



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

November 01, 2022

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

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 INTEGRATED INSPECTION
REPORT 05000382/2022003

Dear John Ferrick:

On September 30, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Waterford Steam Electric Station, Unit 3. On October 18, 2022, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

No findings or violations of more than minor significance were identified during this inspection.

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,

A handwritten signature in black ink, appearing to read "John L. Dixon, Jr.".

Signed by Dixon, John
on 11/01/22

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

Docket No. 05000382
License No. NPF-38

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

WATERFORD STEAM ELECTRIC STATION, UNIT 3 INTEGRATED INSPECTION
REPORT 05000382/2022003 DATED NOVEMBER 01, 2022

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Document: Waterford Steam Electric Station, Unit 3 –Integrated Inspection Report 05000382/2022003

Non-Public Designation Category: MD 3.4 Non-Public _____ (A.3 - A.7 or B.1)

ADAMS ACCESSION NUMBER: **ML22300A103**

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number: 05000382

License Number: NPF-38

Report Number: 05000382/2022003

Enterprise Identifier: I-2022-003-0007

Licensee: Entergy Operations, Inc.

Facility: Waterford Steam Electric Station, Unit 3

Location: Killona, LA 70057

Inspection Dates: July 1, 2022, to September 30, 2022

Inspectors: D. Childs, Resident Inspector
T. Farina, Senior Operations Engineer
A. Patz, Senior Resident Inspector

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

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

No findings or violations of more than minor significance were identified.

Additional Tracking Items

None.

PLANT STATUS

Unit 3 began the inspection period at rated thermal power and remained at or near rated thermal power for 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 performed activities described in IMC 2515, Appendix D, "Plant Status," observed risk significant activities, and completed on-site portions of IPs. 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.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

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

- (1) The inspectors evaluated the adequacy of the overall preparations to protect risk-significant systems from seasonal heavy rains and severe weather due to potential for hurricane development on August 31, 2022.

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) emergency feedwater system trains A, B, and AB during and following maintenance on emergency feedwater pump B on July 28, 2022
- (2) emergency diesel generator system train B while train A was inoperable during surveillance testing on September 6, 2022

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (6 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 area RAB 2-002, elevation +46.00' reactor auxiliary building main steam isolation valve passage and fire area RAB 3A-003, elevation +21.00' reactor auxiliary building vestibule on July 6, 2022
- (2) fire area RAB 32-001, elevation -35.00' auxiliary component cooling water room and pipe penetration area on July 18, 2022
- (3) fire area RAB 8B-001, elevation +21.00' reactor auxiliary building switchgear room B on August 12, 2022
- (4) fire area RAB 17-001, elevation +21.00' reactor auxiliary building component cooling water pump B room, and fire area RAB 21-001, elevation +21.00' reactor auxiliary building component cooling water heat exchanger B room, on September 1, 2022
- (5) fire area RAB 8A-001, elevation +21.00' reactor auxiliary building switchgear room A on September 2, 2022
- (6) fire area RAB 25-001, elevation +21.00' reactor auxiliary building decon area on September 27, 2022

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) elevation +21.00' component cooling water pump and heat exchanger areas on September 1, 2022

71111.11A - Licensed Operator Requalification Program and Licensed Operator Performance

Requalification Examination Results (IP Section 03.03) (1 Sample)

- (1) The inspectors reviewed and evaluated the licensed operator examination failure rates for the requalification annual operating exams administered on August 30, 2022.

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

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

- (1) The inspectors observed and evaluated licensed operator simulator training on September 20, 2022.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (2 Samples)

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

- (1) engineered safety features actuation system train B following auxiliary component cooling water pump B failure to start during testing on September 21, 2022
- (2) control room air handling system train B following failure of an electric relay on September 30, 2022

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) elevated green risk for motor-driven emergency feedwater pump B outage during the week of July 25, 2022
- (2) planned yellow risk due to low-pressure safety injection and containment spray train B outages during the week of August 8, 2022
- (3) elevated green risk due to unexpected plant protection system power supply failure during the week of September 6, 2022

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) component cooling water system following identification of inleakage on July 28, 2022
- (2) reactor trip circuit breakers following surveillance failure on August 5, 2022
- (3) feedwater ultrasonic flow meter following erratic indication and repair difficulties on September 8, 2022
- (4) containment fan cooler train B following loss of motor control center 317B on September 22, 2022
- (5) offsite power following automatic isolation of west switchyard bus on September 29, 2022

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (6 Samples)

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

- (1) emergency feedwater pump A after planned maintenance on the motor on July 6, 2022
- (2) emergency feedwater pump B after planned maintenance on July 28, 2022
- (3) low-pressure safety injection train A header to reactor coolant loop 2A flow control valve SI-139A following planned maintenance on August 9, 2022
- (4) containment spray train A header isolation valve CS-125A following planned solenoid replacements on August 11, 2022
- (5) component cooling water pump B following corrective maintenance on August 18, 2022
- (6) plant stack wide range radiation monitors following identification of incorrect reference values on September 9, 2022

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance testing activities to verify system operability and/or functionality:

Surveillance Tests (other) (IP Section 03.01) (2 Samples)

- (1) dry cooling tower A diesel driven sump pump surveillance testing on August 31, 2022
- (2) containment spray pump surveillance testing on September 29, 2022

Inservice Testing (IP Section 03.01) (1 Sample)

- (1) steam generator 2 atmospheric dump valve inservice testing on July 21, 2022

71114.06 - Drill Evaluation

Drill/Training Evolution Observation (IP Section 03.02) (1 Sample)

The inspectors evaluated:

- (1) a full site integrated drill for a simulated site area emergency on September 13, 2022

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS08: Heat Removal Systems (IP Section 02.07) (1 Sample)

- (1) Unit 3 (July 1, 2021, through June 30, 2022)

MS09: Residual Heat Removal Systems (IP Section 02.08) (1 Sample)

- (1) Unit 3 (July 1, 2021, through June 30, 2022)

MS10: Cooling Water Support Systems (IP Section 02.09) (1 Sample)

- (1) Unit 3 (July 1, 2021, through June 30, 2022)

71152S - Semiannual Trend Problem Identification and Resolution

Semiannual Trend Review (Section 03.02) (1 Sample)

- (1) The inspectors reviewed the licensee's corrective action program and maintenance rule tracking program for potential adverse trends in radiation monitor equipment performance and corrective actions that might be indicative of a more significant safety issue.

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On August 30, 2022, the inspectors presented the annual requalification exam inspection results to Van Ford, Superintendent, Operations Training, and other members of the licensee staff.
- On October 18, 2022, the inspectors presented the integrated inspection results to John Ferrick and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Engineering Evaluations	W3F1-2015-0042	Flood Hazard Reevaluation Report	07/21/2015
71111.01	Procedures	OP-901-521	Severe Weather and Flooding	340
71111.04	Procedures	OP-009-002	Emergency Diesel Generator	360
71111.04	Procedures	OP-009-003	Emergency Feedwater	312
71111.05	Calculations	ECF91-010	Combustible Loading Calculation for Fire Area RAB 8	4
71111.05	Corrective Action Documents	CR-WF3-YYYY-NNNN	2022-05705	
71111.05	Fire Plans	RAB 17-001	Component Cooling Water Heat Exchanger B Fire Plan	9
71111.05	Fire Plans	RAB 2-002	Main Steam Isolation Valve Passage	7
71111.05	Fire Plans	RAB 21-001	Component Cooling Water Pump B Fire Plan	9
71111.05	Fire Plans	RAB 25-001	RAB +21 Decon Area	9
71111.05	Fire Plans	RAB 32-001	Auxiliary Component Cooling Water Room & Pipe Penetration Area	11
71111.05	Fire Plans	RAB 3A-003	Vestibule	4
71111.05	Fire Plans	RAB 8A-001	Switchgear Room A	13
71111.05	Fire Plans	RAB 8B-001	Reactor Auxiliary Building +21.00' elevation	14
71111.05	Miscellaneous	TCP 22-110	Transient Combustible Permit for Fire Area RAB 8	04/11/2022
71111.05	Miscellaneous	TCP 22-116	Transient Combustible Permit for Fire Zone RAB 8A	04/18/2022
71111.05	Procedures	EN-DC-161	Control of Combustibles	24
71111.05	Procedures	EN-DC-161	Control of Combustibles	25
71111.05	Procedures	MM-006-106	Plant Door Maintenance	335
71111.05	Work Orders		52969317	
71111.06	Calculations	MNQ3-5	Flooding Analysis Outside Containment	6
71111.11A	Miscellaneous	N/A	2022 Annual NRC Operating Test Results	08/29/2022
71111.11Q	Procedures	EN-TQ-100	Operations Training Program Description	3
71111.11Q	Procedures	OP-902-000	Standard Post Trip Actions	17
71111.11Q	Procedures	OP-902-003	Loss of Offsite Power / Loss of Forced Circulation	11
71111.12	Corrective Action Documents	CR-WF3-YYYY-NNNN	2022-1562, 2022-3627, 2022-04666	
71111.12	Miscellaneous	SD-CC	Component Cooling Water	25

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.12	Miscellaneous	SD-PPS	Plant Protection System	22
71111.12	Miscellaneous	W3-DBD-38	Safety Related HVAC - Control Room	302
71111.12	Procedures	EN-FAP-LI-001	Performance Improvement Review Group (PRG) Process	19
71111.12	Procedures	EN-LI-102	Corrective Action Program	47
71111.12	Procedures	EN-LI-118	Causal Evaluation Process	35
71111.12	Procedures	OP-903-068	Emergency Diesel Generator and Subgroup Relay Operability Verification	326
71111.13	Corrective Action Documents	CR-WF3-YYYY-XXXXX	2022-06304	09/06/2022
71111.13	Miscellaneous		Tagout : 2022-0106-LPSI Pump A	08/09/2022
71111.13	Miscellaneous		Tagout: 2022-0107-CS Train A	08/09/2022
71111.13	Miscellaneous		Tagout: 2022-0108-	0809/2022
71111.13	Procedures	EN-OP-119	Protected Equipment Postings	16
71111.13	Work Orders		52980548, 52988875	
71111.13	Work Orders		53000802	09/06/2022
71111.15	Corrective Action Documents	CR-WF3-YYYY-XXXXX	2022-5674	08/05/2022
71111.15	Engineering Changes	ER-W3-2002-0519-000	Install Software to Improve Path Reliability on LEFM	10/31/2002
71111.15	Miscellaneous	DES-I-018	Feedwater Flow Measurement Instrumentation Specification for Main Feedwater System	0
71111.15	Miscellaneous	DES-I-018	Feedwater Flow Measurement Instrumentation Specification for Main Feedwater System	0
71111.15	Miscellaneous	Technical Requirements Manual 0	Technical Requirements Manual - Amendment 17	177
71111.19	Procedures	ME-004-330	4kV Induction Motor Maintenance	304
71111.19	Procedures	ME-007-008	Motor Operated Valves	20
71111.19	Procedures	MI-004-644	Testing of Solenoid Valves	1
71111.19	Procedures	OP-903-050	Component Cooling Water and Auxiliary Component Cooling Water Pump and Valve Operability Test	44
71111.19	Procedures	OP-903-121	Safety Systems Quarterly IST Valve Tests	35
71111.19	Work Orders		52988875, 52952762, 52980548, 52946634, 52953000,	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			52946634, 53006370	
71111.22	Corrective Action Documents	CR-WF3-YYYY-NNNN	2019-3025, 2019-3164, 2020-5920, 2020-6021, 2020-7200, 2021-0344, 2022-1819, 2022-4487	
71111.22	Engineering Changes	EC 88384	Operability Input to CR-WF3-2020-6021	10/25/2020
71111.22	Engineering Changes	EC 88921	Rebaseline MS-116B	01/25/2021
71111.22	Engineering Changes	ECM97-059	Design Basis Review for Atmospheric Dump Valves MS-116A and MS-116B	001
71111.22	Procedures	CEP-IST-4	Standard on Inservice Testing	311
71111.22	Procedures	ECS09-005	Air Operated Valves - Design Basis Accident Times	001
71111.22	Procedures	OP-100-014	Technical Specification and Technical Requirements Compliance	364
71111.22	Procedures	OP-903-035	Containment Spray Pump Operability Check	34
71111.22	Procedures	OP-903-120	Containment and Miscellaneous Systems Quarterly IST Valve Tests	035
71111.22	Procedures	SEP-WF3-IST-1	WF3 Inservice Testing Bases Document	010
71111.22	Procedures	SEP-WF3-IST-2	WF3 Inservice Testing Plan	011
71111.22	Procedures	W4-DBD-6	Main Steam System - design basis document	302
71111.22	Work Orders		52894192, 52955201, 52860841, 53002488, 552605, 52715847	