



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

January 15, 2020

Mr. Steven Vercelli, Site Vice President  
Entergy Operations, Inc.  
River Bend Station  
5485 U.S. Highway 61N  
St. Francisville, LA 70775

SUBJECT: RIVER BEND STATION - NRC EXAMINATION REPORT 05000458/2019301

Dear Mr. Vercelli:

On December 16, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an initial operator license examination at River Bend Station. The enclosed report documents the examination results and licensing decisions. The preliminary examination results were discussed on November 22, 2019, with Mr. Jeff Reynolds, Director, Regulatory and Performance Improvement, and other members of your staff. A telephonic exit meeting was conducted on December 16, 2019, with Mr. Kevin Stupak, Training Manager, who was provided the NRC licensing decisions.

The examination included the evaluation of six applicants for reactor operator licenses, six applicants for instant senior reactor operator licenses, and one applicant for an upgrade senior reactor operator license. The license examiners determined that all 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,

**/RA/**

Gregory E. Werner, Chief  
Operations Branch  
Division of Reactor Safety

Docket: 05000458

License: NPF-47

Enclosures:

1. Examination Report 05000458/2019301  
w/Attachment: Supplemental Information
2. NRC Post-Examination Comment  
Resolution

cc w/enclosures: Electronic Distribution for River Bend Station

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

Docket Number: 05000458

License Number: NPF-47

Report Number: 05000458/2019301

Enterprise Identifier: L-2019-OLL-0037

Licensee: Entergy Operations, Inc.

Facility: River Bend Station

Location: Saint Francisville, Louisiana

Inspection Dates: November 18, 2019, to December 16, 2019

Inspectors: J. Kirkland, Senior Operations Engineer, Chief Examiner  
C. Osterholtz, Senior Operations Engineer  
M. Hayes, Operations Engineer  
N. Hernandez, Operations Engineer  
M. Kennard, Operations Engineer

Approved By: Gregory E. Werner, Chief  
Operations Branch  
Division of Reactor Safety

## SUMMARY

ER 05000458/2019301; Initial Operator Licensing Examination Report

The NRC examiners evaluated the competency of six applicants for reactor operator licenses, six applicants for instant senior reactor operator licenses, and one applicant for an upgrade senior reactor operator license at River Bend Station.

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 November 26, 2019. The NRC examiners administered the operating tests on November 18 – 22, 2019.

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 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.

#### .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 November 26, 2019, 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 November 29, 2019.

The NRC examination team administered the various portions of the operating tests to all applicants from November 18 – 22, 2019.

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.

The examination team noted one generic weakness associated with applicant performance on the dynamic scenario section of the operating tests. The applicants displayed a weakness implementing technical specifications following a trip of feeder breaker ENS-A and a failure of the associated diesel generator to auto start.

Post exam comments revealed four generic weaknesses associated with applicant performance on the written examination. The applicants displayed weaknesses with: reactor core isolation cooling suction valve interlocks (Question 10); parameters directly monitored from the remote shutdown panel (Question 44); oil pump starting pressures on the emergency bearing oil pump (Question 83); and who has the authority on-shift to clear the control room of unnecessary personnel (Question 94).

The licensee generated Condition Report CR-RBS-2019-07699 to address both scenario and written examination generic weaknesses.

Copies of all individual examination reports were sent to the facility Training Manager for evaluation and determination of appropriate remedial training.

After administration of one simulator job performance measure (JPM) to one applicant, it was discovered that the applicant was not provided the same displayed information as the other applicants. Since the lack of this displayed information was the primary reason the applicant failed the JPM, it was decided to generate a new JPM of the same safety function for this one individual. The applicant was not graded on the initial JPM.

.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**

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

The chief examiner presented the preliminary examination results to Mr. J. Reynolds, Director, Regulatory and Performance Improvement, and other members of your staff on November 22, 2019. A telephonic exit was conducted on December 16, 2019, between Mr. J. Kirkland, chief examiner, and Mr. K. Stupak, Training Manager.

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensee Personnel**

B. Johns, Senior Licensing Specialist  
G. Kimich, Operations Instructor  
J. Reynolds, Regulatory and Performance Improvement Director  
K. Stupak, Training Manager  
T. Venable, Operations Senior Manager

#### **NRC Personnel**

R. Kumana, Senior Resident Inspector

### **ADAMS DOCUMENTS REFERENCED**

Accession No. ML20006C411 - FINAL OPERATING TEST  
Accession No. ML20006C413 - FINAL WRITTEN EXAMS  
Accession No. ML20006C659 - POST-EXAM ANALYSIS-COMMENTS

## NRC Resolution to the River Bend Station Post-Examination Comments

A complete text of the licensee's post-examination analysis and comments can be found in ADAMS under Accession Number ML20006C659.

### **Question 16**

The plant has experienced a LOP/LOCA event from full power operations.

HPCS is being used to maintain reactor water due to RCIC being tagged out.

All automatic actuations have occurred.

Current Reactor parameters:

- Reactor pressure 1000 psig
- Reactor water level 10 inches

Which of the following cause an increase in load currents on E22-S004, DIV 3 4160KV Bus?

- A. CST water level lowering
- B. Lowering Reactor pressure
- C. Manually raising bus voltage
- D. Closing E22-MOVF004,HPCS Injection valve

**COMMENT:** When high pressure core spray injection valve E22-MOVF004 is closed, the motor to operate the valve is energized causing load currents on the bus to increase due to additional electrical loading. Based on additional electrical loading to operate the valve E22-MOVF004, the licensee believed answers B and D should both be acceptable correct answers.

**NRC RESOLUTION:** The NRC agreed with the licensee's recommendation to accept both answers B and D as correct answers for Question 16.

Answer B was clearly a correct answer. As pressure drops, the pump flow rate would increase. The increase in flowrate would cause the HPCS pump to draw more current from the Division 3 bus. This was described in the licensee distractor analysis which accompanied Question 16. Answer D was intended to be incorrect since closing the injection valve results in pump flow decreasing to minimum flow and with pump flow at a minimum, load current would decrease not increase. However, the stem of the question asked which of the following CAUSE an increase in load currents.

At rated flow, the HPCS pump motor (4160 VAC, 2500 HP) would draw approximately 448 amps off the 4160 volt bus. The injection valve motor (480 VAC, 10.5 HP) would draw approximately 3.9 amps off the 4160 volt bus. Assuming the bus voltage was initially 448 amps, it would increase to approximately 452 amps instantaneously, then begin to decrease as pump flow decreases. It would be unlikely that an operator could detect a change of 4 amps over a meter scale of 450 amps. However, the question asked which of the following cause an

increase in load currents, and the valve motor being energized does increase load currents by approximately 4 amps.

The NRC changed the answer key for the written exam to accept both answers B and D as correct answers to Question 16.

### Question 43

The reactor has just scrammed.

The scram has not been reset.

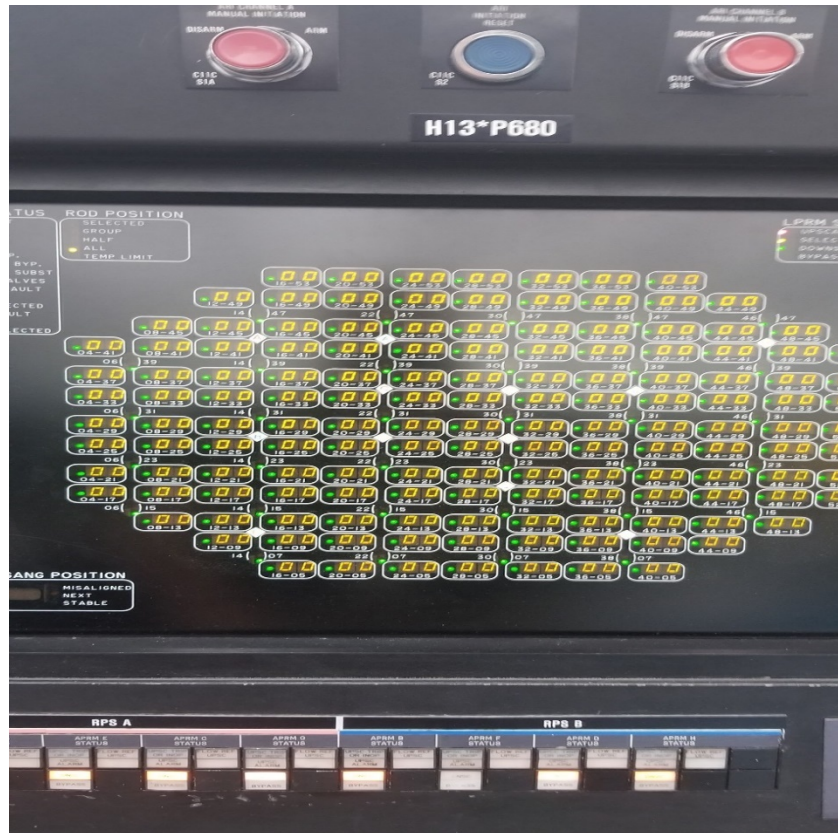
The ATC Operator could verify that all control rods are fully inserted by depressing ALL RODS with RC&IS with RAW DATA (1) and observe all control rods position indicate (2) with only green LEDs.

- | (1)           | (2) |
|---------------|-----|
| A. selected   | - - |
| B. selected   | 00  |
| C. deselected | - - |
| D. deselected | 00  |

**COMMENT:** During simulator training, the students were taught to use both methods (RAW DATA selected and deselected). When RAW DATA is selected the position will indicate - -. When RAW DATA is deselected, and ALL RODS is depressed 00 will be indicated on the full core display. See photos for illustration. The students were trained to use both methods to verify all control rods are fully inserted. Based on the training provided and simulator performance answers A and D should be correct answers.

Photos: RAW DATA deselected, Full Core Display indicates 00 for each rod.





**NRC RESOLUTION:** The NRC agreed with the licensee's recommendation to accept both answers A and D as correct answers for Question 43. Whether the applicants were trained to use both methods to verify all control rods inserted is irrelevant. The question asked which method **COULD** be used, and either method could be used, even if one is preferred over the other. The NRC changed the answer key for the written exam to accept both answers A and D as correct answers to Question 43.

RIVER BEND STATION - NRC EXAMINATION REPORT 05000458/2019301 –  
JANUARY 15, 2020

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ADAMS ACCESSION NUMBER: ML20021A270

☒ SUNSI Review: ADAMS: ☐ Non-Publicly Available ☒ Non-Sensitive Keyword: NRC-002

By: JCK ☒ Yes ☐ No ☒ Publicly Available ☐ Sensitive

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