



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

August 5, 2021

EA-20-114

Mr. John Ferrick  
Site Vice President  
Entergy Operations, Inc.  
17265 River Road  
Killona, LA 70057

**SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 – INTEGRATED  
INSPECTION REPORT 05000382/2021002**

Dear Mr. Ferrick:

On June 30, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Waterford Steam Electric Station, Unit 3. On July 8, 2021, the NRC inspectors discussed the results of this inspection with Mr. Matthew Lewis and other members of your staff. The results of this inspection are documented in the enclosed report.

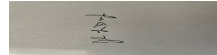
One finding of very low safety significance (Green) is documented in this report. This finding involved a violation of NRC requirements. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or the significance or severity of the violation documented in this inspection report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement; and the NRC Resident Inspector at Waterford Steam Electric Station, Unit 3.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; and the NRC Resident Inspector at Waterford Steam Electric Station, Unit 3.

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 Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,



Signed by Dixon, John  
on 08/05/21

John L. Dixon, Jr, Chief  
Reactor Projects Branch D  
Division of Reactor Projects

Docket No. 05000382  
License No. NPF-38

Enclosure:  
As stated

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WATERFORD STEAM ELECTRIC STATION, UNIT 3 – INTEGRATED INSPECTION REPORT  
05000382/2021002 – DATE 5, 2021

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

Docket Number: 05000382

License Number: NPF-38

Report Number: 05000382/2021002

Enterprise Identifier: I-2021-002-0111

Licensee: Entergy Operations, Inc.

Facility: Waterford Steam Electric Station, Unit 3

Location: Killona, LA 70057

Inspection Dates: April 1, 2021 to June 30, 2021

Inspectors: R. Alexander, Senior Emergency Preparedness Inspector  
J. Braisted, Senior Reactor Inspector  
D. Childs, Resident Inspector  
W. Cullum, Reactor Inspector  
R. Kopriva, Senior Reactor Inspector  
A. Patz, Senior Resident Inspector  
C. Smith, Health Physicist

Approved By: John L. Dixon, Jr., Chief  
Reactor Projects Branch D  
Division of Reactor Projects

Enclosure

## SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee’s performance by conducting an integrated inspection at Waterford Steam Electric Station, Unit 3, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC’s program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

### List of Findings and Violations

Inadequate Procedure for Assembly of Control Element Drive Mechanism Voltage Regulator Card			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green NCV 05000382/2021002-01 Open/Closed	[H.1] - Resources	71152
The inspectors reviewed a self-revealed Green finding and associated non-cited violation of Technical Specification 6.8.1.a, “Procedures and Programs,” for the licensee’s failure to have an adequate maintenance procedure as required by Regulatory Guide 1.33, “Quality Assurance Program Requirements,” Revision 2. Specifically, station procedure MI-004-300, “Maintenance Procedure Guidelines for Rework of Electronic Equipment,” Revision 302, did not adequately provide the level of detail required to ensure the control element drive mechanism (CEDM) motor generator set B voltage regulator card was properly reassembled after maintenance was completed on the card.			

### Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000382/2020-003-00	Procedure Deficiency for MG Set Voltage Regulator Installation Results in a Reactor Trip	71153	Closed

Type	Issue Number	Title	Report Section	Status
NOV	05000382/2021013-01 EA-20-114	Procedure Violation During Fuel Oil Storage Tank Replacement Project Results in Cut Rebar Without Proper Evaluation	71153	Closed

## PLANT STATUS

Waterford, Unit 3, began the inspection period in the process of reducing power for a forced outage to repair a leak in feedwater heater 6B. The reactor was placed in hot standby on April 1, 2021 and remained in that state until it was restarted on April 3, 2021. The reactor was at full power on April 5, 2021. On April 7, 2021, the unit reduced power to 98.5 percent due to increased governor valve #4 position oscillations. On April 8, 2021, the unit was returned to near full power after governor valve troubleshooting. On May 2, 2021, the unit reduced power to 77 percent power to close governor valve #4 and troubleshoot valve position oscillations. The unit was returned to 100 percent power on May 3, 2021 and remained near full power through the remainder of the inspection period.

## INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the coronavirus (COVID-19), resident and regional inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time, the resident inspectors performed periodic site visits each week, increasing the amount of time on site as local COVID-19 conditions permitted. As part of their onsite activities, resident inspectors conducted plant status activities as described in IMC 2515, Appendix D; observed risk significant activities; and completed on site portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or a portion of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and on site. The inspections documented below met the objectives and requirements for completion of the IP.

## REACTOR SAFETY

### 71111.01 - Adverse Weather Protection

#### Seasonal Extreme Weather Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of hurricane season (June 1 to November 30) on May 27, 2021.

#### External Flooding Sample (IP Section 03.03) (1 Sample)

- (1) The inspectors evaluated that flood protection barriers, mitigation plans, procedures, and equipment are consistent with the licensee's design requirements and risk analysis assumptions for coping with external flooding on April 21, 2021.

#### 71111.04 - Equipment Alignment

##### Partial Walkdown Sample (IP Section 03.01) (2 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Main steam, steam bypass, and atmospheric dump valve systems while reactor was in Mode 3 on April 1-2, 2021
- (2) Emergency diesel generator A while emergency diesel generator B was unavailable for planned maintenance on June 16, 2021

#### 71111.05 - Fire Protection

##### Fire Area Walkdown and Inspection Sample (IP Section 03.01) (2 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Fire Areas RAB 2-001 and RAB 24-002, reactor auxiliary building heating, ventilating, and air conditioning equipment rooms on May 19, 2021
- (2) Fire Areas NS-CP-01 and NS-CP-02, condensate polisher building first floor and upper levels on June 28, 2021

##### Fire Brigade Drill Performance Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the onsite fire brigade training and performance during an unannounced fire drill on May 21, 2021.

#### 71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

##### Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the control room during reactor startup following repairs to feedwater heater 6B on April 3-4, 2021.

##### Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated a series of simulator-based training scenarios that required use of updated emergency action levels on May 13, 2021.

#### 71111.12 - Maintenance Effectiveness

##### Maintenance Effectiveness (IP Section 03.01) (1 Partial)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) (Partial)  
Control room emergency air filtration system due to hydramotor actuator failures

#### 71111.13 - Maintenance Risk Assessments and Emergent Work Control

##### Risk Assessment and Management Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) Unplanned high risk for reactor downpower due to continued unexpected oscillations of governor valve 4 position from April 6-8, 2021
- (2) Planned high risk during train B outages for static uninterruptible power supplies, auxiliary component cooling water, and safety-related heating, ventilating, and air conditioning systems from May 24-28, 2021
- (3) Planned high risk during emergency diesel generator B outage from June 14-19, 2021

#### 71111.15 - Operability Determinations and Functionality Assessments

##### Operability Determination or Functionality Assessment (IP Section 03.01) (5 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) Train A component cooling water after identification of large differential temperature across phases in wet cooling tower motor 7A fan contactors on April 15, 2021
- (2) Trains A and B broad range gas monitors following multiple indications of toxic gas on May 6, 2021
- (3) Reactor vessel level monitoring system following loss of communication with qualified safety parameter display system channel 1 on May 26, 2021
- (4) All FLEX equipment following identification of an incorrectly wired power receptacle for the FLEX N and N+1 core cooling pump on June 1, 2021
- (5) Main steam isolation valve 2 following identification of hydraulic fluid on the nitrogen-filled side of the piston actuator on June 16, 2021

#### 71111.17T - Evaluations of Changes, Tests, and Experiments

##### Sample Selection (IP Section 02.01) (21 Samples)

The inspectors reviewed the following evaluations, screenings, and/or applicability determinations for 10 CFR 50.59 from April 5-9, 2021.

- (1) EC-00530, Ultimate Heat Sink Water Replenishment for Tornado Event
- (2) EC-72536, Implement SG Feedwater Pump B Modification during RF22 to Eliminate Morton Effect



- (3) EC-73060, Base EC for W3C23 Fuel Reload
- (4) EC-76133, RCS Leakrate Calculation Change to Use Shorter Input Smoothing
- (5) EC-78601, Technical Requirements Manual 3.3.4 Turbine Valve Testing One Time Extension
- (6) EC-79872, Equivalent Change EC to Address 10CFR Part 21 Wedge Pin Replacement for SI-407A(B)
- (7) EC-83949, Replace Common Relief Valve for Both EH Pumps with Separate Relief Valves
- (8) EC-86104, 2020 Toxic Chemical Survey and Calculation Update
- (9) EC-86321, Steam Generator Level Deviation Setpoint Change
- (10) EC-86657, Turbine Valve Testing Frequency Change From 6 Months To 12 Months, and then 18 Months Following Re-baseline at 12 Month Interval
- (11) EC-87568, Evaluate Effect on Turbine Valve Testing from not Inspecting the Low Pressure Turbine at RF23
- (12) EC-81569, Administrative EC to Allow Electronic Processing of LBDCR 19-007 TRM 3/4.9.6 One Time Exception
- (13) EC-82583, Calculation Updates Addressing CR-WF3-2018-7188 and 7253
- (14) EC-43927, Vital Instrument SUPS Upgrade Project
- (15) EC-75652, Support Procedure Changes Made to EOPs for 2 EDGs Operation with One Failed CCW Pump
- (16) EC-80327, Revise Documentation for CC-835A(B) Stroke Time
- (17) EC-82156, CR-WF3-2018-6302 Resolution Update of NAMCO Limit Switch EQ Files
- (18) EC-83049, Operability Input for Electros witch 10CFR50 Part 21
- (19) EC-68240, Increase Containment Spray Pump Bearing Cooling and Seal Cooling by CCW
- (20) PAD-EN-MA-133, Long Term Scaffold Evaluations
- (21) PAD-UNT-006-033, Technical Specification Surveillance Frequency List

#### 71111.19 - Post-Maintenance Testing

##### Post-Maintenance Test Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) Feedwater heater 6B following repair of sheared tube on April 4, 2021
- (2) Component cooling water wet cooling tower fan 7A following motor contactor internal repairs on April 25, 2021
- (3) Main steam governor valve 4 following repair of electrical connections on May 2, 2021
- (4) Reactor vessel level monitoring system following loss of communication to channel 1 of the qualified safety parameter display system on June 3, 2021
- (5) Control element assembly 77 following replacement of power switch on June 28, 2021

#### 71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

##### Surveillance Tests (other) (IP Section 03.01) (1 Sample)

(1) Train B emergency feedwater actuation system test on April 19, 2021

FLEX Testing (IP Section 03.02) (1 Sample)

(1) FLEX N diesel generator surveillance on May 19, 2021

71114.04 - Emergency Action Level and Emergency Plan Changes

Inspection Review (IP Section 02.01-02.03) (1 Partial)

(1) (Partial)

The inspectors evaluated the following recently submitted Emergency Action Level and Emergency Plan changes.

- Emergency Action Levels EP-001-001, Revision 34, submitted to the NRC on March 11, 2021

As of the end of the 2nd quarter, the inspectors' evaluation had not yet been completed, and is expected to conclude early in the 3rd quarter inspection period. However, when complete, this evaluation will not constitute NRC approval of the changes.

**OTHER ACTIVITIES – BASELINE**

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS05: Safety System Functional Failures (SSFFs) Sample (IP Section 02.04) (1 Sample)

(1) April 1, 2020 through March 31, 2021

MS06: Emergency AC Power Systems (IP Section 02.05) (1 Sample)

(1) April 1, 2020 through March 31, 2021

MS07: High Pressure Injection Systems (IP Section 02.06) (1 Sample)

(1) April 1, 2020 through March 31, 2021

71152 - Problem Identification and Resolution

Semiannual Trend Review (IP Section 02.02) (1 Sample)

(1) The inspectors reviewed the licensee's corrective action program for potential adverse trends in reactivity control that might be indicative of a more significant safety issue. The inspectors identified an observation that is documented in the Inspections Results section below.

Annual Follow-up of Selected Issues (IP Section 02.03) (1 Sample)

The inspectors reviewed the licensee’s implementation of its corrective action program related to the following issues:

- (1) Incorrect reassembly of control element drive mechanism motor generator set B voltage regulator card and subsequent automatic reactor trip on November 2, 2020

71153 - Follow Up of Events and Notices of Enforcement Discretion

Event Report (IP Section 03.02) (1 Sample)

The inspectors evaluated the following licensee event reports (LERs):

- (1) LER 05000382/2020-003-00, Procedure Deficiency for MG Set Voltage Regulator Installation Results in a Reactor Trip (ADAMS Accession No. ML20365A126). The inspection conclusions associated with this LER are documented in this report under Inspection Results Section 71152.

Personnel Performance (IP Section 03.03) (1 Sample)

The inspectors assessed the adequacy of the licensee's evaluation, extent of condition/cause review and associated corrective actions for the following notice of violation (NOV), which involved the inappropriate cutting of structural rebar during a diesel fuel oil storage tank replacement project at the Waterford Steam Electric Station, Unit 3, on November 9 and 10, 2016:

- (1) NOV 05000382/2021013-01, Procedure Violation During Fuel Oil Storage Tank Replacement Project Results in Cut Rebar Without Proper Evaluation, on February 9, 2021

**INSPECTION RESULTS**

Inadequate Procedure for Assembly of Control Element Drive Mechanism Voltage Regulator Card			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green NCV 05000382/2021002-01 Open/Closed	[H.1] - Resources	71152
The inspectors reviewed a self-revealed Green finding and associated non-cited violation of Technical Specification 6.8.1.a, “Procedures and Programs,” for the licensee’s failure to have an adequate maintenance procedure as required by Regulatory Guide 1.33, “Quality Assurance Program Requirements,” Revision 2. Specifically, station procedure MI-004-300, “Maintenance Procedure Guidelines for Rework of Electronic Equipment,” Revision 302, did not adequately provide the level of detail required to ensure the control element drive mechanism (CEDM) motor generator set B voltage regulator card was properly reassembled after maintenance was completed on the card.			
<u>Description:</u> On October 28, 2020, operators were unable to achieve the required steady-state voltage while attempting to place CEDM motor generator set B in service. A failure modes analysis was completed, and, after troubleshooting, the probable cause was determined to be a faulty voltage regulator card. The voltage regulator card was repaired.			

The reactor was taken critical on October 31, 2020 using only CEDM motor generator set A.

Motor generator set B was started up on November 1, 2020 to burn in the repaired card and verify proper operation. On November 2, 2020, after a 2-hour burn-in, the licensee attempted to parallel motor generator set B with motor generator set A. When the generator neutral circuit on motor generator set B was closed an electrical ground occurred causing voltage to be degraded for the CEDM system. At least two control element assemblies dropped into the core causing an automatic scram to be initiated from the core protection calculator. All control element assemblies inserted into the core; all equipment required for shutdown functioned as designed. The licensee stabilized the plant in Mode 3. The cause of the ground on motor generator set B was that the recently rebuilt voltage regulator card insulators were not reassembled correctly to prevent an electrical short to ground when the voltage regulator was reinstalled in the cabinet. This occurred due to the procedure not containing adequate information to ensure the insulators would perform their function.

Corrective Actions: The licensee repaired the deficient voltage regulator card. Actions planned to be implemented are to include the following formal practices in card repair procedure MI-004-300: (1) maintenance configuration control practices during disassembly/reassembly of equipment components in for card repair (before and after pictures, drawings, like-for-like comparisons) and (2) verify items leaving card repair shop for installation in plant. This will be a documented verification step with sign-off and date. Additionally, all instrumentation and control personnel will be required to review the lessons learned because of this incident.

Corrective Action References: Condition Report CR-WF3-2020-06336

Performance Assessment:

Performance Deficiency: The inspectors determined that the failure to have an adequate maintenance procedure to correctly reassemble the voltage regulator card in accordance with Technical Specification 6.8.1.a, Regulatory Guide 1.33 was a performance deficiency.

Screening: The inspectors determined the performance deficiency is more than minor because it is associated with the procedure quality attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, procedure MI-004-300, "Maintenance Procedure Guidelines for Rework of Electronic Equipment," Revision 302, did not adequately provide the level of detail required to ensure the CEDM motor generator set B voltage regulator card was properly reassembled which caused a ground to the neutral circuit and subsequent automatic reactor trip.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors assessed the significance of the finding using IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," dated November 30, 2020. The inspectors determined that this finding is of very low safety significance (Green), because while the performance deficiency did result in a reactor trip, it did not cause a loss of mitigation equipment relied upon to transition the plant from the onset of a trip to a stable shutdown condition.

Cross-Cutting Aspect: H.1 - Resources: Leaders ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety.

Specifically, the licensee’s leaders promoted and accommodated organizational behaviors that allowed card repair activities to be performed in an informal manner. This informal culture accepted the use of an inadequate procedure instead of leaders ensuring that procedure MI-004-300, “Maintenance Procedure Guidelines for Rework of Electronic Equipment,” Revision 302, contained a sufficient level of detail to adequately support the proper assembly of the CEDM generator set B voltage regulator card.

Enforcement:

Violation: Technical Specification 6.8.1, requires, in part, that procedures shall be established, implemented, and maintained covering the applicable procedures recommended in NRC Regulatory Guide 1.33, Revision 2. Regulatory Guide 1.33, Revision 2, Appendix A, Section 9, “Procedures for Performing Maintenance,” requires, in part, that maintenance should be properly pre-planned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances.

Contrary to the above, prior to November 2, 2020, the licensee failed to create written procedures, documented instructions, or drawings appropriate to the circumstances to perform work on the CEDM motor generator voltage regulator cards. Specifically, the licensee did not provide an adequate level of detail in procedure MI-004-300, “Maintenance Procedure Guidelines for Rework of Electronic Equipment,” Revision 302 to ensure the CEDM motor generator voltage regulator cards were properly reassembled. The incorrect assembly of the voltage regulator card caused a ground to the neutral circuit and subsequent automatic reactor trip.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Observation: Semi-Annual Trend Review

71152

The inspectors identified an adverse trend in reactivity control due to unexpected oscillations in the main steam governor valve positions. Over the past 3 years, the following CRs detail an issue with movement of the governor valves outside of the expected control band:

CR-WF3-2019-05210 - Oscillations in governor valve 4 position caused a small change in reactor power. From June to July 2019, approximately 15-20 occurrences of about 5 minutes each. The cause was determined to be either a loose wiring connection or separate damaged wiring connection and both were fixed during Forced Outage 23-02 in August 2019.

CR-WF3-2020-06795 - Oscillations in governor valve 1 position caused a small change in reactor power. The licensee reduced reactor power to 89 percent to troubleshoot the issue. The issue was determined to be high resistance terminals for position indication which were replaced, and the reactor returned to full power.

CR-WF3-2021-01768 - Oscillations in governor valve 4 position caused a small change in reactor power. First appeared in April 2021 following a forced outage for feedwater heater leaks. Reactor power was reduced to 75 percent power and governor valve 4 was isolated. The cause was found to be high resistance wiring connections on position indication lug terminations in the governor valve actuator control box.

CR-WF3-2021-02980 - During performance monitoring in June 2021, the licensee identified small perturbations on governor valve 1 position that did not have a noticeable impact on

reactor power. CR-WF3-2021-03241 documented larger oscillations, but the larger oscillations still do not cause a noticeable change in reactor power.

The licensee has previously identified this adverse trend and implemented several actions to solve this issue including installing extra instrumentation, pre-emptively replacing components, and consulting industry experts. Additionally, an adverse condition monitoring plan is in place that prescribes operator actions in case of increasing oscillations and plant impact.

In each case of oscillations, the source of the oscillations is identified to be loose electrical connections. Though these valves are not required for safe shutdown of the reactor, they can be initiating events for reactor transients. Until the underlying condition is solved, these oscillations represent a plant risk.

Assessment	71153
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On May 18, 2021, the U.S. Nuclear Regulatory Commission (NRC) issued a notice of violation (NOV) to Entergy Operations, Inc. (Entergy), Waterford Steam Electric Station, Unit 3 (Inspection Report 0500382/2021090 (Agencywide Documents Access and Management System (ADAMS) accession number ML21138A858). The Severity Level III NOV (EA-20-114) was associated with a contract supervisor who directed subordinate employees to perform concrete drilling in the safety-related B1 fuel oil storage tank vault cubicle concrete walls without first obtaining engineering evaluation, approval, and documentation, as required by a quality-related procedure. This resulted in the cutting of structural rebar without engineering evaluation and approval, in violation of a quality-related licensee procedure. This issue was characterized as a violation of 10 CFR Part 50, Appendix B, Criterion V.

Due to the age of the initial issue itself, when the NOV was communicated to the licensee in Inspection Report 05000382/2021090, the licensee had already performed a cause evaluation, developed, and implemented corrective actions that prevented any further violations. The NRC assessed the adequacy of the licensee's evaluation, extent of condition/cause review and associated corrective actions. The inspectors determined that the licensee performed an adequate evaluation of the specific performance issue and that comprehensive corrective actions were completed to address each of the specific causes. This finding is closed.

## EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On April 8, 2021, the inspectors presented the Evaluations of Changes, Tests and Experiments inspection results to Crystal Garbe, Director, Engineering, and other members of the licensee staff.
- On July 8, 2021, the inspectors presented the integrated inspection results to Mr. Matthew Lewis and other members of the licensee staff.

## DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Engineering Evaluations	W3F1-2017-0042	Focused Evaluation of External Flooding for Waterford Steam Electric Station, Unit 3	05/17/2017
	Procedures	EN-FAP-EP-010	Severe Weather Response	8
		OP-901-521	Severe Weather and Flooding	336 and 337
71111.04	Miscellaneous	W3-DBD-006	Main Steam System Design Basis Document	302
	Procedures	OP-005-004	Main Steam	36
		OP-009-002	Emergency Diesel Generator	358
71111.05	Fire Plans	RAB 2-001	Prefire Strategy for Elevation +46 Reactor Auxiliary Building Heating and Ventilating Mechanical Room	13
		RAB 24-001	Prefire Strategy for Elevation +46 Reactor Auxiliary Building Decontamination Area Heating, Ventilating, and Air Conditioning Area	1
		RAB 5-001	Prefire Strategy for Elevation +35 Reactor Auxiliary Building Electrical Penetration Area "B"	9
		RAB 6-001	Prefire Strategy for Elevation +35 Reactor Auxiliary Building Electrical Penetration Area "A"	9
	Procedures	NS-CP-001	Waterford-3 S.E.S. Pre Fire Strategy Condensate Polisher Building - 1st Floor	3
		NS-CP-002	Waterford-3 S.E.S. Pre Fire Strategy Condensate Polisher Building - Upper Levels	2
71111.11Q	Procedures	EN-OP-115	Conduct of Operations	28
		EP-001-001	Recognition and Classification of Emergency Conditions	35
		OP-010-003	Plant Startup	355
		OP-902-000	Standard Post Trip Actions	16
71111.12	Corrective Action Documents	CR-WF3-YYYY-NNNN	2020-07328	
71111.13	Corrective Action Documents	CR-WF3-YYYY-NNNN	2021-02346	
	Procedures	EN-MA-125	Troubleshooting Control of Maintenance Activities	26
		EN-WM-104	On-Line Risk Assessment	22
71111.15	Corrective Action Documents	CR-WF3-YYYY-NNNN	2021-00184, 2021-01896, 2021-01899, 2021-02269, 2021-02375, 2021-02412, 2021-02757, 2021-003084	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
	Miscellaneous	W3-DBD-006	Main Steam System Design Basis Document	2	
		W3-DBD-038	Control Room Safety-Related Heating, Ventilating, and Air Conditioning Design Basis Document	301	
	Operability Evaluations	CR-WF3-YYYY-NNNN	2021-01986		
	Procedures	EN-DC-310	Predictive Maintenance Program	9	
		EP-001-001	Recognition and Classification of Emergency Conditions	34	
		OP-903-013	Monthly Channel Checks	20	
	Work Orders		52958435		
71111.17T	Calculations	3T1-18	Turbine Missiles	1	
		WDI-PJF-1303505	ENGINEERING STUDY ON DISC RUPTURE AND MISSILE PROBABILITIES BASED ON VALVE INSPECTION INTERVALS	1	
	Corrective Action Documents	Condition Reports (CR-HQN-)	2019-01913		
		Condition Reports (CR-WF3-)	2016-4109, 2016-6312, 2019-07087, 2019-08040, 2021-01429, 2019-05457, 2019-02114		
	Corrective Action Documents Resulting from Inspection	Condition Reports (CR-HQN-)	2021-00607, 2021-00614, 2021-00623		
		Condition Reports (CR-WF3-)	2021-01826, 2021-01846		
	Miscellaneous	STI 19-003	Containment Spray Riser Level (Technical Specification Requirement 4.6.2.1.a)	0	
		TCAPB	Time Critical Action Program Bases	5	
		W3F1-2020-0032	Report of Facility Changes, Tests and Experiments and Commitment Changes for Two Year Period Ending April 28, 2020	04/30/2020	
	Procedures	EN-DC-115	Engineering Change Process	31	
		EN-DC-115-01	Industry Standard Design Process (IP-ENG-001, Rev 1)	0	
		EN-LI-100	Process Applicability Determination	30	
		EN-LI-101	10 CFR 50.59 Evaluations	20	
		EN-MA-133	Control of Scaffolding	22	
		EN-OP-102-01	Protective and Caution Tagging Forms & Checklist	14	
			EN-OP-115-07	Configuration Control	4



Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		EP-002-100	Technical Support Center (TSC) Activation, Operation, and Deactivation	50
		OP-100-014	Technical Specification and Technical Requirements Compliance	355
		OP-903-007	Turbine Inlet Valve Cycling Test	20
	Self-Assessments	LO-WLO-2019-00035	Regulatory Assurance – Annual PAD Self-Assessment	12/12/2019
		LO-WLO-2021-00013	Pre-Inspection Self-Assessment for NRC Inspection per Inspection Procedure (IP) 71111.17T, "Evaluations of Changes, Tests, and Experiments"	02/15/2021
Work Orders	Work Orders (WO-)	108105, 52878440, 52887244, 541703, 527140		
71111.19	Corrective Action Documents	CR-WF3-YYYY-NNNN	2021-02281, 2021-02859	
	Procedures	EN-MA-107	Post-Maintenance Testing	0
		OP-010-003	Plant Startup	336
		OP-903-013	Monthly Channel Checks	20
Work Orders		52578076, 005566440, 00560489, 00563239, 52969823		
71111.22	Procedures	OP-903-026	Emergency Core Cooling System Valve Lineup Verification	028
		OP-903-047	Emergency Feedwater Actuation Signal Test	16
	Work Orders		52897819, 52931250, 52952291	
71114.04	Calculations	WF3-EC-0000088621	Radiation Monitoring Calculations for Monitor Spans to Support EALs and Plant Operations	02/15/2021
	Corrective Action Documents	CR-WF3-YYYY-NNNN	2019-07175, 2020-06312	
	Corrective Action Documents Resulting from Inspection	CR-WF3-YYYY-NNNN	2021-02016	
	Miscellaneous		10CFR50.54(Q)(3) Evaluation: EP-001-001, Revision 34	02/18/2021
		NRC Letter to Licensee: Waterford Steam Electric Station, Unit 3 - Approval of Conversion of the Emergency Action Level Scheme to Scheme Based on Nuclear Energy Institute (NEI) 99-01, Revision 5 (TAC No. ME4726)	07/18/2011	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			10CFR50.54(Q)(3) Screening: EP-001-001, Revision 34	02/18/2021
		W3F1-2010-0052	Proposed Emergency Action Levels Using NEI 99-01 Revision 5 Scheme, Waterford Steam Electric Station Unit 3, Docket No. 50-382, License No. NPF-38	09/16/2010
		W3F1-2011-0034	Correction to Response to Request for Additional Information (RAI) on the proposed revision to the Emergency Plan (EP) Emergency Action Levels (EALs), Waterford Steam Electric Station, Unit 3 (Waterford 3), Docket No. 50-382, License No. NPF-38	05/04/2011
	Procedures	EP-001-001	Recognition and Classification of Emergency Conditions	34
		EP-001-001	Recognition and Classification of Emergency Conditions	33
71151	Procedures	EN-LI-114	Regulatory Performance Indicator Process	17
71152	Corrective Action Documents	CR-WF3-YYYY-NNNN	2020-06336	