



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-4005**

October 6, 2005

Charles D. Naslund, Senior Vice  
President and Chief Nuclear Officer  
Union Electric Company  
P.O. Box 620  
Fulton, MO 65251

SUBJECT: CALLAWAY PLANT - NRC EXAMINATION REPORT 05000483/2005301

Dear Mr. Naslund:

On August 25, 2005, the U.S. Nuclear Regulatory Commission (NRC) completed an initial operator licensing examination at the Callaway Plant. The enclosed report documents the examination findings, which were discussed on August 25, 2005, with Mr. Adam Heflin, Vice President - Nuclear, and other members of your staff.

The examination included an evaluation of three applicants for operator licenses and one applicant for a senior operator license. The written and operating examinations were developed using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9. The license examiners determined that three of the four applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued.

No findings of significance were identified.

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,

/RA/

Ryan E. Lantz, Chief  
Operations Branch  
Division of Reactor Safety

Docket: 50-483  
License: NPF-30

Union Electric Company

-2-

Enclosure:

NRC Examination Report 05000483/2005301  
w/Attachment: Supplemental Information

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-3-

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-4-

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**ENCLOSURE**

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Dockets.: 50-483

License: NPF-30

Report No.: 50-483/2005-301

Licensee: Union Electric Company

Facility: Callaway Plant

Location: Junction Highway CC and Highway O  
Fulton, Missouri

Dates: August 22 - 25, 2005

Inspectors: M. Murphy , Senior Operations Engineer, Operations Branch  
S. Dennis, Senior Operations Engineer, Operations Branch, R-I  
K. Clayton, Operations Engineer, Operations Branch

Approved By: Ryan E. Lantz, Chief  
Operations Branch  
Division of Reactor Safety

## SUMMARY OF FINDINGS

ER 05000483/2005-301 on August 22-25, 2005; Callaway Plant, initial operator licensing examination.

NRC examiners evaluated the competency of three applicants for operator licenses and one applicant for a senior operator license. The licensee developed the examination using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9. The licensee provided proctors for the administration of the written examination to all applicants on August 18, 2005, in accordance with instructions provided by the chief examiner. The NRC examiners administered the operating test on August 22-25, 2005.

No findings of significance were identified.

## REPORT DETAILS

### 4. OTHER ACTIVITIES

#### 4OA4 Initial License Examination

##### .1 Operator Knowledge and Performance

###### a. Examination Scope

The NRC examination team administered the operating test to the four applicants on August 22-25, 2005. The reactor operator applicants participated in two dynamic simulator scenarios, a control room and facilities walkthrough test consisting of 11 system tasks, and an administrative test consisting of 1 task in each of four areas. The senior operator applicant seeking an instant license participated in two dynamic simulator scenarios, a control room and facilities walkthrough test consisting of 10 system tasks, and an administrative test consisting of 1 task in each of four areas.

On August 18, 2005, the licensee proctored the administration of the written examinations to all four applicants and forwarded the proposed grades together with the performance analysis to the NRC for approval.

###### b. Findings

Three applicants passed all parts of the examinations. One applicant was evaluated as unsatisfactory in two administrative and three walkthrough job performance measures, and, therefore, failed the examination in accordance with NUREG-1021, Revision 9. For the written examinations, the average score for applicants was 83.6 percent. The applicant scores ranged from 81.1 to 85.9 percent.

The licensee conducted a performance analysis for the written examinations with emphasis on 21 questions missed by half or more of the applicants. After reviewing the licensee's analysis, the examiners agreed with the licensee's conclusions that one question had more than one correct answer and one question had no correct answer. None of the recommended changes have a net impact of changing a passing grade to a failure or a failing grade to passing.

The licensee's recommendations and the NRC responses follow:

#### Reactor/Senior Operator Question 22

The licensee recommended that both answers "B" and "D" be accepted as correct. The stem of the question states that the crew is aligning 125Vdc bus NK01 to swing charger NK25 in accordance with Procedure OTN-NK-00001. The question asks, "Which one of the following conditions must be met to allow placing keyswitch NKHS0011 to the NK25 position?" The Procedure Precaution 2.10 states, "Electrical interlocks are provided to prevent transfer of an NK bus to a misaligned swing charger, i.e., NKHS0251 must be selected to the NK25 aligned to NK01 position to select NKHS0011 to the NK01 tied to NK25 position." This precaution supports answer "B" as correct. In the same procedure there is a Precaution and Limitation 2.8, that states, "The charger transfer switches are

break before make switches. When transferring bus power supply between normal and swing charger, ENSURE the battery is connected to the NK Bus so the transfer will be bumpless". This precaution supports answer "D" as also correct.

**NRC Response:** The NRC examiners agreed with the licensee's conclusions that Question 22 had more than one correct answer.

#### Reactor/Senior Operator Question 57

The licensee recommended that the question be deleted since there was no correct answer. The question asks, "What conditions are necessary for the audible and flashing alarm indications to reset?" The question does not clearly identify which audible alarm and flashing light is being referred to, the main control board or the local area radiation monitor nor does it identify which 'acknowledge' button. Lesson Plan 36 from Course T61.0110.6, RO Systems, states "the audible high alarm condition may be acknowledged on the remote indicator, but will not reset until the alarm condition is cleared. The visual flashing alarm light on the remote indicator will continue to function until the alarm condition is cleared." If the alarm condition still exists and the alarm is acknowledged locally, the horn will silence, but the light will continue to flash until the alarm condition clears and the ARM is reset. So the audible alarm actually does silence, but does not reset until the condition is cleared and the ARM is reset. Therefore, Answer "A" is incorrect since the acknowledged button only silences the local alarm; Answer "B" is incorrect because the acknowledge button will silence the alarm, but not reset the signal; Answers "C" and "D" are incorrect because the acknowledge button only silences the audible alarm.

**NRC Response:** The NRC examiners agreed with the licensee's conclusions that Question 57 had no correct answer.

The answer key was corrected. All remaining questions were valid and no training deficiencies were identified.

## .2 Initial Licensing Examination Development

The licensee developed the operating and written test in accordance with NUREG-1021, Revision 9. Licensee facility training and operations staff involved in examination development were on a security agreement.

### .2.1 Operating Examination Outline and Examination Package

#### a. Examination Scope

The licensee staff submitted the examination outlines on April 25, 2005. The chief examiner reviewed the submittal against the requirements of NUREG-1021, Revision 9.



The draft examination package was received by the NRC on June 29, 2005. Examiners reviewed the examination against the requirements of NUREG-1021, Revision 9, and provided comments to the licensee on August 1, 2005. The chief examiner conducted an onsite validation of the examinations and provided further comments during the week of August 1, 2005.

b. Findings

Examiners approved the initial examination outline with minor comments and advised the licensee to proceed with the operating examination development.

The chief examiner determined that the examination initially submitted by the licensee staff was within the range of acceptability expected for a proposed examination.

No findings of significance were identified.

.2.2 Simulation Facility Performance

a. Scope

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

b. Findings

No findings of significance were identified.

2.3 Examination Security

a. Scope

The examiners reviewed examination security both during the onsite preparation and examination administration weeks. Written plans for simulator security and applicant control were reviewed and discussed with licensee personnel. In addition, the chief examiner sampled historical records of the applicants to verify the accuracy of data on their license applications, in accordance with Examiner Standard 202.C.2.e of NUREG-1021, Revision 9.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On August 25, 2005, the examiners presented the examination results to Mr. Adam Heflin and other members of your staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or reviewed during the examination process.

## ATTACHMENT

### KEY POINTS OF CONTACT

#### Licensee personnel

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D. Neterer, Superintendent Operations  
P. Miller, Operating Supervisor, Training  
B. Moody, Operating Supervisor, Training  
A. Heflin, Vice President - Nuclear  
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#### NRC personnel

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