



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
1600 EAST LAMAR BOULEVARD  
ARLINGTON, TEXAS 76011-4511

April 12, 2022

Mr. Fadi Diya, Senior Vice President  
and Chief Nuclear Officer  
Ameren Missouri  
Callaway Plant  
8315 County Road 459  
Steedman, MO 65077

SUBJECT: CALLAWAY PLANT – NRC EXAMINATION REPORT 05000483/2022301

Dear Mr. Diya:

On April 4, 2022, 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 24, 2022, with you and other members of your staff. A telephonic exit meeting was conducted on April 4, 2022, with Mr. M. Otten, Manager, Operations Training, who was provided the NRC licensing decisions.

The examination included the evaluation of six applicants for reactor operator licenses and five applicants for instant senior reactor operator licenses. The license examiners determined that all of the 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. Enclosure 1 contains details of this report and Enclosure 2 summarizes post-examination comment resolution.

No findings were identified during this examination.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,



Signed by Gepford, Heather  
on 04/12/22

Heather J. Gepford, Ph.D., Chief  
Operations Branch  
Division of Reactor Safety

Docket No. 05000483  
License No. NPF-30

Enclosures:

1. Examination Report 05000483/2022301  
w/attachment: Supplemental  
Information
2. NRC Post-Examination Comment  
Resolution

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**U.S. NUCLEAR REGULATORY COMMISSION  
Inspection Report**

Docket Number: 05000483

License Number: NPF-30

Report Number: 05000483/2022301

Enterprise Identifier: L-2022-OLL-0013

Licensee: Ameren Missouri

Facility: Callaway Plant

Location: Steedman, Missouri

Inspection Dates: February 14, 2022, to April 4, 2022

Inspectors: J. Kirkland, Senior Operations Engineer, Chief Examiner  
T. Farina, Senior Operations Engineer  
M. Hayes, Operations Engineer  
D. You, Operations Engineer

Approved By: Heather J. Gepford, Chief  
Operations Branch  
Division of Reactor Safety

## SUMMARY

Examination Report 05000483/2022301; February 14 – April 4, 2022 ; Callaway Plant; Initial Operator Licensing Examination Report

The NRC examiners evaluated the competency of six applicants for reactor operator licenses and five applicants for instant senior reactor operator licenses at Callaway Plant.

The licensee developed the examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 11. The written examination was administered by the licensee on February 23, 2022. The NRC examiners administered the operating tests on February 14 – 18, 2022.

The NRC examiners determined that all applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued.

A. NRC-Identified and Self-Revealing Findings

None.

B. Licensee-Identified Violations

None.

## REPORT DETAILS

### OTHER ACTIVITIES – INITIAL LICENSE EXAM

#### .1 License Applications

##### a. Scope

The NRC examiners reviewed all license applications submitted to ensure each applicant satisfied relevant license eligibility requirements. The NRC examiners also audited two 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 Examination Development

##### a. Scope

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

##### b. Findings

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

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

### .3 Operator Knowledge and Performance

#### a. Scope

On February 23, 2022, the licensee proctored the administration of the written examinations to all applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis and post-examination comments to the NRC on March 1, 2022.

The NRC examination team administered the various portions of the operating tests to all applicants from February 14 – 18, 2022.

#### b. Findings

No findings were identified.

All applicants passed the written examination and all parts of the operating test. The final examinations and post-examination analysis and comments may be accessed in the ADAMS system under the accession numbers noted in the attachment.

Post-examination analysis revealed eight generic weaknesses associated with applicant performance on the written examination. These weaknesses were:

- Indications to verify a reactor coolant system leak had been isolated
- Actions to take after verifying containment closure
- Actions to take when control rod drive mechanism temperatures are high
- Controlling pressurizer pressure after isolating a power operated relief valve
- Actions to take following a failure of a pressurizer level instrument
- Reasons for performing a cooldown with the atmospheric steam sump controller in manual
- Who to notify in the event of a steam generator tube leak
- Familiarity of Technical Specification 3.4.5, "RCS Loops – Mode 3"

These weaknesses were captured in the licensee's corrective action program as Coarse Enhancement #804. Copies of all individual examination reports were sent to the facility Training Manager for evaluation and determination of appropriate remedial training.

### .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.

.5 Examination Security

a. Scope

The NRC examiners reviewed examination security for examination development 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.

**EXIT MEETINGS AND DEBRIEFS**

Exit Meeting Summary

The chief examiner presented the preliminary examination results to Mr. F. Diya, Senior Vice President and Chief Nuclear Officer, and other members of the staff on February 24, 2022. A telephonic exit was conducted on April 4, 2022, between Mr. J. Kirkland, Chief Examiner, and Mr. M. Otten, Manager, Operations Training.

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

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensee Personnel**

M. Otten, Manager, Operations Training  
C. Cottingham, ILT Senior Training Supervisor  
P. Swan, Licensed Operator Continuing Training Exam Group  
S. Jones, Simulator Senior Training Supervisor

#### **NRC Personnel**

D. Bradley, Senior Resident Inspector

### **ADAMS DOCUMENTS REFERENCED**

Accession No. ML22081A128 - FINAL WRITTEN EXAMS  
Accession No. ML22081A127 - FINAL OPERATING TEST  
Accession No. ML22081A129 - POST-EXAMINATION ANALYSIS-COMMENTS



## NRC Resolution to the Callaway Plant's Post-Examination Comments

A complete text of the licensee's post-examination analysis and comments can be found in ADAMS under Accession Number ML22081A129.

### **RO QUESTION 70**

**COMMENT:** The licensee recommended accepting distractor 'B' in addition to distractor 'A'.

"The stem provided a situation where a fire occurred in the Service Building First Floor and asked, "what should the fire brigade use to ventilate the area". Procedure FPP-ZZ-00007, Attachment 21, Pre-Plan/Fire Area YD-1 Service Building First Floor, Section 5 describes the use of portable and/or fixed ventilation systems. The keyed answer of portable smoke ejectors is from the Note prior to Step 5.2 that states "NOTE - Caution should be taken in using recirc. systems to exhaust smoke. This could result in transferring smoke to other areas of building and actuation of detectors in areas remote from the fire." However, there are several exhaust systems listed in Step 5.1.b, such as CUB1007A-C, that do not recirculate air but simply exhausts air out of the rooftop for some locations on the first floor of the service building. (Reference print 8600-X-90265).

"Recommendation: Accept two answers. Both pieces of equipment are complementary to each other and may be used in conjunction to address a fire. The keyed answer is from a note; however, either portable smoke ejectors and / or some of the installed building HVAC [heating, ventilation, and air conditioning] units would be applicable equipment to exhaust smoke without introducing it into other areas of the service building. Since the stem did not specify a fire location in the service building first floor, both portable smoke ejectors and installed building HVAC systems are correct answers. This results in 2 correct answers: A and B."

**NRC RESOLUTION:** The NRC partially agrees with the licensee's comment but does not agree with their recommendation to accept both 'A' and 'B' as correct answers for Question 70. While the NRC agrees that using installed building HVAC systems could be used to ventilate the area, as the licensee pointed out, the stem did not specify a fire location in the service building first floor, therefore using installed HVAC systems might not be appropriate. In order to come to the conclusion that using installed HVAC systems is applicable, one would have to make assumptions not in the stem regarding the location of the fire. Since there is not enough information in the stem to arrive at a correct answer, Question 70 was deleted from the examination.

### **SRO QUESTION 92**

**COMMENT:** The licensee recommended accepting distractor 'A' in addition to distractor 'C'.

"The stem provided a situation where SDRE0035 alarms above its HIHI alarm setpoint. The keyed answer is from Annunciator 62A, Area Radiation High High, step 3.4.1 which states "IF the affected area is accessible by plant personnel: ANNOUNCE the following twice on the Gaitronics system: ... The (location) is off limits to all personnel until further notice." However, SDRE0035 in HIHI alarm is also an entry condition into procedure OTO-KE-00001, "Fuel Handling Accident." Procedure OTO-KE-00001, step 3 RNO to "Manually Actuate FBIS" is the first action the crew would take utilizing this procedure.

## F. Diya

“Recommendation: Accept two answers. The question stem did not provide a procedural condition of "Per Annunciator 62A...". Additionally, as both procedures could be implemented in response to the HHIH radiation indication, both actions are complementary and are focused on protecting onsite personnel from radiation exposure. Therefore, both actions for part 1 of answers A and C are correct, which would result in 2 correct answers: A and C.”

**NRC RESOLUTION:** The NRC disagrees with the licensee's recommendation to accept both 'A' and 'B' as correct answers for Question 92, and instead deleted the question from the examination. Despite the licensee's contention that SDRE0035 in HHIH alarm is an entry condition into procedure OTO-KE-00001, the NRC does not necessarily agree with that statement. The reference to SDRE0035 in procedure OTO-KE-00001 is listed in the Symptoms or Entry Conditions section of the procedure. It does not state that it is specifically an entry condition. With SDRE0035 in alarm and SDRE0036 not in alarm, it may not be appropriate to enter procedure OTO-KE-00001. However, if the NRC conceded that it was an entry condition, that results in a situation where two answers would be what action to take first, and you can't take two actions first. Therefore, the question was deleted from the examination.

CALLAWAY PLANT – NRC EXAMINATION REPORT 05000483/2022301 – DATED APRIL 12, 2022

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