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

May 06, 2024

Joseph Sullivan, Site Vice President
Entergy Operations, Inc.
17265 River Road
Killona, LA 70057

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 – INTEGRATED INSPECTION REPORT 05000382/2024001

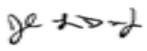
Dear Joseph Sullivan:

On March 31, 2024, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Waterford Steam Electric Station, Unit 3. On April 17, 2024, the NRC inspectors discussed the results of this inspection with David Oertling, General Manager of Plant Operations, 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,



Signed by Dixon, John
on 05/06/24

John L. Dixon, Jr, Chief
Reactor 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 05000382/2024001 DATED MAY 06, 2024

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ADAMS ACCESSION NUMBER: **ML24122A707**

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number:	05000382
License Number:	NPF-38
Report Number:	05000382/2024001
Enterprise Identifier:	I-2024-001-0005
Licensee:	Entergy Operations, Inc.
Facility:	Waterford Steam Electric Station, Unit 3
Location:	Killona, LA 70057
Inspection Dates:	January 1, 2024, to March 31, 2024
Inspectors:	D. Childs, Senior Resident Inspector R. Kopriva, Senior Project Engineer A. Patz, Executive Technical Assistant A. Sanchez, Senior Project Engineer C. Speer, Project Manager
Approved By:	John L. Dixon, Jr., Chief Reactor 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

Type	Issue Number	Title	Report Section	Status
LER	05000382/2023-002-00	Plant Shutdown Required by Technical Specifications for Unidentified Reactor Coolant System Leakage in Containment	71153	Closed

PLANT STATUS

Waterford, Unit 3, began the inspection period shutdown for refueling outage 25 in Mode 4 and heated up to Mode 3 for turbine generator testing on January 1, 2024. After the completion of testing the unit was returned to Mode 5 on January 4, 2024. The unit remained shut down until beginning plant startup on January 23, 2024, reaching 100 percent power on February 9, 2024. The unit was manually tripped offline on March 16, 2024, after an equipment failure caused main feedwater isolation valve 2 to start closing. After replacement of the failed equipment, the unit was returned to 98 percent power on March 21, 2024. Later that same day the reactor automatically tripped due to a partial loss of offsite power from a fire in main transformer B. The unit entered Mode 5 on March 22, 2024, and remained in Mode 5 for 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 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

Impending Severe Weather Sample (IP Section 03.02) (1 Sample)

(1) The inspectors evaluated the adequacy of the overall preparations to protect risk -significant systems from impending severe weather and tornadic conditions on January 8, 2024.

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) auxiliary component cooling water system train A while train B was out of service for planned maintenance on February 15, 2024

(2) emergency diesel generator A while emergency diesel generator B was supplying power to the B safety bus during an unplanned outage on March 27, 2024

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (5 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 3A-002, elevation +46.00' reactor auxiliary building vestibule, and RAB 3A-004, elevations -4.00' to +7.00' to +46.00' reactor auxiliary building heating, ventilating, and air conditioning plenum on January 3, 2024
(2) fire area RAB 8A-001, elevation +21.00' switchgear room A on January 25, 2024
(3) fire area RAB 7-001, elevation +35.00' reactor auxiliary building relay room on February 29, 2024
(4) fire area RAB 2-001, elevation +46.00' reactor auxiliary building H&V mechanical room on March 1, 2024
(5) fire areas RAB 11-001, 12-001, and 13-001, elevation +21.00' reactor auxiliary building battery rooms 3A, 3B, and 3AB on March 5, 2024

71111.06 - Flood Protection Measures

Flooding Sample (IP Section 03.01) (1 Sample)

(1) The inspectors evaluated internal flooding mitigation protections in zone 5 hallway/open rooms on -35' elevation of the reactor auxiliary building.

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 ascension to criticality on February 1, 2024.

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

(1) The inspectors observed and evaluated simulator training for plant startup following refueling outage on January 18, 2024.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (3 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) emergency diesel generator A following planned maintenance to replace the hydraulic governor on January 11, 2024
(2) main steam isolation valve 1 after failed valve stroke time test on February 27, 2024

(3) control room habitability after smoke test failures on March 28, 2024

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) yellow risk due to planned outage of auxiliary component cooling water system train A and safety related 4160 Vac bus swap of 3AB/31AB from train A to train B from February 14-15, 2024
(2) yellow risk due to heavy lift work in the Waterford 3 switchyard concurrent with an unplanned outage of emergency diesel generator B from February 22-23, 2024
(3) yellow risk due to lite lift work in the Waterford 3 transformer yard concurrent with a planned outage of high-pressure safety injection pump B from March 13-14, 2024

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (4 Samples)

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

(1) diesel driven fire pumps 1 and 2 functionality assessment due to identification of failed radiator preheaters on January 22, 2024
(2) control room envelope operability determination due to the failure of door 261 on February 1, 2024
(3) emergency diesel generator B operability determination due to the identification of a jacket water system leak on the turbo charger piping on February 21, 2024
(4) emergency diesel generator B operability determination due to the identification of an oil leak upstream of the intake silencer on March 11, 2024

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

(1) engineered safety feature actuation system cabinet permanent modification after identification that fire seals were not installed in conduits on February 28, 2024

71111.20 - Refueling and Other Outage Activities

Refueling/Other Outage Sample (IP Section 03.01) (1 Sample)

(1) The inspectors evaluated refueling outage 25 activities from January 1, 2024, to February 5, 2024, which completes the partial sample documented in Waterford Inspection Report 05000382/2023004, Section 71111.20.

(2) (Partial)
The inspectors evaluated forced outage activities from March 22, 2024, to the end of the inspection period, March 31, 2024. This sample will be closed in a future inspection report.

71111.24 - Testing and Maintenance of Equipment Important to Risk

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

Post-Maintenance Testing (PMT) (IP Section 03.01) (3 Samples)

(1) turbine driven emergency feedwater pump AB after overhaul during refueling outage on January 2, 2024
(2) emergency diesel generator A after replacement of the governor on January 11, 2024
(3) auxiliary component cooling water system train A after planned maintenance on February 15, 2024

Surveillance Testing (IP Section 03.01) (4 Samples)

(1) plant protection system reactor trip on turbine trip functional testing on core protection calculators A, B, C, and D on February 7, 2024
(2) plant protection system channels A, B, C, and D functional test on March 7, 2024
(3) containment spray pump B operability test on March 12, 2024
(4) atmospheric dump valves 1 and 2 surveillance testing prior to plant startup on March 18, 2024

Inservice Testing (IST) (IP Section 03.01) (2 Samples)

(1) emergency feedwater system train A flow control and isolation valves, quarterly in-service testing on March 4, 2024
(2) component cooling water pump AB on March 13, 2024

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

IE01: Unplanned Scrams per 7000 Critical Hours Sample (IP Section 02.01) (1 Sample)

(1) January 1, 2023, through December 31, 2023

IE03: Unplanned Power Changes per 7000 Critical Hours Sample (IP Section 02.02) (1 Sample)

(1) January 1, 2023, through December 31, 2023

IE04: Unplanned Scrams with Complications (USwC) Sample (IP Section 02.03)

(1) January 1, 2023, through December 31, 2023

(2)

71152A - Annual Follow-up Problem Identification and Resolution

Annual Follow-up of Selected Issues (Section 03.03) (1 Sample)

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

(1) reactor coolant system leak in an instrument tubing line downstream of reactor coolant pump 1B differential pressure transmitter isolation valve, RC-114B, that resulted in an unplanned shutdown for repairs on February 8, 2024

71153 - Follow Up of Events and Notices of Enforcement Discretion

Event Follow up (IP Section 03.01) (2 Samples)

(1) The inspectors evaluated the licensee's response to an unplanned closure of main steam isolation valve 2 and main feed isolation valve 2 and licensee's performance on March 16, 2024.
(2) The inspectors evaluated the licensee's response to a partial loss of offsite power from a fire in main transformer B and licensee's performance on March 21, 2024.

Event Report (IP Section 03.02) (1 Sample)

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

(1) LER 05000382/2023-002-00, Plant Shutdown Required by Technical Specifications for Unidentified Reactor Coolant System Leakage in Containment (ADAMS Accession No. ML23129A791). The inspectors determined that the cause of the condition described in the LER was not reasonably within the licensee's ability to foresee and correct, and therefore was not reasonably preventable. No performance deficiency or violation of NRC requirements was identified. This LER is Closed.

Reporting (IP Section 03.05) (1 Sample)

The inspectors evaluated the following licensee event notifications (EN):

(1) EN 57042, Notification of Unusual Event Due to Fire in the Protected Area. This EN was submitted and subsequently retracted by licensee correspondence titled "Retraction of Notice of Unusual Event on 03/26/24 at 1721 from L. Brown to K. Cotton," dated March 26, 2024 (Updated EN 57042). No performance deficiency or violation of NRC requirements was identified.

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On April 17, 2024, the inspectors presented the integrated inspection results to David Oertling, General Manager of Plant Operations, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Procedures	OP-901-521	Severe Weather and Flooding	343
71111.04	Corrective Action Documents	CR-WF3-YYYY-NNNN	2024-00145, 2024-00650, 2023-14867, 2023-15951	
71111.04	Procedures	OP-002-001	Auxiliary Component Cooling Water	320
71111.04	Procedures	OP-009-002	Emergency Diesel Generator	360
71111.05	Fire Plans	RAB 11-001	Battery Room 3B	8
71111.05	Fire Plans	RAB 12-001	Battery Room 3AB	8
71111.05	Fire Plans	RAB 13-001	Battery Room 3A	8
71111.05	Fire Plans	RAB 2-001	H&V Mechanical Room Reactor Auxiliary Building +46.00' Elevation	15
71111.05	Fire Plans	RAB 3A-004	Reactor Auxiliary Building -4.00' to +7.00' to +46.00' Elevations HVAC Plenum	3
71111.05	Fire Plans	RAB 7-001	Reactor Auxiliary Building +35.00' Elevation Relay Room	13
71111.05	Fire Plans	RAB 8A-001	Switchgear Room A	13
71111.05	Fire Plans	RAB-3A-002	Reactor Auxiliary Building +46.00 Elevation Vestibule	4
71111.06	Calculations	MNQ3-5	Flooding Analysis Outside of Containment	6
71111.11Q	Procedures	NE-002-002	Variable Taverage Test	2
71111.11Q	Procedures	OP-005-007	Main Turbine and Generator	313
71111.11Q	Procedures	OP-010-003	Plant Startup	366
71111.12	Corrective Action Documents	CR-WF3-YYYY-NNNN	2022-02759, 2022-05580, 2022-06601, 2022-08221, 2023-01057, 2023-13241, 2023-14864, 2023-16255	
71111.12	Corrective Action Documents	CR-WF3-YYYY-NNNN	14603, 14604, 14606	
71111.12	Engineering Changes	EC# 0054003619	Relaxation of Thermal Performance Testing Frequency for ACCW System per GL 89-13.	01/31/2024
71111.12	Procedures	CEP-IST-004	Standard on Inservice Testing	313
71111.12	Procedures	EN-DC-177	Control Room Habitability Program	6
71111.12	Procedures	EN-DC-205	Maintenance Rule Monitoring	9
71111.12	Procedures	MM-006-106	Plant Door Maintenance	335
71111.12	Procedures	OP-903-033	Cold Shutdown IST Valve Testing	61

71111.12	Procedures	PE-005-042	Control Room Habitability	002
71111.12	Work Orders		536720, 54054584	
71111.13	Corrective Action Documents	CR-WF3-YYYY-NNNN	2024-01017	
71111.13	Procedures	EN-OP-119	Protected Equipment Postings	18
71111.13	Procedures	EN-WM-104	On Line Risk Assessment	27
71111.13	Procedures	OI-037-000	Operations Risk Assessment Guideline	321
71111.13	Work Orders		53025665, 54091298, 54123122	

71111.15	Corrective Action Documents	CR-WF3-YYYY-NNNN	2023-13488, 2024-00265, 2024-00266, 2023-14604, 2023-14606, 2024-01017	
71111.15	Engineering Changes	EC 0000016027	NFPA 20, 1972 Edition "Standard for the Installation of Centrifugal Fire Pumps" Code Compliance Evaluation Engineering Report (Report WF3-FP-10-00015)	07/13/2011
71111.15	Miscellaneous	FSAR	Updated Final Safety Analysis Report	371
71111.15	Miscellaneous	TD-D302.0015	Detroit Diesel Inline Series 71 Service Manual	1
71111.15	Miscellaneous	W3-DBD-002	Emergency Diesel Generator & Automatic Load Sequencer	306
71111.15	Miscellaneous	W3-DBD-018	Fire Protection Upper-Level Design Basis Document	3
71111.15	Procedures	EN-DC-177	Control Room Habitability Program	6
71111.15	Procedures	EN-OP-104	Operability Determination Process	19
71111.15	Procedures	PE-005-0042	Control Room Habitability	2
71111.18	Corrective Action Documents	CR-WF3-YYYY-NNNN	2023-15383, 2023-15990, 2023-17399, 2023-17534	
71111.18	Engineering Changes	54083578	Fire Seals in ESFAS ARC A & B for Bay Separation	0
71111.18	Engineering Evaluations	C-CD-9210	Failure Analysis - Auxiliary Relay Cabinet - ESFAS Cycling Relays	07/24/1984
71111.18	Miscellaneous	W3-DBD-018	Fire Protection Upper-Level Design Basis Document	3
71111.20	Corrective Action Documents	CR-WF3-YYYY-NNNN	2023-17095, 2023-17112, 2023-17122	
71111.20	Procedures	EN-OM-123	Fatigue Management Program	20
71111.24	Corrective Action Documents	CR-WF3-YYYY-XXXX	2024-01385	
71111.24	Procedures	ME-004-021	Emergency Diesel Generator	41
71111.24	Procedures	OP-002-003	Operating Procedure Component Cooling Water (Steps 6.4	322

			and 6.5)	
71111.24	Procedures	OP-009-002	Emergency Diesel Generator	360
71111.24	Procedures	OP-903-033	Cold Shutdown IST Valve Tests	62
71111.24	Procedures	OP-903-046	Emergency Feed Pump Operability Check	325
71111.24	Procedures	OP-903-050	Component Cooling Water and Auxiliary Component Cooling Water Pump and Valve Operability Test	47
71111.24	Procedures	OP-903-107	Plant Protection System Channel A B C C Functional Test	318
71111.24	Procedures	OP-903-115	Train A Integrated Emergency Diesel Generator/Engineering Safety Features Test	59
71111.24	Procedures	OP-903-118	Primary and Auxiliaries Quarterly IST Valve Tests	65
71111.24	Procedures	OP-903-121	Safety Systems Quarterly IST Valve Tests	36
71111.24	Procedures	OP-904-010	Reactor Trip on Turbine Trip Channel _A _B _C _D Functional Test	9
71111.24	Work Orders		54050174, 53020204, 54084397, 54093512, 54093227, 54091298	
71152A	Corrective Action Documents	CR-WF3-YYYY-NNNN	2016-06698, 2023-01181, 2023-01200, 2023-01208, 2023-01232, 2023-01329, 2023-01815	
71152A	Procedures	OP-901-111	Reactor Coolant System Leak	307
71152A	Work Orders		592848, 592859	