



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION IV
1600 E. LAMAR BLVD
ARLINGTON, TX 76011-4511

March 22, 2017

Mr. Richard L. Anderson
ANO Site Vice President
Entergy Operations, Inc.
Arkansas Nuclear One
1448 S.R. 333
Russellville, AR 72802

**SUBJECT: ARKANSAS NUCLEAR ONE, UNIT 2 - NRC EXAMINATION
REPORT 05000368/2017301**

Dear Mr. Anderson:

On February 16, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an initial operator license examination at Arkansas Nuclear One, Unit 2. The enclosed report documents the examination results and licensing decisions. The preliminary examination results were discussed on February 16, 2017, with Mr. T. Arnold, Training Manager, and other members of your staff. A telephonic exit meeting was conducted on March 16, 2017, with Mr. R. Martin, Operations Training Supervisor, who was provided the NRC licensing decisions.


The examination included the evaluation of eight applicants for reactor operator licenses and three applicants for upgrade senior reactor operator licenses. The license examiners determined that all applicants satisfied the requirements of 10 CFR Part 55 and the appropriate licenses have been issued. There were no post examination comments submitted by your staff. The enclosure contains details of this report.

No findings were identified during this examination.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice and Procedure," 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

Agencywide Documents Access and Management 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,



Vincent G. Gaddy, Chief
Operations Branch
Division of Reactor Safety

Docket No. 50-368
License No. NPF-6

Enclosures:

1. Examination Report 05000368/2017301
w/Attachment: Supplemental Information
2. Simulator Fidelity Form

cc w/enclosure:
Electronic copy for Arkansas Nuclear One

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000368

License: NPF-6

Report: 05000368/2017301

Licensee: Entergy Operations, Inc.

Facility: Arkansas Nuclear One, Unit 2

Location: 1448 SR 333
Russellville, AR 72802-0967

Dates: February 13 through February 16, 2017

Inspectors: C. Osterholtz, Chief Examiner, Senior Operations Engineer
J. Kirkland, Chief Examiner (Under Instruction), Senior Operations Engineer
M. Hayes, Operations Engineer
C. Steely, Operations Engineer
N. Hernandez, Resident Inspector

Approved By: Vincent G. Gaddy, Chief
Operations Branch
Division of Reactor Safety

SUMMARY

ER 05000368/2017301; Arkansas Nuclear One, Unit 2; Initial Operator Licensing Examination Report.

NRC examiners evaluated the competency of eight applicants for reactor operator licenses and three applicants for upgrade senior reactor operator licenses at Arkansas Nuclear One, Unit 2.

The licensee developed the examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 10. The written examination was administered by the licensee on February 22, 2017. NRC examiners administered the operating tests on February 13–16, 2017.

The 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

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. 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

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 on-site 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.

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 22, 2017, 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 to the NRC on February 24, 2017.

The NRC examination team administered the various portions of the operating tests to all applicants on February 13–16, 2017.

b. Findings

No findings were identified.

All applicants passed the written examination and all parts of the operating tests. The final written examinations and post examination analysis may be accessed in the ADAMS system under the accession numbers noted in the attachment. There were no post examination comments as indicated in the licensee submittal.

The examination team noted one generic weakness associated with applicant performance on one simulator job performance measure (JPM) of the operating tests. The applicants displayed a weakness in not recognizing that a valve should be closed if lowering safety injection tank level by less than ½ percent, despite procedural guidance requiring the valve to be closed.

The licensee identified two generic weaknesses associated with applicant performance on the written examinations:

1. Reason for the automatic initiation of a safety injection actuation signal during an Excess Steam Demand event – 7/11 missed Question 4 due to knowledge weaknesses for this topic.
2. Loss of shutdown cooling – 2/3 missed Question 88 due to knowledge weaknesses for this topic.

The licensee generated Condition Report CR-ANO-2-2017-00997 to address the three generic weaknesses.

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

During administration of the operating tests, one simulator deficiency was identified. See Enclosure 3, Simulator Fidelity Report, for details.

.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.

40A6 Meetings, Including Exit

Exit Meeting Summary

The chief examiner presented the preliminary examination results to Mr. T. Arnold, Training Manager, and other members of the staff on February 16, 2017. A telephonic exit was conducted on March 16, 2017, between Messrs. C. Osterholtz, Chief Examiner; J. Kirkland, Chief Examiner (under instruction); and Mr. R. Martin, Operations Training Supervisor.

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

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

T. Arnold, Training Manager
R. Martin, Operations Training Supervisor
D. Lacy, Simulator Instructor
B. Coble, Exam Writer
L. Martin, Exam Writer
J. Wright, Exam Writer

NRC Personnel

B. Tindell, Senior Resident Inspector

ADAMS DOCUMENTS REFERENCED

Accession No. ML17080A199 - FINAL WRITTEN EXAMS (Do not release until February 22, 2019)
Accession No. ML17080A197 - FINAL OPERATING TEST (Do not release until February 22, 2019)
Accession No. ML17080A200 - POST EXAM ANALYSIS (Do not release until February 22, 2019)

Facility Licensee: Arkansas Nuclear One, Unit 2

Facility Docket No: 50-368

Operating Tests Administered on: February 13–16, 2017

This form is to be used only to report observations. These observations do not constitute audit or inspection findings and, without further verification and review in accordance with IP 71111.11, are not indicative of noncompliance with 10 CFR 55.46, "Simulation Facilities." No licensee action is required in response to these observations.

While conducting the simulator portion of the operating tests, examiners observed the following items:

Item	Description
Alternate AC Diesel Generator	A single JPM was performed 11 times on the simulator requiring 11 simulator resets. During the last four simulator resets, the AAC diesel did not initialize properly, requiring simulator support intervention. This occurred only on the reset between scenarios and did not impact the actual execution of the scenarios.

ARKANSAS NUCLEAR ONE, UNIT 2 - NRC EXAMINATION REPORT 05000368/2017301 –
March 22, 2017

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ADAMS ACCESSION NUMBER: ML17082A696

SUNSI Review: ADAMS: Non-Publicly Available Non-Sensitive Keyword:
By: J. Kirkland Yes No Publicly Available Sensitive NRC-002

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