



FEMA



Waterford 3 Steam Electric Station Alario Reception Center Drill After Action Report/Improvement Plan

Drill Date: June 22, 2022

Publication Date: September 19, 2022



FEMA

Radiological Emergency Preparedness Program
Waterford 3 Steam Electric Station After Action Report/Improvement Plan

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Executive Summary

On June 22, 2022, the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), Region 6, evaluated the John A. Alario Events Center for the Waterford 3 Steam Electric Station (W3), located in Westwego, Louisiana.

During the W3 drill, FEMA assessed the ability of state and local officials to implement plans and procedures to protect the public in the event of a radiological incident. This drill is part of the FEMA Radiological Emergency Preparedness Program. This program ensures that adequate capabilities exist to prevent, protect against, mitigate the effects of, respond to, and recover from incidents involving commercial nuclear power plants. This exercise implemented the revised NUREG 0654/FEMA-REP-1, Rev. 2 document and the 2019 Radiological Emergency Preparedness Program Manual (RPM). The last drill at this location was September 24, 2013.

This report contains the final written evaluation of the drill. The state and local organizations demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were no Level 1 Findings or Plan Issues identified. However, one Level 2 Findings was observed and corrected as a result of the drill.

Section 1: Overview

Name	2022 Waterford 3 Steam Electric Station (W3) Drills
Dates	June 22, 2022
Scope	The purpose of the reception center drill was to assess the level of preparedness of John A. Alario Events Center to respond to a simulated radiological emergency.
Mission Area(s)	Protection Response
Core Capabilities	Operational Coordination Environmental Response/Health and Safety Mass Care Services
Objectives	Emergency Operations Management Exposure Control Operate
Threat or Hazard	Release of radiological materials from a commercial nuclear power plant.
Scenario	Reception Center Drill
Sponsor	Louisiana Department of Environmental Quality Waterford 3 Steam Electric Station
Participating Organizations	A complete list of participating agencies and organizations is attached in Appendix A.

Section 2: Analysis of Capabilities

2.1 Summary Results of Assessment

Table 1 below includes the assessment activity objectives, capability targets, selected core capabilities, and status of each capability target evaluated during the Waterford 3 Steam Electric Station reception center drill.

Each jurisdiction and functional entity were evaluated based on the demonstration of core capabilities and capability targets. Capability targets are listed, and the demonstration status of those capability targets are indicated by the use of the following terms:

- **Met (M):** The jurisdiction or functional entity performed all activities under the objective/capability target to the level required per the work plan and/or the extent of play agreement, with no Level 1 or Level 2 Findings evaluated under that objective/capability target during the current activity and no unresolved prior Level 2 Finding(s).
- **Level 1 Finding (L1):** An observed or identified inadequacy of organizational performance during an assessment activity that could cause a determination that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a Nuclear Power Plant.
- **Level 2 Finding (L2):** An observed or identified inadequacy of organizational performance during an assessment activity that is not considered, by itself, to adversely impact public health and safety.
- **Plan Issue (P):** An observed or identified inadequacy in the OROs emergency plan/implementing procedures, rather than in that of the OROs performance.
- **Not Demonstrated (N):** For a justifiable reason, the jurisdiction or functional entity did not perform assessment activities under the objective/capability target as specified in the extent of play agreement.
- **Not Applicable (N/A):** The objective/capability target does not apply to the jurisdiction.

**Table 1. Summary Results of Capability Targets**

Venue	Capability Target	Core Capability	Status
Objective 1: Emergency Operations Management			
John A. Alario Events Center	1.1	Operational Coordination	M
John A. Alario Events Center	1.2	Operational Coordination, Environmental Response/Health and Safety	M
Objective 2: Exposure Control			
John A. Alario Events Center	2.2	Operational Coordination, Environmental Response/Health and Safety	M
Objective 5: Operate			
John A. Alario Events Center	5.1	Environmental Response/Health and Safety, Mass Care Services	M

2.2 Detailed Results of Exercise Evaluation

JOHN A. ALARIO EVENTS CENTER

Objective 1: Emergency Operations Management

Capability Target 1.1: Mobilization

Status: Met

Capability Target 1.2: Direction and Control

Status: Met

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.1,1.2
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUE: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

Objective 2: Exposure Control

Capability Target 2.2: Emergency Worker Exposure Control Management

Status: Met

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 2.2
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

Objective 5: Operate

Capability Target 5.1: Monitoring, Decontamination, Sheltering, and Registration of Evacuees

Status: Met

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 5.1
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None

ISSUE NUMBER: 70-22-5.1-L2-02

CONDITION: While the Vehicle Monitor surveyed the vehicle an inject with a meter reading was provided to the Monitor. Initially the meter was not read properly.

POSSIBLE CAUSE: A lack of training with the equipment could have contributed to this.

PLANNING REFERENCES: NUREG0654/FEMA-REP-1. REV.2: H.11.b and O.1; FEMA REP Program Manual, dated 12/2019: K.4.d; Standard Operating Procedures for Radiological Monitoring & Decontamination (Rev. 0; 5/19/2022)

EFFECT: If left uncorrected, there could have been a possibility of contamination spread.

CORRECTIVE ACTION TAKEN: Retraining was conducted and all injects provided to the monitor were properly read and recorded.

- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

Appendix A: Participating Organizations

Participating Organizations

State Organizations
Louisiana Department of Children and Family Services
Louisiana Department of Environmental Quality
Support Organizations
Avondale Fire Department
Bridge City Fire Department
Hammond Fire Department
Herbert Wallace Fire Department
Jefferson Parish Emergency Management
Jefferson Parish Fire Services/Hazmat
Westwego Fire Department
Private Organizations
Waterford 3 Electric Steam Station
John A. Alario Events Center

Appendix B: Planning Team & Evaluation Team

Planning Team

Planners		
Regional Assistance Committee Chair FEMA Region 6	Oscar Martinez	FEMA Region 6
Sr. Site Specialist FEMA Region 6	Linda Gee	FEMA Region 6

Evaluation Team

Team Leaders and Evaluators		
Venue/Location	Evaluation Team/Team Lead	Agency
John A. Alario Events Center	Linda Gee (Team Lead)	FEMA Region 6
	Brad Dekorte	FEMA Region 6
	Sam Williams	FEMA Region 6
	Misty Chance	FEMA Region 6
	Syndi Buice	FEMA Region 6
	Renae Connell (OJT)	FEMA Headquarters
	Melisa Ogrodnik (OJT)	FEMA Region 6



Appendix C: Acronyms and Abbreviations

Acronym	Description
CPM	Counts Per Minute
DCFW	Department of Children and Family Services
DRD	Direct Reading Dosimeter
ED	Electronic Dosimeter
EOC	Emergency Operation Center
ETN	Electronic Tracking Network
EW	Emergency Worker
FEMA	Federal Emergency Management Agency
KI	Potassium Iodide
LDEQ	Louisiana Department of Environmental Quality
OIC	Officer in Charge
OSL	Optically Stimulated Luminescent
PRD	Permanent Reading Dosimeters
R	Roentgen
RC	Reception Center
RPM	Radiological Emergency Preparedness Program
TLD	Thermoluminescent Dosimeter
W3	Waterford 3 Steam Electric Station
Waterford 3	Waterford 3 Steam Electric Station



Appendix D: Extent of Play Agreement and Scenario

Extent of Play Agreement

1: EMERGENCY OPERATIONS MANAGEMENT

1.1 Mobilization

- ❖ Capability Targets: Individuals with roles in support of emergency operations are identified, alerted, and mobilized in a timely manner. (NUREG-0654/FEMA-REP-1, Rev. 2: A.1, A.1.a, A.1.b, A.3, A.4, A.5, C.1, C.2, C.2.a, C.2.b, C.3, E.1, E.1.a, E.3, F.1.c, H.6, O.1)
- ❖ Locations: Alario Reception Center, Chappapeela Sports Park Reception Center, Lafourche Ag Center Reception Center
- ❖ Extent of Play
 - Initial mobilization notification from the applicable parish to the officer in charge of the Reception Center will be simulated.
 - Chappapeela Sports Park Reception Center and Lafourche Ag Center Reception Center will be mobilized by St. Charles Parish or St. John the Baptist Parish, and Alario Reception Center will be mobilize by St. Charles Parish.
- ❖ Level 2 Findings – None
- ❖ Core Capabilities: Operational Coordination

1.2 Direction and Control

- ❖ Capability Targets: Individuals in leadership roles provide direction and control to the portion of the overall response effort for which they are responsible. (NUREG-0654/FEMA-REP-1, Rev. 2: A.1, A.1.a, A.1.b, A.1.c, A.2, A.3, A.5, C.2, C.2.a, C.2.b, C.3, D.4, E.1, H.6, O.1)
- ❖ Locations: Alario Reception Center, Chappapeela Sports Park Reception Center, Lafourche Ag Center Reception Center
- ❖ Extent of Play:
- ❖ Level 2 Findings: – None
- ❖ Core Capabilities: Operational Coordination; Environmental Response/Health and Safety

2. EXPOSURE CONTROL

2.2. Emergency Worker Exposure Control Management



- ❖ **Evaluation Criteria:** Emergency workers manage radiological exposure and dose in accordance with the plans/procedures. (NUREG-0654/FEMA-REP-1, Rev. 2: C.2.c, H.11, H.11.b, K.2.b, K.3, K.3.a, M.1.b, O.1)
- ❖ **Locations:** Alario Reception Center, Chappapeela Sports Park Reception Center, Lafourche Ag Center Reception Center
- ❖ **Extent of Play:**
 - Area dosimetry will be used in all Reception Center demonstrations.
 - TLD/OSLs will be available for all emergency workers and will be provided by Waterford 3 Steam Electric Station. Simulated TLDs will be used in place of spare OSL or TLD badges when applicable.
 - **Correction-on-the-spot** will be considered at these locations at the discretion of and concurrence between the evaluator and the controller. Caution should be exercised to ensure that exercise play is not interrupted.
- ❖ **Level 2 Findings:** – None
- ❖ **Core Capabilities:** Operational Coordination; Environmental Response/Health and Safety

5. OPERATE

5.1. Monitoring, Decontamination, Sheltering, and Registration of Evacuees

- ❖ **Capability Targets:** Facilities, equipment, and procedures are in place and utilized to provide monitoring, decontamination, identification, temporary shelter, congregate care, and registration of evacuees. (NUREG-0654/FEMA-REP-1, Rev. 2: J.11.d, J.13, K.4, O.1)
- ❖ **Locations:** Alario Reception Center, Chappapeela Sports Park Reception Center, Lafourche Ag Center Reception Center
- ❖ **Extent of Play:**
 - Participants will be pre-staged at or near the reception center.
 - Demonstration of criteria will be performed out of sequence at the following locations on the following dates:
 - Alario Reception Center, June 22, 2022 at 10:00am
John A Alario Event Center, 2000 Segnette Blvd, Westwego, LA 70094



The capability to monitor 20% of Protective Response Areas D1, D2, D3 of the 10-mile EPZ over a 12-hour period will be demonstrated. The population of these sections is 19,783. Twenty percent of this population is 3,957. To meet 20%, requires a monitoring capability of 6 evacuees per minute.

- Lafourche Ag Center Reception Center, June 23, 2022 at 6:00pm

Lafourche AgCenter, 115 Texas Street, Raceland, LA 70394

The capability to monitor 20% of Protective Response Areas C1, C2, C3, C4 of the 10-mile EPZ over a 12-hour period will be demonstrated. The population of these sections is 3,278. Twenty percent of this population is 656. To meet 20%, requires a monitoring capability of 1 evacuee per minute.

- Chappapeela Sports Park Reception Center, May 24, 2022 at 8:00am

Chappapeela Sports Park, 19325 Hipark Blvd., Hammond, LA 70403

The capability to monitor 20% of Protective Response Areas A1, A2, A3 of the 10-mile EPZ over a 12-hour period will be demonstrated. The population of these sections is 31,260. Twenty percent of this population is 6,252. To meet 20%, requires a monitoring capability of 9 evacuees per minute.

- Per the REP Manual, a minimum of six evacuees will be monitored at each location. Six people will simulate evacuees for the demonstration. At least one portal monitor will be set up and the six evacuees processed. One of the six will be simulated contaminated. One monitoring station for contaminated evacuees will be set up and the contaminated individual will be processed through decontamination. Handling of potentially contaminated personal belongings will be demonstrated by discussion.
- One vehicle monitoring station will be set up at each location. One vehicle will be monitored at each location and found to be contaminated, with decontamination evaluation performed via interview.



- Participation with Department of Children and Family Services may only take place at one of the Reception Center Demonstrations, which is TBD.
- Demonstration of Parish shelters will be performed out of sequence via interview with Parish EOCs on a date and time TBD.
- Demonstrations of the Hammond, Lafourche, and West Jefferson parish shelters will be performed out of sequence via phone interview on a dates and times TBD .
 - **Correction-on-the-spot** will be considered at these locations at the discretion of and concurrence between the evaluator and the controller. Caution should be exercised to ensure that exercise play is not interrupted
- ❖ **Level 2 Findings:** – None
- ❖ **Core Capabilities:** Mass Care Services

5.2. Monitoring and Decontamination of Emergency Workers, Equipment, and Vehicles

- ❖ **Capability Targets:** Facilities, equipment, and procedures are in place and utilized to provide monitoring and decontamination of emergency workers and their equipment and vehicles. (NUREG-0654/FEMA-REP-1, Rev. 2: K.4, O.1)
- ❖ **Locations:** Lafourche Ag Center Reception Center, Lafourche Fire Department
- ❖ **Extent of Play:**
 - This capability target will be performed out of sequence in conjunction with the Lafourche Ag Center Reception Center Demonstration. Any specific questions related to the EWMDS will occur via interview, immediately following the Lafourche Ag Center Demonstration. This criteria will be performed on May 24, 2022.
- ❖ **Level 2 Findings:** – None
- ❖ **Core Capabilities:** Environmental Response/Health and Safety, Mass Care Services



To define the scope and extent of participation by organizations and participants, the following guidelines are established in order to meet the objectives listed in Section III of this manual.

- A. The offsite drills will be conducted as follows:
 - 1. June 23, 2022 – Lafourche Parish
 - a. Reception Center
 - b. Emergency Worker Monitoring and Decontamination Station (Interview only)
 - 2. June 22, 2022 – Jefferson Parish
 - a. Reception Center
 - 3. May 24, 2022 – Tangipahoa Parish
 - a. Reception Center
- B. Participation is limited to Lafourche Parish Fire Department, Lafourche Parish Office of Homeland Security, Lafourche Parish AgCenter Personnel, John A Alario Event Center Personnel, Jefferson Parish West Bank Fire District, Chappapeela Sports Park Personnel, Hammond Fire Department, and the Drill Control Team. No other Waterford 3 plant staff will participate.
- C. All communications are preceded and ended with "THIS IS A DRILL."
- D. A critique is conducted immediately following the termination of the drill.
- E. Drill specific guidelines will be addressed in their individual appendices.

**IV. GUIDELINES**

To define the scope and extent of participation by organizations and participants, the following guidelines are established in order to meet the objectives listed in Section III of this manual.

A. The offsite drills will be conducted as follows:

1. June 23, 2022 – Lafourche Parish
 - a. Reception Center
 - b. Emergency Worker Monitoring and Decontamination Station (Interview only)
2. June 22, 2022 – Jefferson Parish
 - a. Reception Center
3. May 24, 2022 – Tangipahoa Parish
 - a. Reception Center

B. Participation is limited to Lafourche Parish Fire Department, Lafourche Parish Office of Homeland Security, Lafourche Parish AgCenter Personnel, John A Alario Event Center Personnel, Jefferson Parish West Bank Fire District, Chappapeela Sports Park Personnel, Hammond Fire Department, and the Drill Control Team. No other Waterford 3 plant staff will participate.

C. All communications are preceded and ended with "THIS IS A DRILL."

D. A critique is conducted immediately following the termination of the drill.

E. Drill specific guidelines will be addressed in their individual appendices.

V. NARRATIVE SUMMARY

An evacuation has been ordered for the area around Waterford-3 and the general public is in the process of evacuating portions of the 10-mile EPZ. In this scenario evacuees are proceeding to their designated reception centers.

**VI. SEQUENCE OF EVENTS**

TIME	EVENT	DRILL ACTIVITY
	Drill preparations are made.	The Drill Control Team assemble at the designated reception center. Response personnel are staged at or near the reception center.
	CONTINGENCY	If the fire department is unable to participate, the drill will be terminated.
	Drill initiated by the Drill Control Team.	Responders are briefed, outfitted and begin set-up of the center.
	Reception Center stood up	An evacuee arrives at the Reception Center and monitoring procedures are initiated.
	The evacuee's vehicle is found to be contaminated.	Vehicle is moved to the impoundment area. Vehicle remains in the impoundment area.
	An evacuee is found to be contaminated.	Decontamination measures are initiated.
	The contaminated evacuee is surveyed after decontamination procedures and is found to be clean.	The evacuee is released.
	Registration and shelter assignment activities are demonstrated.	
	Reception Center personnel make available shift change information.	
	Drill terminated. Critique conducted.	When all objectives are completed the drill will be terminated.

Appendix F: Improvement Plan

This Improvement Plan has been developed as a result of the Waterford 3 John A. Alario Events Reception Center was conducted on June 22, 2022.

Capability Target	Core Capabilities	Issue	Corrective Action	Primary Responsible Organization	Organization POC	Start Date	Completion Date
5.1	Environmental Response/Health and Safety, Mass Care Services	Issue No. 70-22-5.1-L2-02	Retraining was conducted and all injects provided to the monitor were properly read and recorded.	LDEQ	Adrienne Landry	June 22, 2022	June 22, 2022

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