



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

March 1, 2018

Mr. Eric Larson, Site Vice President
Entergy Operations, Inc.
Grand Gulf Nuclear Station
P.O. Box 756
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION - NRC EXAMINATION
REPORT 05000416/2017302

Dear Mr. Larson:

On December 11, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an initial operator license examination at Grand Gulf Nuclear Station. The enclosed report documents the examination results and licensing decisions. The preliminary examination results were discussed on December 7, 2017, with you and other members of your staff. A telephonic exit meeting was conducted on January 18, 2018, with Mr. R. Liddell, Operations Training Superintendent, who was provided the NRC licensing decisions.

The examination included the evaluation of five applicants for reactor operator licenses and four applicants for instant senior reactor operator licenses. The license examiners determined that eight of the nine 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. Enclosure 1 contains details of this report and Enclosure 2 documents three observed simulator fidelity issues.

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,

/RA/

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

Docket No. 50-416
License No. NPF-29

Enclosures:

1. Examination Report 05000416/2017302
w/Attachment: Supplemental Information
2. Simulator Fidelity Report

cc w/enclosure: Electronic Distribution

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 050000416

License: NPF-29

Report: 05000416/2017302

Licensee: Entergy Operations, Inc.

Facility: Grand Gulf Nuclear Station

Location: 7003 Baldhill Road
Port Gibson, MS 39150

Dates: December 4, 2017, through January 18, 2018

Inspectors: B. Larson, Chief Examiner, Senior Operations Engineer
K. Clayton, Senior Operations Engineer
J. Kirkland, Senior Operations Engineer
M. Hayes, Operations Engineer

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

Enclosure

SUMMARY

ER 05000416/2017302; 12/04/2017 – 01/18/2018; Grand Gulf Nuclear Station; Initial Operator Licensing Examination Report.

NRC examiners evaluated the competency of five applicants for reactor operator licenses and four applicants for instant senior reactor operator licenses at Grand Gulf Nuclear 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 December 11, 2017. NRC examiners administered the operating tests on December 4-7, 2017.

The examiners determined that eight of the nine 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.

b. Findings

No findings were identified.

.2 Examination Development

a. Scope

NRC examiners reviewed integrated examination outlines and proposed 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, proposed 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.

During validation, one in-plant job performance measure was replaced due to numerous deficiencies in System Operating Instruction 04-1-01-C11-1, control rod drive hydraulic system, and related training material deficiencies. In addition, labeling of Panel 1H22-P076 did not conform to plant labeling convention and did not match actual valve labels for remotely operated valves. The licensee wrote Condition Report CR-GGN-2018-00125 and Work Tracking WT-WTGGN-2018-00007 to address these issues.

.3 Operator Knowledge and Performance

a. Scope

On December 11, 2017, the licensee proctored the administration of the written examinations to all nine applicants. The licensee staff graded the written examinations, analyzed the results, and submitted their analysis to the NRC on December 13, 2017.

The NRC examination team administered the various portions of the operating tests to all applicants on December 4-7, 2017.

b. Findings

No findings were identified.

All applicants passed the written examination and eight of the nine applicants passed 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 licensee submitted post examination analysis of two reactor operator and five senior reactor operator written examination questions where at least half of the applicants failed to identify the correct answer. However, the licensee did not identify any generic weaknesses from the written examination.

The examination team noted the following generic weaknesses in applicant performance during the scenario portion of the operating test:

- Two of three control room supervisors failed to identify Technical Specification 3.8.3, Diesel Fuel Oil, Lube Oil, Starting Air, Condition B, following a standby diesel generator lube oil leak (Scenario 3, Event 2). The licensee wrote Condition Report CR-GGN-2018-01670 to address this issue.
- Two of three control room supervisors failed to identify all appropriate Technical Specifications following a spurious emergency core cooling system actuation (Scenario 3, Event 3). The licensee wrote Condition Report CR-GGN-2018-01670 to address this issue.

.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. Enclosure 2 documents three observed simulator fidelity issues identified during the scenario portion of the operating tests. Each observation

has been documented by the licensee with either a condition report or a simulator discrepancy report.

.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.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The chief examiner presented the preliminary examination results to Mr. E. Larson, Vice President, and other members of the staff on December 7, 2017. A telephonic exit was conducted on January 18, 2018, between Mr. B. Larson, Chief Examiner, and Mr. R. Liddell, Operations Training Superintendent. The licensee did not identify any information or materials used during the examination as proprietary.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

R. Liddell, Training Superintendent, Operations
M. Rasch, Nuclear Training Instructor
D. Cooper, Examination Writer
S. Reeves, Examination Writer

NRC Personnel

N. Day, Senior Resident Inspector

ADAMS DOCUMENTS REFERENCED

Accession No. ML18050A054 – Final Written Exams (Do not release until December 11, 2019)
Accession No. ML18050A055 – Final Operating Test (Do not release until December 11, 2019)
Accession No. ML18050A056 – Post Exam Analysis (Do not release until December 11, 2019)

Facility Licensee: Grand Gulf Nuclear Station

Facility Docket No.: 05000416

Operating Test Administered on: December 4-7, 2017

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

Item	Description
Failure of Simulator to Properly Reset – December 4, 2017	NRC initial license examination was interrupted due to simulator failure. This interruption was greater than 15 minutes in duration. Simulator group is troubleshooting errors. (CR-GGN-2017-12021)
Failure of Simulator to Properly Reset - December 6, 2017	NRC license examination was delayed in excess of 15 minutes due to simulator malfunctions. Simulator group and vendor were successful in returning simulator to service. NRC examination was recommenced following delay. (CR-GGN-2017-12107)
Drywell Pressure Response not as Expected	Upon start of drywell purge compressor, the rate of change in Drywell pressure was slower than expected. (DR 17-0644)

NRC EXAMINATION REPORT 05000416/2017302 – March 1, 2018

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ADAMS ACCESSION NUMBER: ML18060A178

SUNSI Review ADAMS: Non-Publicly Available Non-Sensitive Keyword:
 By: VGGaddy Yes No Publicly Available Sensitive NRC-002

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