



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

March 14, 2011

Mr. Adam C. Heflin,
Senior Vice President and
Chief Nuclear Officer
Union Electric Company
P.O. Box 620
Fulton, MO 65251

SUBJECT: CALLAWAY PLANT - NRC EXAMINATION REPORT 05000483/2011301

Dear Mr. Heflin:

On February 11, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an initial operator license examination at Callaway Plant. The enclosed report documents the examination results and licensing decisions. The preliminary examination results were discussed on February 11, 2011, with Mr. David Lantz, and other members of your staff. A telephonic exit meeting was conducted on March 3, 2011, with Mr. Lantz, who was provided the NRC licensing decisions.

The examination included the evaluation of three applicants for reactor operator licenses, four applicants for instant senior reactor operator licenses and three applicants for upgrade senior reactor operator licenses. The license examiners determined that eight of the ten applicants satisfied the requirements of 10 CFR Part 55 and the appropriate licenses have been issued. There were two post-examination comments submitted by your staff, and the evaluations of those comments are included in the details of this report, which is included in the enclosure to this letter.

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,

Mark S. Haire, Chief
Operations Branch
Division of Reactor Safety

Union Electric Company

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Docket: 50-483
License: NPF-30

Enclosure:
NRC Examination Report 05000483/2011301

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 50-483
License: NPF-30
Report: 05000483/2011301
Licensee: AmerenUE
Facility: Callaway Plant
Location: Junction Highway CC and Highway O
Fulton, Missouri
Dates: February 4 through March 3, 2011
Inspectors: C. Osterholtz, Senior Operations Engineer
B. Larson, Senior Operations Engineer
S. Garchow, Senior Operations Engineer
Approved By: Mark S. Haire, Chief
Operations Branch
Division of Reactor Safety

SUMMARY OF FINDINGS

ER05000483/2011301; February 4 - March 3, 2011; Callaway Plant; Initial Operator Licensing Examination Report.

NRC examiners evaluated the competency of three applicants for reactor operator licenses, four applicants for instant senior reactor operator licenses, and three applicants for upgrade senior reactor operator licenses at Callaway Plant.

The NRC and the 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 licensee on February 4, 2011. NRC examiners administered the operating tests the week of February 7, 2011.

The examiners determined that eight of the ten 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

None.

REPORT DETAILS

4. OTHER ACTIVITIES (OA)

4OA5 Other Activities (Initial Operator License Examination)

.1 License Applications

a. Scope

NRC examiners reviewed all license applications submitted to ensure each applicant satisfied relevant license eligibility requirements. The examiners also audited three 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. However, one minor violation of 10 CFR 50, Appendix B, Criterion V (Procedures), was identified in that the examiners noted multiple examples where license applicant qualification journals did not accurately reflect information provided on the final submitted license applications. The qualification journals had some missing signatures that were needed to verify that all the requirements were met for the applicants to be eligible for examination consideration. The examiners determined that all required actions were performed, and that the missing signatures were an oversight. This deficiency was in conflict with the requirements contained in Procedure TDP-ZZ-0096, "Administration of On-the-Job Training and Task Performance Evaluation," Revision 16. The licensee entered this deficiency in their corrective action program as Callaway Action Request (CAR) 201100477.

.2 Examination Development

a. Scope

NRC examiners reviewed integrated examination outlines and draft examinations submitted by the licensee against the requirements of NUREG-1021. The NRC examination team conducted an onsite validation of the operating tests.

b. Findings

NRC examiners provided outline, draft examination and post-validation comments to the licensee. The licensee satisfactorily completed comment resolution prior to examination administration.

The written examination was generated by the NRC. The licensee generated- portions of the operating test that were initially submitted were determined to be in the range of acceptability for a proposed examination.

.3 Operator Knowledge and Performance

a. Scope

On February 4, 2011, the licensee proctored the administration of the written examinations to all ten applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis and post-examination comments to the NRC on February 15, 2011.

The NRC examination team administered the various portions of the operating tests to all ten applicants during the week of February 7, 2011.

b. Findings

No findings were identified.

Eight of the ten applicants passed the written examination. All the applicants passed all parts of the operating test. The final written examinations and post-examination analysis and comments may be accessed in the ADAMS system under the accession numbers noted in the attachment. Post-examination comments formally submitted by the licensee are included in section 4OA5.6 of this report.

The examination team noted a generic weakness in the ability of senior reactor operator license applicants to make protective action recommendations while evaluating the site emergency plan. The licensee entered this deficiency in their corrective action program as CAR 201101783.

The examination team also noted generic weaknesses during the simulator scenarios in the following areas:

- Consistent and timely attention and response to plant annunciators
- Complete and concise communication techniques
- Consistent use of peer checking

The licensee entered these deficiencies in their corrective action program as CAR 201101788.

.4 Simulation Facility Performance

a. Scope

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

b. Findings

No findings were identified. However, the examination team noted a simulator anomaly in that an automatic safety injection signal was being generated on low pressurizer pressure following an anticipated transient without scram followed by a manually induced reactor trip. The examiners determined that the automatic safety injection should not have been generated given the plant conditions that were in place at the time. The licensee generated corrective action document CAR 201101255 to evaluate the simulator anomaly.

.5 Examination Security

a. Scope

The NRC examiners reviewed examination security during both the onsite preparation week and examination administration week for compliance with 10 CFR 55.49 and NUREG-1021. Plans for simulator security and applicant control were reviewed and discussed with licensee personnel.

b. Findings

No findings were identified. However, the examiners noted two minor violations of 10 CFR 50.49 during examination development.

First, a licensee representative e-mailed details about a draft written examination question to NRC Region IV without first password protecting the document. The question was subsequently removed from the examination and replaced. This deficiency was considered minor in that it had no impact on the security of the final administered written examination. This deficiency was entered in the licensee's corrective action program as CAR 201101283.

Second, two licensed senior reactor operators who had validated some administrative job performance measures and were on the examination security agreement, provided some instruction to one of the applicants after they had returned to on-shift duties. The licensed senior reactor operators later recognized that they should not have provided any instruction to any applicant as per the requirements of the security agreement. This deficiency was considered minor in that the infraction was licensee identified, and the instruction provided by the licensed senior reactor operators was unrelated to the information contained in the examination material that they validated. This deficiency was entered into the licensee's corrective action program as CAR 201010484.

.6 Facility Post Examination Comments

The facility provided the examiners with two post administration comments on the written examination (Question 64 and Question 80). The following are the respective questions, the licensee's comments, and the examiners' evaluation of the licensee's comments:

QUESTION 64

Given the following conditions:

- NB01 is on its alternate power source.
- Train "A" Essential Service Water Pump is running.
- Diesel Generator NE01 is unavailable
- NB01 is to be FAST TRANSFERRED back to its normal power source.

Which of the following would be an effect of this transfer?

- A. Train "A" ESW Pump will continue to run.
- B. Train "A" ESW Pump loses power during the transfer.
- C. Train "B" ESW Pump will auto start.
- D. Train "B" ESW Pump will align to the Containment Coolers.

Answer: B

Facility Comment

"A" is also a correct answer.

Per OTN-NB-0001A, Addendum 0004, NB01 Fast Transfer to Normal or Alternate, Load Sequencer Panel NF039A is turned off in step 5.2.5 prior to the transfer. Turning off NF039A will result in no undervoltage load shed occurring on NB01. With no load shed, the breaker for the "A" ESW Pump will remain closed and the pump will continue to run. This event was verified on the Callaway Plant Desktop Simulator 2/5/2011.

NRC Evaluation

The examiners concurred with the licensee's assessment in that Train "A" ESW Pump would lose power, but continue to run. The final answer key has been revised to indicate both "A" and "B" as correct answers.

QUESTION 80

Given the following conditions:

- The plant is in Mode 3
- The following alarm is received in the control room:
 - 25C, NK01 TROUBLE
- NK01 Voltage indicates 120 VDC and lowering slowly.
- Battery NK11 indicates 220 amps Discharge
- The following alarms are displayed on NK01:
 - 2B, CHARGER FAILURE
 - 4B, CHARGER DC BREAKER OPEN
 - 6A, CHARGER DC UNDERVOLTAGE

Which of the following describes the operability of the DC Distribution System, and the action required?

- A. Declare Bus NK01 INOPERABLE because there is NO Battery Charger connected. Enter OTO-NK-00002, LOSS OF VITAL 125 VDC BUS, to align an operable battery charger to Bus NK01.
- B. Bus NK01 remains OPERABLE because bus remains energized. Enter OTO-NK-00002, LOSS OF VITAL 125 VDC BUS, to align an operable battery charger to Bus NK01.
- C. Declare Bus NK01 INOPERABLE because there is NO Battery Charger connected. Align an operable Battery Charger to Bus NK01 in accordance with alarm response procedures and OTN-NK-00001, CLASS 1E 125VDC ELECTRICAL SYSTEM.
- D. Bus NK01 remains OPERABLE because bus remains energized. Align an operable Battery Charger to Bus NK01 in accordance with alarm response procedures and OTN-NK-00001, CLASS 1E 125VDC ELECTRICAL SYSTEM

Answer: C

Facility Comment

“A” is also a correct answer.

Annunciator 25C, NK01 TROUBLE, is listed as a Symptom or Entry Condition for OTO-NK-00002, Loss of Vital 125 VDC Bus. Per step 4.3.3 of ODP-ZZ-00025, EOP/OTO User’s Guide, entry into OTOs take precedence over action specified in OTAs. The crew could use this procedure to diagnose a problem with the NK bus due to 25C annunciator being lit. During step 2 of OTO-NK-00002 they would go to the response not obtained column and check voltage on the NK bus. At that time the crew would transition to OTO-NK-00001, Failure of NK Battery Charger.

NRC Evaluation

The examiners concurred with the licensee's assessment in that Procedure OTO-NK-00002 would also lead to the appropriate actions. The final answer key has been revised to indicate both "A" and "C" as correct answers.

40A6 Meetings, Including Exit

The Chief Examiner, Mr. Clyde Osterholtz, presented the preliminary examination results to Mr. David Lantz, Assistant Manager, Operations Training, and other members of the staff on February 11, 2011. A telephonic exit was conducted on March 3, 2011, between Mr. Osterholtz, Mr. Lantz, and other members of the staff.

The licensee did not identify any information or materials used during the examination as proprietary. The written examinations will be withheld from public disclosure until February 4, 2013, at the licensee's request.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

Bob Barton, Manager, Training
Shane Battenfield, Operating Supervisor, Exam Group
Fred J. Bianco, Assistant Operations Manager, Staff
Greg Bradley, Manager, Operations
Mark Covey, Assistant Operations Manager, Shift
Steve Kochert, Assistant Operations Manager, Training
David Lantz, Assistant Manager, Operations Training
Robert B. Moody, Operating Supervisor, Training
David Neterer, Plant Director
Adam Schnitz, Engineer, Regulatory Affairs
Rick Tiefenauer, Senior Training Supervisor, Initial Ops Training
Larry Wilhelm, Operating Supervisor, Exam Group Lead

NRC Personnel

David Dumbacher, Senior Resident Inspector
Jeremy Groom, Resident Inspector

ADAMS DOCUMENTS REFERENCED

Accession No. ML 110660641 – FINAL WRITTEN EXAMS
Accession No. ML 110660644 – POST EXAM ANALYSIS/COMMENTS
Accession No. ML 110660642 – FINAL OPERATING TEST