Scott, Shift Manager  
D. Snook, ILT Group Lead  
G. Thennes, NLO Group Lead  
T. Toulon, Site Vice President  
J. White, Operations Training Manager

### NRC

D. McNeil, Reactor Inspector  
D. Hills, Chief, Operations Branch  
C. Miller, Quad Cities Senior Resident Inspector  
K. Walton, Reactor Inspector  
P. Young, Reactor Inspector  
B. Palagi, Reactor Inspector

## LIST OF ACRONYMS

ADAMS	Agency-Wide Document Access and Management System
DRS	Division of Reactor Safety
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
RO	Reactor Operator
SRO	Senior Reactor Operator
APRM	Average Power Range Monitor

Facility Comments and NRC Resolutions

Written Examination (RO examination question # 84; SRO examination question # 52):

Comment: The question asks who is responsible for verifying that the Technical Specification Source Range Monitor (SRM) operability requirements for Core Alterations continue to be met between surveillances during core reload. The original correct answer was answer "a. the reactor operator." Upon further review, the licensee believed that answer "c. the unit supervisor" was also correct. The licensee recommended that the NRC accept both answers "a" and "c" as correct answers.

NRC Resolution: The licensee's recommendation was accepted. The examiners reviewed OP-AA-101-111, "Roles and Responsibilities of On-Shift Personnel" and QCFHP 0100-01, "Master Refueling Procedure." OP-AA-101-111 identifies the Unit Supervisor as always having responsibility for ensuring operations are conducted within the bounds of regulatory requirements. Therefore, the Unit Supervisor has the responsibility to ensure core alterations are not taking place unless the Technical Specification requirements are being met. Additionally, QCFHP 0100-01 identifies the Nuclear Station Operator as responsible for verifying that the Technical Specification requirements are met for the SRM detectors during Core Alterations. The answer keys from the examinations were modified to accept both "a" and "c" as correct answers.

Written Examination (RO examination question # 58; SRO examination question # 26):

Comment: The question pertains to QCOP 1900-12, "Draining the Reactor Cavity and the Dryer/Separator Pit." Specifically, the question asks about system response to the closure of the Fuel Pool Cooling Reject Flow Control Valve AO-1901-58 to terminate the drain down. The original correct answer was "a. Water level in the fuel pool will drop until it reaches the level of the overflow to the Skimmer Surge Tanks." Upon further review, the licensee believed that the question should be removed from the examination as the procedure was not provided as a reference and response to partial line-ups from memory was required.

NRC Resolution: The licensee's recommendation was not accepted. The examiners believe this to be a valid systems question. Review of the question showed that answers "b" and "d" could be readily eliminated with system knowledge, and the correct answer ("a") could be determined with knowledge of system operation. However, it was determined that insufficient information was provided to completely eliminate answer "c" as being correct. By making some reasonable assumptions, an applicant could arrive at the conclusion that answer "c" was correct. The NRC modified the applicable answer keys and accepted answers "a" and "c" as correct.

Written Examination (RO examination question # 1):

Comment: The question asks, during a spurious Group One isolation from 25% power with a failure of the Reactor Protection System to scram on Main Steam Isolation Valve closure, which of the following scram signals would be generated next if there were no operator actions taken. The original correct answer was "b. reactor vessel steam dome pressure - high." Upon further review, the licensee believed that either answer "b" or answer "d. APRM neutron flux," should be considered as correct or the question should be removed from the examination.

NRC Resolution: The examiners reviewed the supporting information provided from UFASR 5.2.2.23. The determination was made that only one of the possibilities (either answer "b. reactor vessel steam dome pressure - high" or answer "d. APRM neutron flux") is correct but it cannot be determined which of the answers is the correct answer. Since a correct answer to the question cannot be determined with 100% accuracy, the question was deleted from the examination. The answer key was modified to delete question #1 from the Reactor Operator examination.

Simulation Facility Report

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

Facility Docket Nos.: 50-254; 50-265

Operating Test Administered: August 6 - 10, 2001

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 to these observations.

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

Item #1                      During the dynamic scenarios, a steam leak outside containment was inserted. Although the reactor plant nearly depressurized from normal operating pressure/temperature into the desired space, a temperature above maximum safe temperature (305°F) was not achieved. With the amount of energy introduced into the space, the examiners believed that the maximum safe temperature should have been reached.

Enclosure 4

WRITTEN EXAMINATIONS AND ANSWER KEYS (RO/SRO)

Reactor Operator Licensing Examination ADAMS Accession No. ML012620456

Senior Reactor Operator Licensing Examination ADAMS Accession No. ML012620472