



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

December 09, 2021

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

**SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 – TRIENNIAL FIRE
PROTECTION INSPECTION REPORT 05000382/2021010**

Dear Mr. Ferrick:

On November 4, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Waterford Steam Electric Station, Unit 3 and discussed the results of this inspection with M. Lewis, General Manager 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,

Nicholas
H. Taylor
Digitally signed by
Nicholas H. Taylor
Date: 2021.12.09
14:59:53 -06'00'

Nicholas H. Taylor, Chief
Engineering Branch 2
Division of Reactor Safety

Docket No. 05000382
License No. NPF-38

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

WATERFORD STEAM ELECTRIC STATION, UNIT 3 – TRIENNIAL FIRE PROTECTION INSPECTION REPORT 05000382/2021010 – DATED DECEMBER 09, 2021

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SUNSI Review ADAMS: Non-Publicly Available Non-Sensitive Keyword:
 By: GAP Yes No Publicly Available Sensitive NRC-002

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

Docket Number: 05000382

License Number: NPF-38

Report Number: 05000382/2021010

Enterprise Identifier: I-2021-010-0010

Licensee: Entergy Operations, Inc

Facility: Waterford Steam Electric Station, Unit 3

Location: Killona, LA

Inspection Dates: October 17, 2021 to November 4, 2021

Inspectors: S. Makor, Reactor Inspector
J. Mateychick, Senior Reactor Inspector
G. Pick, Senior Reactor Inspector

Accompanying
Personnel: M. Chisolm, Reactor Inspector

Approved By: Nicholas H. Taylor, Chief
Engineering Branch 2
Division of Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a triennial fire protection 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.

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), inspectors were directed to begin teleworking. In addition, regional baseline inspections were evaluated to determine if all or a portion of the objectives and requirements stated in the inspection procedure could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable inspection procedure. In some cases, portions of an inspection procedure were completed remotely and on site. The inspections documented below met the objectives and requirements for completion of the inspection procedure.

REACTOR SAFETY

71111.21N.05 - Fire Protection Team Inspection (FPTI)

Structures, Systems, and Components (SSCs) Credited for Fire Prevention, Detection, Suppression, or Post-Fire Safe Shutdown Review (IP Section 03.01) (4 Samples)

The inspectors verified that components and/or systems will function as required to support the credited functions stated for each sample. Additional inspection considerations are in the nuclear safety capability assessment.

- (1) Verified that operator recovery actions can be accomplished as assumed in the fire probabilistic risk assessment analysis and nuclear safety capability assessment.
- (2) Walked down the fire water system components including the fire water tank and fire pumps to inspect for deficient conditions.
- (3) Evaluated readiness of the fire suppression system protecting the essential switchgear room (Fire Area 8A) and the cable spreading room (Fire Area 1E).
- (4) Ensured that post maintenance and surveillance activities for the selected fire areas and fire water systems were performed as scheduled.

Fire Protection Program Administrative Controls (IP Section 03.02) (2 Samples)

The inspectors verified that the selected control or process is implemented in accordance with the licensee's current licensing basis. If applicable, ensure that the licensee's fire protection program contains adequate procedures to implement the selected administrative control. Verify that the selected administrative control meets the requirements of all committed industry standards.

- (1) Reviewed fire protection combustible control, fire impairment, and hot work control programs.

- (2) Ensured that the fire brigade training program met requirements and readiness of the licensee to combat fires.

Fire Protection Program Changes/Modifications (IP Section 03.03) (1 Sample)

The inspectors verified the following:

- (1) Reviewed fire protection configuration review requests associated with plant modifications.

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On November 4, 2021, the inspectors presented the triennial fire protection inspection results to M. Lewis, General Manager Plant Operations and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.21N.05	Calculations	ECF 09-005	NFPA-805 Transition, Non-Power Operating Mode (NPO)	3
		ECF 10-002	WF3 Fire Area RAB-1 Fire Risk Evaluation	3
		ECF 13-001	Nuclear Safety Capability Assessment (NSCA)	2
		ECF 14-006	WF3 Fire Safety Analysis - Fire Area RAB 1	2
		ECF 14-014	WF3 Fire Safety Analysis - Fire Area RAB 8	2
		ECF 14-043	WF3 Fire Safety Analysis - Fire Area RAB 39	1
		MNQ3-5	Flooding Analysis Outside Containment	5
		PSA-WF3-03-FQ-01	WF3 Fire PRA Quantification Report	0
	Corrective Action Documents	Condition Reports (CR-WF3-)	2019-08280, 2021-00167, 2021-00563, 2021-00588, 2021-00852, 2021-00975, 2021-01434, 2021-01712, 2021-01771, 2021-02352, 2021-03268	
	Corrective Action Documents Resulting from Inspection	Condition Reports (CR-WF3-)	2021-05771, 2021-05775, 2021-05812, 2021-05822, 2021-05830, 2021-05834, 2021-05941, 2021-05981, 2021-05983, 2021-06185	
	Drawings	G161 Sheet 1	Flow Diagram Fire, Make-Up & Domestic Water Systems	40
		G161 Sheet 3	Flow Diagram Fire, Make-Up & Domestic Water Systems	31
		G161 Sheet 5	Flow Diagram Fire, Make-Up & Domestic Water Systems	7
	Engineering Changes	EC 62555	Addition of Supplemental Fuel Oil Storage Tanks and Assignment to a Plant Analysis Area	
		EC 73898	Upgrade of Main Condenser Cathodic Protection System	
		EC 75095	Design Equivalent Replacement of a 6" Butt Welded Fire Protection Gate Isolation Valve with an Equivalent 6" Flanged Gate Isolation Valve	0
		EC 75097	Design Equivalent Replacement of a 10" Butt Welded Fire Protection Gate Isolation Valve with an Equivalent 10" Flanged Gate Isolation Valve	0
		EC 75099	Design Equivalent Replacement of a 2 1/2" Butt Welded Fire Protection Gate Isolation Valve with an Equivalent 2 1/2" Flanged Gate Isolation Valve	0
		EC 75100	Design Equivalent Replacement of a 4" Butt Welded Fire	0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Protection Gate Isolation Valve with an Equivalent 4" Flanged Gate Isolation Valve	
		EC 75101	Design Equivalent Replacement of a 8" Butt Welded Fire Protection Gate Isolation Valve with an Equivalent 8" Flanged Gate Isolation Valve	0
		EC 80996	Temporary Modification to provide temporary power to 125kva Swing SUPS and 64kw load bank equipment in Fire Zone RAB8C to support EDG testing	0
		EC 85856	FPEE on Fire Barrier between RAB 40/41 and CTA/CTB Adequate for Hazard Evaluation	0
	Engineering Evaluations	EC 31230	Evaluate the fire resistance rating for the Pioneer fire doors that are installed in fire barriers but were unable to obtain a UL label from the manufacturer	0
		EC 78077	Fire Protection Valve Replacement Engineering Standard	0
		OE-NOE-2019-00273	Inspection Report Severity Level IV 05000416/2019002-01	0
		OE-NOE-2020-0026	CR-RBS-2019-06526, NCV Green	0
		OE-NOE-2021-00018	NRC IN 2020-04	0
		PRA-W3-05-100	Waterford 3 Fire Risk Evaluation Quantification and Analysis Report	0
		PRA-WF3-03-FQ-01	Waterford 3 Fire PRA Quantification Report	0
		PSA-WF3-03-FSS-02	Waterford 3 PSA Fixed Ignition Source Zone of Influence Methods	0
		WA-01130736	Evaluation for "Gap Seal" Configuration at Block Wall/Ceiling Interfaces	0
		WF3-EO-19-00004	Review of the Buried and Underground Piping and Tanks Inspection Program for License Renewal Implementation	1
		WF3-EP-10-00013	Review of the Fire Protection Program for License Renewal Implementation	0
WF3-EP-19-00013	Review of the Fire Protection Program for License Renewal Implementation	0		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
		WF3-EP-19-00014	Review of Fire Water System Program for License Renewal Implementation	0	
		WF3-FP-09-00001	National Fire Protection Association NFPA 805 Nuclear Safety Capability Assessment (Table B-2)	2	
		WF3-FP-10-00003	Fire Protection Engineering Evaluation for "Minimum Spacing Between Sprinkler Heads"	0	
		WF3-FP-11-00003	WF3 Review and Evaluation of Fire Protection Engineering Evaluations for NFPA 805 Transition	0	
		WF3-FP-13-00003	Recovery Action Feasibility & Reliability Review	1	
		WF3-FP-13-00004	Waterford 3 Defense in Depth Report for NFPA 805	2	
		WF3-FP-13-00006	Evaluation of Fire Area Boundaries	1	
		WF3-FP-15-00003	NFPA 805 Monitoring Program Phase 2: Qualitative Screening and Risk Target Values	4	
		WF3-FP-15-00004	NFPA 805 Monitoring Program Phase: Qualitative Screening Results	4	
		WF3-FP-15-00006	NFPA 805 Monitoring Program Expert Panel Documentation	3	
		WF3-FP-16-00002	NFPA 805 Risk Informed Compensatory Measure Review	1	
		WF3-FP-18-00002	Risk Assessment of WF3 Computer and Security Swing SUPS EC 74123	0	
		Miscellaneous	552759	Hot Work Permit for Valve Pit 1	05/17/2021
			Engineering Standard EN-FP-S-003-W	Fire Protection Valve and Pipe Fitting Replacements	0
		EOS 20-0255	Equipment Out of Service Checklist	0	
		Fire Drill	2nd Quarter Announced Fire Drill Shift A	05/09/2021	
		Fire Drill	Second Quarter Announced Fire Drill Shift E	05/09/2021	
		Fire Drill	2nd Quarter Unannounced Fire Drill Shift B	05/21/2021	
		Fire Drill	Third Quarter Announced Fire Drill Shift C	07/16/2021	
	Fire Drill	Third Quarter Announced Fire Drill Shift D	07/16/2021		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Fire Drill	Unannounced Fire Drill Shift C	02/07/2021
		Fire Drill	2nd Quarter Unannounced Fire Drill Shift B	04/20/2021
		Fire Drill	First Quarter Announced Fire Drill	01/17/2021
		Fire Impairment 20-105	Diesel Fire Pump B	0
		LBDCR 2020-010	Licensing Basis Document Change Request to Update Fire Protection Monitoring Requirements in the Technical Requirements Manual	04/22/2020
		Letter W3F1-2013-0048	Supplement to NFPA 805 License Amendment Request (LAR) Waterford Steam Electric Station, Unit 3 (Waterford 3)	12/18/2013
		Letter W3F1-2016-0003	Revised Licensing Actions and Implementation Items Regarding Adoption of National Fire Protection Association Standard NFPA 805 License Amendment Request (LAR) Waterford Steam Electric Station, Unit 3 (Waterford 3)	01/18/2016
		NEI 04-02	Guidance for Implementing a Risk-Informed, Performance-Based Fire Protection Program under 10 CFR 50.48(c)	2
		NFPA 805	Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants	2001
		NFPA 805 FAQ 10-0059	NFPA 805 Monitoring	5
		NFPA 805 Frequently Asked Question (FAQ) 07-0030	Establishing Recovery Actions	5
		PO-24-03	52578076-11 Hot Work TGB 40	04/04/2021
		Position Paper	Time Margin Available to Complete Recovery Actions	
		PWROG-16030-NP	Time Critical Action/Time Sensitive Action Program Standard	1
		Q2-2021 Program Health Report	Fire Protection Program	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Safety Evaluation	Waterford Steam Electric Station, Unit 3- Issuance of Amendment Regarding Transition to a Risk-Informed, Performance-Based Fire Protection Program in Accordance with 10 CFR 50.48(c)	06/26/2016
		Technical Requirements Manual Section 3/4.3.3.8	Fire Detection Instrumentation	158
		Technical Requirements Manual Section 3/4.7.10	Fire Suppression Water Systems	158
		Technical Requirements Manual Section 3/4.7.11	Fire Rated Assemblies	156
		W3-DBD-018	19 CFR 50.48 (a) & (c)/NFPA 805/Fire Protection Upper Level Design Basis Document	3
		WLP-FBFB-FBL02	Fire Brigade Leader/Incident Commander Initial and Refresher	8
		WLP-FPFB-FBL02	Fire Brigade Leader/Incident Commander Initial and Refresher	9
		WLP-FPFB-FBL02	Fire Brigade Leader/Incident Commander Initial and Refresher	10
		WLP-FPFB-IFB01	Fire Brigade Initial and Refresher Site Specific Classroom	18
		WLP-FPFB-IFB01	Fire Brigade Initial and Refresher Site Specific Classroom	17
		WQC-NACC-SWGR	Switchgear Operator Qualification Card	0
	Operability Evaluations	OP-903-058	Fire Hose Station Valve Cycling Check	15
	Procedures	EN-DC-127	Control of Hot Work and Ignition Sources	21
		EN-DC-128	Fire Protection Impact Reviews	14

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		EN-DC-161	Control of Combustibles	24
		EN-DC-179	Preparation of Fore Protection Engineering Evaluations	7
		EN-DC-330	Fire Protection Program	8
		EN-DC-357	NFPA 805 Monitoring Program	4
		EN-DC-359	Fire Risk Management During Non-Power Operations for NFPA 805 Plants	2
		EN-NE-G-035	Fire PRA Maintenance and Use	1
		EN-OP-123	Time Critical Action Program Standard	6
		EN-OP-125	Fire Brigade Drills	0
		EN-OU-108	Shutdown Safety Management Program (SSMP)	11
		FP-001-015	Fire Protection System Impairments	328
		ME-003-004	Fire Dampers	13
		ME-003-006	Fire Barrier Penetration Seals	318
		ME-003-009	Fire-Rated Walls, Floors, and Ceilings	309
		ME-003-012	Cerberus Pyrotronics ID-60 Series Intelligent Ionization Detector Testing	318
		ME-003-331	Siemens XLS System Supervisory Test	5
		ME-003-332	Siemens XLS System Functional Test	4
		ME-003-333	Siemens XLS System Thermal Detector Testing	2
		MM-003-021	Sprinkler System Inspection (Safety Areas)	16
		MM-003-032	Diesel Fire Pump Engine Inspection	18
		MM-004-423	Yard Fire Hydrant Hose House Inspection and Hose Replacement	21
		MM-007-010	Fire Extinguisher Inspection and Extinguisher Replacement	330
		OP-009-004	Fire Protection	324
		OP-901-502	Evacuation of Control Room and Subsequent Plant Shutdown	37
		OP-901-524	Fire in Areas Affecting Safe Shutdown	17
		OP-903-053	Fire Protection System Pump Operability Test	20
		OP-903-055	Fire Main Flush and Hydrant Inspection	011
		OP-903-056	Fire Protection Functional Test	310
		OP-903-057	Fire Protection Flow Test	26

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		OP-903-059	Sprinkler System Functional Test	14
		OP-903-060	Fire Hose Station Inspection	12
		UNT-005-013	Fire Protection Program	14
	Self-Assessments	LO-WLO-2021-00017	Pre-NRC Triennial Fire Protection Inspection Focused Self-Assessment	06/11/2021
		QA-9-2020-W3-1	Quality Assurance Audit Report - Fire Protection Program	02/10/2020