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

November 2, 2015

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 05000382/2015301

Dear Mr. Chisum:

On September 23, 2015, 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 September 17, 2015, with Mr. R. Gilmore, Acting Vice President, and other members of your staff. A telephonic exit meeting was conducted on October 5, 2015, with Mr. J. Signorelli, Simulator Superintendent, who was provided the NRC licensing decisions.

The examination included the evaluation of six 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. Enclosure 1 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 the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible

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Sincerely,

/RA/ Kelly D. Clayton for

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

Docket No. 50-382
License No. NPF-38

Enclosures:
1. Examination Report 05000382/2015301
   w/ Attachment
2. Simulator Fidelity Form

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Letter to Michael R. Chisum from Vincent G. Gaddy, dated November 2, 2015

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 - NRC EXAMINATION REPORT 05000382/2015301

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000382
License:	NPF-38
Report:	05000382/2015301
Licensee:	Entergy Operations, Inc.
Facility:	Waterford Steam Electric Station, Unit 3
Location:	17265 River Road Killona, LA 70057
Dates:	September 14 through October 5, 2015
Inspectors:	S. Hedger, Chief Examiner, Operations Engineer C. Cowdrey, Operations Engineer C. Steely, Operations Engineer C. Osterholtz, Senior Operations Engineer
Approved By:	Vincent G. Gaddy Chief, Operations Branch Division of Reactor Safety

SUMMARY

ER 05000382/2015301; 09/14/2015 – 10/05/2015; Waterford Steam Electric Station, Unit 3; Initial Operator Licensing Examination Report.

NRC examiners evaluated the competency of six applicants for reactor operator licenses 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 September 23, 2015. NRC examiners administered the operating tests on September 14-17, 2015.

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

No findings were identified. However, the examiners noted three procedure weaknesses identified during development of the written examination and the in-plant job performance measure (JPM) portion of the operating test:

1) Procedure OP-902-009, "Standard Appendices (Revision 310)," Appendix 33, uses equipment descriptions, "Air Side Seal Oil Backup Pump (DC)" and "Seal Oil DP," for procedural steps. The equipment referred to is labeled differently in the plant. For example, the pump controller in question is labeled, "Back Up Pump Motor Control." This appendix would be used during loss of alternating power events to reduce the risk of a hydrogen explosion in the event that all main turbine seal oil is lost. Despite the weakness, there were no applicants observed that had issues implementing the appendix's instructions.

2) In Procedure OP-500-009, "Control Room Cabinet K (Revision 15)," corrective actions are provided to mitigate lowering steam generator level. Alarms are provided for steam generator levels associated with reactor protection system channels A, B, C, and D, both for reactor pre-trip and trip signals. The mitigating actions for the reactor pre-trip signals for channels B and D, associated with Alarms F-12 and F-14, direct the operator to take action to lower steam generator

level. If this procedure direction is implemented as stated, it could cause a reactor trip that could be avoided with appropriate mitigating action (e.g., manually controlling feedwater flow to the affected steam generators to restore level). Mitigating actions to take manual action and raise steam generator level were stated in similar alarm response actions for steam generator channels A and C. This incorrect procedure step affects the operation of the reactor protection system, so it constitutes a minor violation of 10 CFR Part 50, Appendix B, Criterion V.

3) In Procedure OP-902-007, "Steam Generator Tube Rupture Recovery (Revision 16), Step 12a provides direction on performing RCS depressurization. It says, "Maintain Pressurizer pressure within ALL of the following criteria." There are four bulleted criteria that, according to this statement, all have to be met. The fourth bullet says to maintain pressurizer pressure greater than the minimum reactor coolant pump (RCP) net positive suction head (NPSH) of Attachments 2A-D, with RCPs operating. From our discussions between the NRC examiners and licensee examination development staff, the minimum pressure that would maintain NPSH is 1100 psia. However, this is in contradiction with the second bullet which says to maintain pressurizer pressure "less than 930 psia." Further discussion revealed that parts of the bulleted actions are applicable when RCPs are running and the others when RCPs are secured. The conflicting procedure direction constitutes a minor violation of 10 CFR Part 50, Appendix B, Criterion V.

The licensee acknowledged the procedure weaknesses, and entered them into the corrective action program in Condition Reports CR-WF3-2015-06553 and CR-WF3-2015-06780.

c. Other Observations

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 September 23, 2015, the licensee proctored the administration of the written examinations to all nine applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis to the NRC on September 29, 2015.

The NRC examination team administered the various portions of the operating tests to all applicants during the period of September 14-17, 2015.

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. The licensee requested and received approval by the NRC to withhold the written examinations from the public document room for 2 years after the administration date. There were no post examination comments as indicated in the licensee submittal.

The examination team noted one generic weakness associated with applicant performance on the in-plant job performance measure section of the operating tests. The applicants displayed a weakness in their sensitivity to reviewing caution tags on equipment. While performing a task to restore power to dry cooling tower sump pumps in accordance with Procedure OP-902-009, Appendix 20, applicants had to simulate opening breakers to loads on a bus prior to restoring power to it. While opening the fuel handling building normal exhaust fan A breaker, three of the nine applicants failed to check a caution tag on the breaker, which directed the operator to contact the control room to verify control room indication. This weakness in standard operator practices was discussed with licensee staff at the site debrief on September 17, 2015. The issue is being addressed in training action document (TEAR) W3-2015-796. Copies of all individual examination reports were sent to the facility Manager, Training and Development, 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.

Several simulator performance issues were identified during validation and administration of the operating test. These items have been documented in the simulator's discrepancy report (DR) system. A summary of these issues is included in Enclosure 2.

.5 Examination Security

a. Scope

The NRC examiners reviewed examination security for examination development 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, the examiners note a minor violation of 10 CFR 55.49 during examination validation activities. On August 20, 2015, an NRC examiner reviewed the examination security checklist (Attachment 7.7, "Simulator Examination Security Checklist," of Procedure TM-OP-100-03, Revision 005) with the licensee. The checklist includes verifying multiple measures are established in the simulator to maintain examination security prior to examination activities. The NRC examiner identified that there was a back door to the simulator building that was not included in the checklist completed to set examination security prior to commencing examination activities. The licensee determined that the door key was not one that the simulator superintendent maintained a controlled distribution list for on site. The location of any keys to the door was unaccounted for. The previous simulator superintendent had left no key to the door for the present simulator superintendent. As a result, the licensee took corrective action to install a locking mechanism on the inside of the door that staff can maintain positive control of. In addition the door's locking mechanism was added to the examination security checklist. All actions were completed and verified by NRC examiners prior to administration of the initial licensing examination. This performance deficiency was considered minor due to the low possibility of a key existing onsite for the door. In addition, the existing examination security checklist required at least one licensee staff member to stay in the simulator once examination security had been set. If someone had accessed the door, licensee examination staff maintaining watch would most likely identify any unauthorized simulator entries. The licensee entered this issue into the corrective action program in Condition Report CR-WF3-2015-05465.

4OA6 Meetings, Including Exit

The chief examiner presented the preliminary examination results to Mr. R. Gilmore, Acting Vice President, and other members of the staff on September 17, 2015. A telephonic exit was conducted on October 5, 2015, between Mr. S. Hedger, Chief Examiner, and Mr. J. Signorelli, Simulator Superintendent.

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

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

W. McKinney, Training Manager
J. Signorelli, Simulator Superintendent
R. Gilmore, Acting Vice President
J. Mendoza, Lead Examination Developer
S. Meiklejohn, Licensing Specialist
R. Simpson, Operations Training Superintendent

NRC Personnel

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

ADAMS DOCUMENTS REFERENCED

Accession No. ML15278A228 - FINAL WRITTEN EXAMINATIONS
(delayed release until September 25, 2017)

Accession No. ML15278A231 - FINAL OPERATING TEST

Accession No. ML15273A433 - POST EXAMINATION ANALYSIS

Facility Licensee: Waterford Steam Electric Station, Unit 3

Facility Docket No.: 50-382

Operating Test Administered on: September 14-17, 2015

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

Item	Description
Main Generator Excitation Breaker failed to open on Loss of Offsite Power	During test administration, a loss of offsite power resulted in a trip of the main turbine. The Main Generator Excitation Breaker did not open automatically on the main turbine trip. There was no malfunction inserted in the examination scenario to cause this to malfunction in this way. This occurred for 2 of 3 crews evaluated with Scenario 1 (DR-15-0185).
"MSIV 1 Test Failure Alarm" operates when not triggered by scenario events	During test validation and administration, triggering the major event in Scenario 3 (Excess Steam Demand Event) would result in receiving the "MSIV 1 Test Failure Alarm." The training staff reviewed the alarm's inputs, and could not find a reason why this alarm was coming in at that time. This occurred for 2 of the 3 crews evaluated with this scenario (DR-15-0186).
Core Protection Channel Calculator Trouble alarm fails to come in on RC-IPT-0101B failing low	As part of the simulator operating test, Scenario 3, Event 2, involved a failure of Narrow Range Safety Pressure Instrument RC-IPT-0101B to the low position. This causes several annunciators to come in. One of the expected annunciators is "CORE PROTECT CHNL B CALCULATOR TROUBLE" (Cabinet K, N-12). During test administration the week of September 14, 2015, this annunciator alarm did not come in (DR-15-0187).