



Waterford 3 Steam Electric Station Chappapeela Sports Park Reception Center Drill Exception Area Interview After Action Report/Improvement Plan

Drill Dates: May 24, 2022 & June 23, 2022

Publication Date: September 19, 2022



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Executive Summary

On May 24, 2022, the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), Region 6, evaluated the Chappapeela Sports Park Reception Center drill for the Waterford 3 Steam Electric Station (Waterford 3). Additionally, the Waterford 3 exception area interview was conducted with MYU Helicopter on June 23, 2022 in Luling, Louisiana.

During the Waterford 3 drill and interview, 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. The drills are 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. The drills implemented the revised NUREG-0654/FEMA-REP-1, Rev. 2 document and the 2019 Radiological Emergency Preparedness Program Manual (RPM). This is the first drill conducted at Chappapeela Sports Park.

This report contains the final written evaluation of the drills. 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 as a result of the reception center drill and exception area interview. There was one Level 2 Finding observed as a result of the Chappapeela Sports Park Reception Center drill with a correction on the spot conducted.



Section 1: Overview

Name	2022 Waterford 3 Steam Electric Station Drills
Dates	May 24, 2022 & June 23, 2022
Purpose	The purpose of the Chappapeela Sports Park reception center drill was to assess a new operation and location recently incorporated into Louisiana Radiological Emergency Response Plan. In addition, an interview was conducted with MYU Helicopter for the Waterford 3 exception area.
Mission Area(s)	Protection Response
Core Capabilities	Operational Coordination Environmental Response/Health and Safety Mass Care Services Planning Public Information & Warning.
Objectives	Emergency Operations Management Exposure Control Alert & Notification Operate
Threat or Hazard	Release of radiological materials from a commercial nuclear power plant.
Scenario	Reception Center Drill Exception Area Drill
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 drills.

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			
Chappapeela Sports Park Reception Center	1.1	Operational Coordination, Planning	M
Chappapeela Sports Park Reception Center	1.2	Operational Coordination, Environmental Response/Health and Safety, Planning	M
Objective 2: Exposure Control			
Chappapeela Sports Park Reception Center	2.2	Operational Coordination, Environmental Response/Health and Safety, Planning	M
Helicopter and Exception Area	2.2	Operational Coordination, Environmental Response/Health and Safety, Planning	P
Objective 3: Alert and Notification			
Helicopter and Exception Area	3.2	Public Information and Warning, Planning	M
Objective 5: Operate			
Chappapeela Sports Park Reception Center	5.1	Environmental Response/Health and Safety, Mass Care Services, Planning	M



2.2 Detailed Results of Exercise Evaluation

CHAPPAPEELA SPORTS PARK RECEPTION CENTER

Objective 1: Emergency Operations Management

Capability Target 1.1: Mobilization

Status: Met

Capability Target 1.2: Direction and Control

Status: Met

Objective 2: Exposure Control

Capability Target 2.2: Emergency Worker Exposure Control Management

Status: Met

Objective 5: Operate

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

Status: Met

In summary, the status of DHS/FEMA capability targets for this location are as follows:

- a. MET: 1.1,1.2, 2.2, 5.1
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None

ISSUE NUMBER: 70-22-5.1-L2-01

CONDITION: During the operational check of the Ludlum Model 3 with a Model 44-9 probe attached, was not correctly operational checked prior to use for vehicle/evacuee monitoring and decontamination. The operator failed to hold the probe directly on the instrument check source to record the source counts per minute reading listed on the sticker attached to the source. The probe did not record the proper consistent reading due to being held too far from the source.

POSSIBLE CAUSE: A lack of training could have contributed to the lack of knowledge when performing a survey meter operational check for the Ludlum Model 3.



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, this could have spread contamination.

CORRECTIVE ACTION TAKEN: Retraining was conducted in accordance with the Extent of Play Agreement. The survey meter operational check was redemonstrated and the instrument was properly source checked. The operational check was successfully demonstrated, and the drill continued.

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

WATERFORD 3 EXCEPTION AREA

Objective 2: Exposure Control

Capability Target 2.2: Emergency Worker Exposure Control Management

Status: Met

Objective 3: Alert and Notification

Capability Target 3.2: Alert and Notification of the Public

Status: Met

In summary, the status of DHS/FEMA capability targets for this location are as follows:

- a. MET: 2, 2, 3.2
- 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



Appendix A: Participating Organizations

Participating Organizations

State Organizations
Louisiana Department of Environmental Quality
Louisiana Department of Children and Family Services
Support Organizations
Tangipahoa Parish
Hammond Fire Department
St John the Baptist Parish
Private Organizations
Waterford 3 Steam Electric Station
Chappapeela Sports Park
American Red Cross
MYU Helicopter



Appendix B: Planning Team & Evaluation Team

Planning Team

Planning Team		
Regional Assistance Committee Chair	Oscar Martinez	FEMA Region 6
Sr. Site Specialist FEMA Region 6	Linda Gee	FEMA Region 6
State Planning Team Lead Environmental Scientist III	Adrienne Landry	Louisiana Department of Environmental Quality
Licensee Planning Team Lead	Don Vincent	Waterford 3 Steam Electric Station

Evaluation Team

Team Leaders and Evaluators		
Venue/Location	Evaluation Team/Team Lead	Agency
Chappapeela Sports Park	Linda Gee (Team Lead) James Hickey Thomas Reynolds	FEMA Region VI ICF ICF
Helicopter and Exception Area	Linda Gee (Team Lead) Misty Chance Melisa Ogrodnik	FEMA Region VI FEMA Region VI FEMA Region VI



Appendix C: Acronyms and Abbreviations

Acronym	Description
CSP	Chappapeela Sports Park
CPM	Counts Per Minute
DRD	Direct Reading Dosimeter
ED	Electronic Dosimeter
ETN	Electronic Tracking Network
EW	Emergency Worker
FEMA	Federal Emergency Management Agency
HFD	Hammond Fire Department
KI	Potassium Iodide
LDEQ	Louisiana Department of Environmental Quality
OIC	Officer in Charge
OSL	Optically Stimulated Luminescent
PRD	Permanent Reading Dosimeter
R	Roentgen
RPM	Radiological Emergency Preparedness Program Manual
TO	Training Officer
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



3.2. Alert and Notification of the Public

- ❖ Capability Targets: Alert and notification of the public is completed in a timely manner. (NUREG-0654/FEMA-REP-1, Rev. 2: E.2, E.4, E.5, F.3, O.1)
- ❖ Locations: St. Charles Parish EOC, St. John the Baptist Parish EOC, WWL Radio, 400 Poydras Street, Suite 800, New Orleans, LA 70130
- ❖ Extent of Play:
 - Following the decision to activate the alert and notification system, the activation procedures will be demonstrated up to the point of activation. The Siren activation will be simulated.
 - Simulation of the siren activation will be in real time sequence with the transmission of the Emergency Alert Systems EAS message.
 - Upon receipt of the messages, the WWL radio station official will demonstrate the procedure to broadcast the message. The message will be read to the evaluator, but will not be broadcasted.
 - St. John the Baptist Parish exception area {Quadrant TBD} will be demonstrated via interview out-of-sequence, on a date TBD. The alerting along this route will be simulated. Announcement will be a testing phrase and not an actual alert message. The flight pattern will not be demonstrated.
- ❖ Level 2 Findings: – None
- ❖ Core Capabilities: Public Information and Warning

**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



WATERFORD 3 2022 OUT OF SEQUENCE EVALUATION

Reception Center Drill

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 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



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.



WATERFORD 3 2022 OUT OF SEQUENCE EVALUATION

W3 SES EMERGENCY PREPAREDNESS DRILL CUE CARD

Message to: MYU Hanger
Message from: Lead
Controller

MESSAGE 1

Event

The Helicopter Pilot assembles at MYU Hanger following initial notification from St. John Parish EOC Director.

Instructions

1. The Pilot will begin preparing and will utilize a helicopter to Alert and Notify the Public.

Notes

1. The pilot will simulate alerting quadrant C.
2. Flight pattern will not be demonstrated.

Controller Comments



STATE OF LOUISIANA / WATERFORD 3 NUCLEAR STATION

2022 BIENNIAL EXERCISE
March 15, 2022



2. EXPOSURE CONTROL

2.1. Emergency Worker Exposure Control Decision-Making Process

- ❖ Capability Targets: A decision-making process involving consideration of appropriate factors and necessary coordination is used to ensure that an exposure control system is in place for emergency workers, and includes the use of radioprotective drugs and procedures to authorize emergency exposures in excess of the PAGs. (NUREG-0654/FEMA-REP-1, Rev. 2: C.2.c, H.11, K.2, K.2.b, K.3, K.3.a, M.1.b, M.8, O.1)
- ❖ Locations:
Louisiana SEOC, LDEQ EOF, St. Charles Parish EOC, St. John the Baptist Parish EOC
- ❖ Extent of Play:
 - If the scenario does not warrant a discussion on the authorization to administer KI, then the criteria shall be accomplished through an interview with the evaluator.
 - If the scenario does not warrant a discussion on emergency worker (EW) exposure exceeding administrative limits, then the criteria shall be accomplished through an interview with the evaluator.

Note: Parish decision-makers receive recommendations for KI and EW exposure from the Louisiana SEOC.
- ❖ Level 2 Findings: – None
- ❖ Core Capabilities: Operational Coordination; Environmental Response/Health and Safety

2.2. Emergency Worker Exposure Control Management

- ❖ Capability Targets: 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:
Louisiana SEOC, LDEQ EOF, LDEQ FMT 1, LDEQ FMT 2, St. Charles Parish EOC, St. John the Baptist Parish EOC, MYU Heliport in Luling, La
- ❖ Extent of Play:
 - Area dosimetry will be used in both Parish EOCs.
 - TLD/OSLs will be available for all emergency workers. Simulated TLDs will be used in place of spare OSL or TLD badges when applicable.



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Appendix F: Improvement Plan

This Improvement Plan has been developed as a result of the W3 Chappapeela Sports Park Reception Center drill and the Waterford 3 exception area.

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, Planning	Issue No: 70-22-5.1-L2-01 Ludlum Model 3 survey meter operations check was not properly performed.	Retraining was conducted by the Controller and the operations check was properly redemonstrated.	LDEQ	Adrienne Landry	May 24, 2022	May 24, 2022



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