



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION IV  
1600 E. LAMAR BLVD  
ARLINGTON, TX 76011-4511

May 16, 2017

Mr. Michael R. Chisum  
Site Vice President  
Entergy Operations, Inc.  
17265 River Road  
Killona, LA 70057-0751

**SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 – NRC EXAMINATION  
REPORT 05000382/2017301**

Dear Mr. Chisum:

On April 5, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an initial operator license examination at Waterford Steam Electric Station, Unit 3. The enclosed report documents the examination results and licensing decisions. The preliminary examination results were discussed on March 30, 2017, with you and other members of your staff. A telephonic exit meeting was conducted on May 3, 2017, with you and your staff at which time NRC licensing decisions were provided.

The examination included the evaluation of seven applicants for reactor operator licenses, one applicant for an instant senior reactor operator license, and three applicants for upgrade senior reactor operator licenses. The license examiners determined that six of the seven reactor operator applicants and all of the senior reactor operator applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued. One license is being held in abeyance pending resolution of any potential written examination appeals, per the guidance of NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," Revision 10, ES-501.D.3.c. 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

M. Chisum

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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. 50-382  
License No. NPF-38

Enclosure:  
Examination Report 05000382/2017301  
w/Attachment: Supplemental Information

cc w/encl: Electronic Distribution

WATERFORD STEAM ELECTRIC STATION, UNIT 3 – NRC EXAMINATION REPORT  
 05000382/2017301 – May 16, 2017

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION IV**

Docket: 05000382

License: NPF-38

Report: 05000382/2017301

Licensee: Entergy Operations, Inc.

Facility: Waterford Steam Electric Station, Unit 3

Location: 17265 River Road  
Killona, LA 70057

Dates: March 27 through May 3, 2017

Inspectors: C. Cowdrey, 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 05000382/2017301; 03/27/2017 – 05/03/2017; Waterford Steam Electric Station, Unit 3; Initial Operator Licensing Examination Report.

NRC examiners evaluated the competency of seven applicants for reactor operator licenses, one applicant for an instant senior reactor operator license, and three applicants for upgrade senior reactor operator licenses at Waterford Steam Electric Station, Unit 3.

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 April 5, 2017. NRC examiners administered the operating tests on March 27–30, 2017.

The examiners determined that six of the seven reactor operator applicants and all of the senior reactor operator applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued. One license is being held in abeyance pending resolution of any potential written examination appeals, per the guidance of NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," Revision 10, ES-501.D.3.c.

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 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

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

No findings were identified.

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 April 5, 2017, the licensee proctored the administration of the written examinations to all 11 applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis to the NRC on April 11, 2017.

The NRC examination team administered the various portions of the operating tests to all applicants on March 27–30, 2017.

b. Findings

No findings were identified.

All applicants passed all portions of the operating test, and 10 of 11 applicants passed the written examination. One reactor operator applicant did not pass the written examination. 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 two generic weaknesses associated with applicant performance on the dynamic scenario section of the operating tests.

1. Failure to recognize a second failed reactor coolant pump seal – two of three crews failed to notice that a middle seal had failed on an RCP after a previous lower seal failure earlier in the shift. Two failed seals within 12 hours is a designated manual reactor trip criterion.
2. Failure to refer to alarm response procedures for red control room annunciators – two of three crews failed to reference alarm response procedures upon receipt of a red annunciator in the control room.

These issues were entered into the licensee's corrective action program under CR-WF3-2017-02124. 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 during both the on-site 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, one minor violation of 10 CFR 55.49, Integrity of examinations and tests, was identified by the NRC during examination validation week. While validating a simulator scenario, the control room supervisor was able to access the active plant equipment out-of-service log and use it to validate his technical specification call. Upon further investigation, it was determined that there are five computer stations in the simulator control room that remain connected to the Waterford local area network (LAN) under a generic log-in identification when the simulator is in examination security mode. This configuration allows for an operator to communicate outside of the simulator or potentially access unauthorized material, such as the out-of-service log, which could aid them during an evaluated scenario. The training department was unaware of this capability and had not put any measures in place to restrict the use of this connectivity during evaluated scenarios. Operators and applicants were not being briefed on what they were permitted to access and the training staff was not trained to look for any potential misuse of the LAN connectivity. Therefore, the potential has been there for operators, during requalification operating tests or initial examinations, to validate their actions and technical specification calls using outside information. The violation was considered minor as evaluated scenarios and simulator job performance measures are proctored activities and it is most likely that any past attempt to access unauthorized information would have been noticed by a proctor. The licensee created CR-WT-2017-00055 and revised Procedure TM-OP-100-03, Attachment 7.11, Simulator Examination Evaluator Pre-Brief, to provide instructions on monitoring this capability during evaluated simulator activities.

**40A6 Meetings, Including Exit**

Exit Meeting

The chief examiner presented the preliminary examination results to Mr. M. Chisum, Site Vice President, and other members of the staff on March 30, 2017. A telephonic exit was conducted on May 3, 2017, between Mr. C. Cowdrey, Chief Examiner, and Mr. M. Chisum, Site Vice President.

The licensee initially marked the draft and final examination submittal as proprietary. The licensee was informed that the examination materials would be designated as non-public for two years following the completion of the examination and then subsequently released as public documents. The licensee was also informed that the applicant who did not pass the reactor operator portion of the written examination would receive a full copy of the reactor operator written examination. The licensee rescinded the proprietary designation via email on April 24, 2017. The licensee did not identify any further information or materials used during the examination as proprietary.

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

**Licensee Personnel**

D. Constance, Examination Superintendent  
M. Chaisson, Simulator and Training Support Superintendent  
G. Esquivel, Lead Examination Writer  
J. Mendoza, Examination Writer

**NRC Personnel**

F. Ramirez, Senior Resident Inspector  
C. Speer, Resident Inspector

**ADAMS DOCUMENTS REFERENCED**

Accession No. ML17122A048 - FINAL WRITTEN EXAMS  
Accession No. ML17122A049 - FINAL OPERATING TEST  
Accession No. ML17122A050 - POST EXAM ANALYSIS