



Waterford 3 Steam Electric Station After Action Report

Exercise Date – November 20, 2019

Radiological Emergency Preparedness (REP) Program



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Waterford 3 Steam Electric Station After Action Report

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EXECUTIVE SUMMARY

On November 20, 2019, a Radiological Emergency Preparedness (REP) Plume exercise was conducted around the Waterford 3 Steam Electric Station (Waterford 3) located near Taft, St. Charles Parish, Louisiana. The U.S. Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA) Region VI Office evaluated the exercise. The purpose was to assess the level of preparedness of state and local responders to react to a radiological emergency at Waterford 3. The exercise was held in accordance with DHS/FEMA policies and guidance concerning the implementation of state and local REP plans and procedures. In addition to the exercise, a medical services drill was conducted on October 17, 2019.

The previous exercise at this site was a plume and ingestion pathway exercise conducted on December 5-6, 2017. The qualifying emergency preparedness exercise was evaluated on February 8, 1984. There have been several evaluated exercises conducted since, including this plume exercise.

DHS/FEMA Region VI Office wishes to acknowledge the efforts of the many individuals in the State of Louisiana, St. Charles Parish, St. John the Baptist Parish, Ochsner Clinic Foundation, and surrounding jurisdictions who participated in this exercise. Some of these participants are paid civil servants whose full-time job is to protect the health and safety of the public within the jurisdictions they serve. Many more are volunteers who make themselves available to perform a service to the community in which they live. Their participation is particularly noteworthy.

This report contains the final written evaluation of the biennial exercise including an out of sequence medical services drill. The state and local organizations, except where noted in this report, demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. As a result of the exercise and the drill, there were no Level 1 Findings, no Level 2 Findings, and no Plan Issues identified.

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name

Waterford 3 Steam Electric Station

Type of Exercise

Plume Exercise and Medical Services Drill

Exercise Date

November 20, 2019 (Plume Exercise)

October 17, 2019 (Medical Services Drill)

Program

Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type

Radiological Emergency

1.2 Exercise Planning Team Leadership

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1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the Waterford 3 Steam Electric Station exercise:

State Jurisdictions

- Louisiana Department of Environmental Quality
- Louisiana Governor's Office of Homeland Security & Emergency Preparedness
- Louisiana Wildlife and Fisheries

Risk Jurisdictions

- St. Charles Parish Homeland Security & Emergency Preparedness
- St. Charles Parish President
- St. Charles Parish Public Schools
- St. Charles Parish Sheriff's Office
- St. Charles Parish Emergency Medical Services
- St. Rose Fire Department
- St. John the Baptist Parish Office of Homeland Security & Emergency Preparedness
- St. John the Baptist Parish Planning & Zoning
- St. John the Baptist Parish President
- St. John the Baptist Parish Public Works
- St. John the Baptist Parish School Board
- St. John the Baptist Parish Sheriff's Office
- St. John the Baptist Parish Transportation
- St. John the Baptist Parish Fire Department
- St. John the Baptist Parish Animal Shelter

Support Jurisdictions

- Ochsner Clinic Foundation

Private Organizations

- Entergy
- WWL 870 AM Radio Station
- Mayeux Flying Service, LLC (MYU)

Federal Jurisdictions

- U.S. Nuclear Regulatory Commission

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

The DHS/FEMA Region VI Radiological Emergency Preparedness staff evaluated an exercise on November 20, 2019 to assess the capabilities of state and local emergency preparedness organizations in implementing their Radiological Emergency Response Plans and procedures to protect the public health and safety during a radiological emergency involving Waterford 3 Steam Electric Station (Waterford 3). The purpose of this report is to present the results and findings on the performance of the offsite response organizations during a simulated radiological emergency.

2.2 Exercise Objectives, Capabilities and Activities

Exercise objectives and identified Capabilities/REP Criteria selected for the exercise are discussed in the Exercise Plan, Appendix D.

2.3 Scenario Summary

The exercise scenario was developed to evaluate the response of exercise participants to an incident requiring evacuation of the public from the 10-mile Emergency Planning Zone surrounding the Waterford 3 Steam Electric Station. The exercise scenario provided for the evaluation of St. John the Baptist Parish, St. Charles Parish, Ochsner Clinic Foundation, Louisiana Department of Environmental Quality and the Governor's Office of Homeland Security and Emergency Preparedness to test the ability of participants to formulate and implement protective action decisions.

SECTION 3: ANALYSIS OF CAPABILITIES

3.1 Exercise Evaluation and Results

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities that participated in the November 20, 2019 exercise evaluation to test the offsite emergency response capabilities of local governments in the 10-mile Emergency Planning Zone surrounding the Waterford 3 Steam Electric Station.

Each jurisdiction and functional entity was evaluated on its demonstration of criteria delineated in the exercise evaluation areas as outlined in the FEMA Radiological Emergency Preparedness (REP) Program Manual (January 2016). Detailed information on the exercise evaluation area criteria and the extent of play agreement used in this exercise are found in Appendix D of this report.

3.2 Summary Results of Exercise Evaluation

The matrix presented in the table below, presents the status of all exercise evaluation area criteria that were scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Exercise criteria are listed by number and the demonstration status is indicated by the use of the following terms:

- Met (M): No Findings assessed and no unresolved Findings from prior exercises.
- Level 1 (L1) Finding: An observed or identified inadequacy of organizational performance in an exercise 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 (L2) Finding: An observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety.
- Plan (P) Issue: An observed or identified inadequacy in the offsite response organizations (OROs) emergency plan/implementing procedures, rather than that of the OROs performance.
- N: Not demonstrated

Table 3.1 - Summary of Exercise Evaluation

Exercise Evaluation – Criteria Met

Evaluation Areas Demonstrated	Criteria
GOHSEP EOC	1a1, 1c1, 1d1, 1e1 2a1, 2b1, 2b2
Louisiana JIC	1a1, 1d1, 1e1, 5b1
LDEQ HQ	1a1, 1c1, 1d1, 1e1
LDEQ EOF	1a1, 1c1, 1d1, 1e1 2a1, 2b1, 3a1, 4a2
LDEQ Field Monitoring Team #1	1d1, 1e1, 3a1, 4a3
LDEQ Field Monitoring Team #2	1d1, 1e1, 3a1, 4a3
St. Charles Parish EOC & T/ACP	1a1, 1c1, 1d1, 1e1 2a1, 2b2, 2c1, 3a1, 3b1, 3d1, 3d2 5a1, 5a4, 5b1
St. John Parish EOC & T/ACP	1a1, 1c1, 1d1, 1e1 2a1, 2b2, 2c1, 3a1, 3b1, 3d1, 3d2 5a1, 5b1
WWL/EAS Radio Station	5a1
Ochsner Clinic Foundation	1e1, 3a1, 6d1
St. Charles Parish Hospital Emergency Medical Services	1e1, 3a1, 6d1

3.3 Criteria Evaluation Summaries

3.3.1 Louisiana Jurisdictions

3.3.1.1 Louisiana Emergency Operations Center

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

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

3.3.1.2 Louisiana Department of Environmental Quality Headquarters

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

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

3.3.1.3 Louisiana Department of Environmental Quality EOF

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

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 3.a.1, 4.a.2.
- a. LEVEL 1 FINDING: None
- b. LEVEL 2 FINDING: None
- c. PLAN ISSUES: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

3.3.1.4 Louisiana Department of Environmental Quality Field Monitoring Team One

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

- a. MET: 1.d.1, 1.e.1, 3.a.1, 4.a.3.
- a. LEVEL 1 FINDING: None
- b. LEVEL 2 FINDING: None
- c. PLAN ISSUES: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

3.3.1.5 Louisiana Department of Environmental Quality Field Monitoring Team Two

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

- a. MET: 1.d.1, 1.e.1, 3.a.1, 4.a.3.
- 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

3.3.1.6 Louisiana Joint Information Center

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

- a. MET: 1.a.1, 1.d.1, 1.e.1, 5.b.1.
- a. LEVEL 1 FINDING: None
- b. LEVEL 2 FINDING: None
- c. PLAN ISSUES: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

3.3.2 Risk Jurisdictions

3.3.2.1 St. Charles Parish Emergency Operations Center

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

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 3.a.1, 3.b.1, 3.d.1, 3.d.2, 5.a.1, 5.a.4, 5.b.1.
- a. LEVEL 1 FINDING: None
- b. LEVEL 2 FINDING: None
- c. PLAN ISSUES: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

3.3.2.2 St. John the Baptist Parish Emergency Operations Center

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

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 3.a.1, 3.b.1, 3.d.1, 3.d.2, 5.a.1, 5.b.1.
- 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

3.3.3 Support Organizations

3.3.3.1 Ochsner Clinic Foundation

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

- a. MET: 1.e.1, 3.a.1, 6.d.1
- a. LEVEL 1 FINDING: None
- b. LEVEL 2 FINDING: None
- c. PLAN ISSUES: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

3.3.3.2 St. Charles Parish Hospital Emergency Medical Services

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

- a. MET: 1.e.1, 3.a.1, 6.d.1
- g. LEVEL 1 FINDING: None
- h. LEVEL 2 FINDING: None
- i. PLAN ISSUES: None
- j. NOT DEMONSTRATED: None
- k. PRIOR ISSUES - RESOLVED: None
- l. PRIOR ISSUES - UNRESOLVED: None

3.3.4 Private Organizations

3.3.4.1 EAS Radio Station WWL

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

- a. MET: 5.a.1
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None

SECTION 4: CONCLUSION

Based on the results of the exercise, the offsite radiological emergency response plans and preparedness for the State of Louisiana and the affected local jurisdiction are deemed adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of the public in the event of a radiological emergency. Therefore, 44 CFR Part 350 approval of the offsite radiological emergency response plans and preparedness for the State of Louisiana site-specific to Waterford 3 Steam Electric Station will remain in effect.


APPENDIX A: EXERCISE TIMELINE

Table 1 - Exercise Timeline
DATE: 2019-11-20, SITE: Waterford 3 Steam Electric Station, LA

Emergency Classification Level or Event	Time Utility Declared	GOHSEP EOC	LDEQ HQ	LDEQ EOF	W3 JIC	St. Charles EOC & T/ACP	WWL/EAS Station	St. John Parish EOC & T/ACP
Unusual Event	N/A							
Alert	N/A	0654	0654					
Site Area Emergency	0816	0827	0827	0830	0828	0827		0827
General Emergency	1018	1030	1030	1026	1021	1029		1029
Simulated Rad. Release Started	1056	1126	1126	1126	1126	1125		1127
Simulated Rad. Release Terminated	N/A		N/A	N/A		1208		1221
Facility Declared Operational		0837	0654	0913	0948	0848	24/7 Ops	0851
Declaration of State of Emergency		0933	0933		0943	0933		0859
Exercise Terminated		1229	1229	1200	1227	1220		1235
Early Precautionary Actions: SJP: 1037 – School Transfer SCP: 1040 – Evac. PDAFNs Individuals						1040		1035
1st Protective Action Decision: Evac: A1, B1, C1, D1, C2 Monitor & Prepare: All Other PAS						1115		1115
1st Siren Activation						1115		1115
1st EAS or EBS Message						1117	1124	1117
KI Administration Decision:						1208		1221

APPENDIX B: EXERCISE EVALUATORS AND TEAM LEADERS

DATE: 2019-11-20, SITE: Waterford 3 Steam Electric Station, LA

LOCATION	EVALUATOR	AGENCY
Louisiana Emergency Operations Center	*Brad DeKorte Andy Chancellor	FEMA VI FEMA VII
Louisiana Department of Environmental Quality Headquarters	*Andy Chancellor	FEMA VII
Louisiana Department of Environmental Quality EOF	*Nan Williams Dennis Wilford	FEMA VI ICF
Louisiana Department of Environmental Quality Field Monitoring Team One	*Jeffrey Clark	FEMA VII
Louisiana Department of Environmental Quality Field Monitoring Team Two	George Brozowski	EPA
Waterford 3 Joint Information Center	*Thomas Hegele Bill Maier	ICF NRC
St. Charles Parish Emergency Operations Center 	*Timothy Pflieger Greg Voss Chris Bellone Elena Joyner Nan Williams	FEMA VI FEMA VII THD HQ FEMA IX FEMA VI
St. John the Baptist Parish Emergency Operations Center	*Elsa Lopez Norm "Vince" Kalston Lisa Rink	FEMA VI FEMA RIX THD HQ
EAS Radio Station WWL	*Kevin Malone	FEMA II
Ochsner Clinic Foundation	* Nan Williams Timothy Pflieger Brad DeKorte	FEMA VI FEMA VI FEMA VI
St. Charles Parish Hospital Emergency Medical Services	*Timothy Pflieger Brad DeKorte	FEMA RVI FEMA RVI
* Team Leader		

APPENDIX C: ACRONYMS AND ABBREVIATIONS

Acronym	Description
AAC	Accident Assessment Coordinator
ARCA	Areas Requiring Corrective Action
CC	Communications Center
CDE	Committed Dose Equivalent
CPM	Counts Per Minute
DRD	Direct Reading Dosimeter
EAS	Emergency Alert System
EAL	Emergency Action Level
ECL	Emergency Classification Level
EMD	Emergency Management Director
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EP	Emergency Preparedness
EPA	Environmental Protection Agency
EPZ	Emergency Planning Zone
EW	Emergency Worker
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
FTC	Field Team Coordinator
GE	General Emergency
GOHSEP	Louisiana Governor's Office of Homeland Security and Emergency Preparedness
GPS	Global Positioning System
HAB	Hostile Action Based
HOO	HQ Operations Officer
ICP	Incident Command Post
JIC	Joint Information Center
KI	Potassium Iodide
LDEQ	Louisiana Department of Environmental Quality
LDH	Louisiana Department of Health
MDA	Minimum Detectable Activity
mg	milligrams
MHz	megahertz
mR	milliroentgen/millirem
ORO	Off-site Response Organizations
OSL	Optically Stimulated Luminescent

Acronym	Description (Continued)
PAD	Protective Action Decision
PAG	Protective Action Guide
PAR	Protective Action Recommendation
PIO	Public Information Officer
PDAFNs	Persons with Disabilities & Access/Functional Needs Individuals
PPE	Personal Protective Equipment
PRA	Permanent Response Areas
PRD	Permanent Reading Dosimeter
R	Roentgen
RACES	Radio Amateur Civil Emergency Services
RASCAL	Radiological Assessment System for Consequence Analysis
REA	Radiation Emergency Area
REP	Radiological Emergency Preparedness
RO	Radiological Officer
RSO	Radiation Safety Officer
SCP	St. Charles Parish
SEL	Senior EOF Liaison
SEOC	State Emergency Operations Center
SJP	St. John the Baptist Parish
SOP	Standard Operating Procedure
SRD	Self Reading Dosimeter
TEDE	Total Effective Dose Equivalent
T/ACP	Traffic & Access Control Point
TLD	Thermoluminescent Dosimeter
UCG	Unified Command Group
UMR	Unit Manning Roster
URI	Unified Rascal Interface
VHF	Very High Frequency
Waterford 3	Waterford 3 Steam Electric Station
W3	Waterford 3 Steam Electric Station

APPENDIX D: EXERCISE PLAN

Waterford 3 Steam Electric Station Extent of Play 2019

I. ASSESSMENT AREA 1: EMERGENCY OPERATIONS MANAGEMENT

A. Sub-element 1.a - Mobilization

Criterion 1.a.1: OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654/FEMA-REP-1, A.1.a, e; A.3, 4; C.1, 4, 6; D.4; E.1, 2; G.3.a, H.3, 4)

1. Locations

Louisiana State Emergency Operations Center (SEOC), Louisiana Department of Environmental Quality (LDEQ) Headquarters (LDEQ HQ), LDEQ Emergency Operations Facility (EOF), Joint Information Center (JIC) St. Charles Parish EOC, St. John the Baptist Parish EOC

2. Extent of Play

- a. LDEQ players will be pre-staged on the 8th floor of Headquarters at 6:50 am and begin the aspects of mobilization by 7:00 am with a simulated cue card starting at ALERT.
- b. One of the two LDEQ Field Monitoring Teams (FMT) may pre-stage at the Southeast Regional Office (SERO) on 201 Evans Road, Building 4, Suite 420 New Orleans, Louisiana, and be deployed remotely from that location.

3. Level 2 Findings - None

C. Sub-element 1.c - Direction and Control

Criterion 1.c.1: Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible. (NUREG-0654/FEMA-REP-1, A.1.d; A.2.a, b; A.3; C.4, 6)

1. Locations

LA SEOC, LDEQ HQ, LDEQ EOF, St. Charles Parish EOC, St. John the Baptist Parish EOC

2. Extent of Play

3. Level 2 Findings – None

D. Sub-element 1.d – Communications Equipment

Criterion 1.d.1: At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654/FEMA-REP-1, F.1, 2)

1. Locations

Louisiana SEOC, LDEQ HQ, LDEQ EOF, LDEQ Field Monitoring Team (FMT) 1, LDEQ FMT 2, JIC, St. Charles Parish EOC, St. John the Baptist Parish EOC

2. Extent of Play

a. The LDEQ Contract Radiation Laboratory will not be evaluated in this exercise, and any communication with it will be simulated.

▲ b. Communications to the Southern Mutual Radiation Assistance Plan (SMRAP) states, except for TX and AR, will be simulated.

c. 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 insure that exercise play is not interrupted. Correction-on-the-spot at Parish EOC's are limited to areas outside the EOC operations area (i.e., emergency worker briefings and issue of dosimetry in other rooms).

3. Level 2 Findings – None

E. Sub-element 1.e - Equipment and Supplies to Support Operations

Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b)

1. Locations

Louisiana SEOC, LDEQ HQ, LDEQ EOF, LDEQ FMT 1, LDEQ FMT 2, JIC, St. Charles Parish EOC, St. John the Baptist Parish EOC

2. Extent of Play

a. Charcoal cartridges instead of silver zeolite will be used for air sampling. Silver Zeolite are included in FMT kits and will be available for inspection by evaluators.

b. Survey meters, dosimetry, and KI are not applicable at the JIC or Louisiana SEOC.

c. TLD/OSLs will be available for all emergency workers and available for inspection by evaluators. Simulated TLDs will be used in place for spare OSL badges for LDEQ players when applicable.

- d. 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. Correction-on-the-spot at Parish EOC's are limited to areas outside the EOC operations area (i.e., emergency worker briefings and issue of dosimetry in other rooms).

3. Level 2 Findings – None

II. ASSESSMENT AREA 2: PROTECTIVE ACTION DECISION-MAKING

A. Sub-element 2.a - Emergency Worker Exposure Control

Criterion 2.a.1: OROs use a decision-making process, considering relevant factors and appropriate coordination, to insure that an exposure control system, including the use of KI, is in place for emergency workers, including provisions to authorize radiation exposure in excess of administrative limits or protective action guides. (NUREG-0654/FEMA-REP-1, C.6; I.10.e.f.; K.4)

1. Locations

Louisiana SEOC, LDEQ EOF, St. Charles Parish EOC, St. John the Baptist Parish EOC

2. Extent of Play

- a. 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.
- b. 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.

3. Level 2 Findings – None

B. Sub-element 2.b. - Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency

Criterion 2.b.1: Appropriate protective action recommendations (PARs) are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of onsite and offsite environmental conditions. (NUREG-0654/FEMA-REP-1, I. 10 and Supplement 3)

1. Locations

Louisiana SEOC, LDEQ EOF

2. Extent of Play

The LDEQ EOF controller may inject simulated field monitoring data to the Dose Assessment Coordinator for the purpose of dose projection validation and verification through back calculations.

3. Level 2 Findings - None

Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654/FEMA-REP-1, A.3; C.4, 6; D.4; J.9; J.10.f, m)

1. Locations

Louisiana SEOC, St. Charles Parish EOC, St. John the Baptist Parish EOC

2. Extent of Play

According to the State of Louisiana's policy, KI is not considered for the general public.

3. Level 2 Findings – None

C. Sub-element 2.c. - PAD Consideration for the Protection of Persons with Disabilities and Access/Functional Needs

Criterion 2.c.1: Protective action decisions are made, as appropriate, for groups of persons with disabilities and access/functional needs. (NUREG-0654/FEMA-REP-1, D.4; J.9; J.10.d, e)

1. Locations

St. Charles Parish EOC, St. John the Baptist Parish EOC

2. Level 2 Findings – None

I. ASSESSMENT AREA 3: PROTECTIVE ACTION IMPLEMENTATION

A. Sub-element 3.a – Implementation of Emergency Worker Exposure Control

Criterion 3.a.1: The OROs issue appropriate dosimetry, KI, procedures, and manage radiological exposure to emergency workers in accordance with the plans/ procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record-keeping of the administration of KI to emergency workers. (NUREG-0654/FEMA-REP-1, J.10.e; K.3.a, b; K.4)

1. Locations

LDEQ EOF, LDEQ FMT 1, LDEQ FMT 2, St. Charles Parish EOC, St. John the Baptist Parish EOC

2. Extent of Play

- a. Area dosimetry will be used in both Parish EOCs.
- b. TLD/OSLs will be available for all emergency workers and available for inspection by evaluators. Simulated TLDs will be used in place of spare OSL or TLD badges when applicable.
- c. St. John the Baptist Parish and St. Charles Parish Traffic and Access Control Points personnel will be located at the parish EOCs, where they will demonstrate the criteria via interview. No travel to Traffic and Access Control Points will be performed.
- d. 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 insure that exercise play is not interrupted. Correction-on-the-spot at Parish EOC's are limited to areas outside the EOC operations area (i.e., emergency worker briefings and issue of dosimetry in other rooms).

3. Level 2 Findings – None

B. Sub-element 3.b. - Implementation of KI Decision for Institutionalized Individuals and the General Public

Criterion 3.b.1: KI and appropriate instructions are available if a decision to recommend use of KI is made. Appropriate record-keeping of the administration of KI for institutionalized individuals is maintained. (NUREG-0654/FEMA-REP-1, J.10.e, f)

1. Locations

St. Charles Parish EOC, St. John the Baptist Parish EOC

2. Extent of Play

- a. If the PAD driven by the scenario does not include Protective Response Areas (PRA) which warrant a discussion on protective action decisions for the protection of special populations, then the criteria shall be accomplished through an interview with the evaluator.
- b. If the scenario does not warrant a discussion on KI decisions then the criteria will be accomplished through an interview with the evaluator.
- c. According to the State of Louisiana's policy, KI is not considered for the general public.

- d. 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 insure that exercise play is not interrupted. Correction-on-the-spot at Parish EOC's are limited to areas outside the EOC operations area (i.e., emergency worker briefings and issue of dosimetry in other rooms).

3. Level 2 Findings – None

D. Sub-element 3.d. - Implementation of Traffic and Access Control

Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654/FEMA-REP-1, A.3; C.1.4; J.10.g, j)

1. Locations

St. Charles Parish EOC, St. Charles Parish T/ACP, St. John the Baptist Parish EOC, St. John the Baptist Parish T/ACP

2. Extent of Play

- a. This may be demonstrated out of sequence.
- b. One traffic and access control staff will demonstrate knowledge of their roles and responsibility by discussion with the evaluator. The discussion will be at the EOC. Travel to the traffic and access control point will not be demonstrated.
- c. If the scenario does not warrant this discussion at a location, the controller will inject data to initiate a discussion.
- d. 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 insure that exercise play is not interrupted. Correction-on-the-spot at Parish EOC's are limited to areas outside the EOC operations area (i.e., emergency worker briefings and issue of dosimetry in other rooms).

3. Level 2 Findings – None

Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654/FEMA-REP-1, J.10.k)

1. Locations

St. Charles Parish EOC, St. Charles Parish T/ACP, St. John the Baptist Parish EOC, St. John the Baptist Parish T/ACP

2. Extent of Play

- a. Transfer of information to JIC is demonstrated to evaluator at EOC.
 - b. A controller inject will be used to initiate the demonstration for this criterion. The inject will occur during the evaluation and it will be on an evacuation route. It will trigger the re-routing of traffic and the parishes will coordinate this re-routing with the JIC in order to communicate the alternate route to evacuees that are leaving the area. No implementation will actually occur; the situation and solution will be discussed in the appropriate EOCs.
3. Level 2 Findings – None

I. ASSESSMENT AREA 4: FIELD MEASUREMENTS AND ANALYSES

A. Sub-Element 4.a - Plume Phase Field Measurements and Analyses

Criterion 4.a.2: Field teams (2 or more) are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654/FEMA-REP-1, C.1; H.12; I.7, 8, 11; J.10.a)

1. Locations

LDEQ EOF

2. Extent of Play

- a. LDEQ FMT Coordinator, Dose Assessors, and other LDEQ EOF personnel may be presented with controller injects as needed them to characterize the release.
- b. The LDEQ EOF controller may inject simulated field monitoring data to the Dose Assessment Coordinator for the purpose of dose projection validation and verification through back calculations.

3. Level 2 Findings – None

Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654/FEMA-REP-1, C.1; H.12; I.8, 9; J.10.a)

1. Locations

LDEQ FMT 1, LDEQ FMT 2

2. Extent of Play

- a. LDEQ FMTs will not don anti-contamination suites during the exercise. Anti-contamination suites are available in field team kits. Proper donning and doffing techniques will be demonstrated by one member, either prior to deployment or following termination of the exercise. FMTs will don gloves and booties during the exercise.
- b. Charcoal cartridges instead of silver zeolite will be used for air sampling. Silver Zeolite are included in FMT kits and will be available for inspection by evaluators.
- c. 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.

3. Level 2 Findings – None

V. **ASSESSMENT AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION**

A. **Sub-element 5.a – Activation of the Prompt Alert and Notification System**

Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by current REP guidance. (NUREG-0654/FEMA-REP-1, E.5, 6, 7)

1. Locations

St. Charles Parish EOC, St. John the Baptist Parish EOC,
WWL Radio, 400 Poydras Street, Suite 800, New Orleans, LA 70130

2. Extent of Play

- a. 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.
- b. Simulation of the siren activation will be in real time sequence with the transmission of the Emergency Alert Systems EAS message.
- c. 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.

3. Level 2 Findings – None

Criterion 5.a.4: Activities associated with FEMA-approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation (NUREG-0654/FEMA-REP-1, E.6; Appendix 3.B.2.c)

1. Locations

St. Charles Parish EOC, St. John Parish EOC

2. Extent of Play

- a. St. Charles Parish exception area in quadrant B will be demonstrated out-of-sequence on a date TBD. The alerting along this route will be simulated.
- b. The alert message will be demonstrated on the low volume setting to the evaluator's satisfaction prior to the actual demonstration of the alert route.
- c. Helicopter will be hovering for the evaluator at the altitude required for announcement demonstration. Announcement will be a testing phrase and not an actual alert message. The demonstration of flight pattern will follow.

3. Level 2 Findings – None

B. Sub-element 5.b - Subsequent Emergency Information and Instructions for the Public and the Media

Criterion 5.b.1: OROs provide accurate subsequent emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654/FEMA-REP-1, E.5, 7; G.3.a, G.4.a, c)

1. Locations

JIC, St. Charles Parish EOC, St. John the Baptist Parish EOC

2. Extent of Play

- a. Utility, State, and Parish representatives will demonstrate the ability to provide emergency information and instructions to the public consistent with the scenario.
- b. News media will not be present. Selected personnel will simulate the role of reporters asking questions during briefings.
- c. Controllers will inject public phone team messages, media phone team messages and news briefing messages.
- d. Rumor control will be demonstrated at the JIC.

- e. The Louisiana State EOC does not disseminate subsequent messages to the public. All messages should come through the JIC.

▲ 3. Level 2 Findings – None

▲ VI. GENERAL EXTENT-OF-PLAY (EOP):

- A. With regard to last minute additions or changes to any previously approved Extent-of-Play, all suggested changes must be forwarded to the RAC Chair for approval.
- B. The goal of all offsite response organizations (ORO) is to protect the health and safety of the public. This goal is achieved through the execution of appropriate plans and procedures. It is recognized that situations may arise that could limit the organizations in the exact execution of these plans and procedures.
- C. In the event of an unanticipated situation, OROs are permitted to exercise flexibility in the implementation of their plans and procedures in order to successfully achieve the objective of protection of public health and safety and protection of the environment.
- D. As a statement of fact, no ORO will deliberately deviate from its plans and procedures with the intent of avoiding responsibility.

VII. REFERENCES:

Radiological Emergency Preparedness Program Manual - FEMA P-1028/January 2016

**STATE OF LOUISIANA
Waterford 3 Biennial Exercise
November 20, 2019**

Schedule of Events

Monday, November 18, 2019

- 8:30 am LDEQ Player Pre-Exercise Meeting Conference Room 819 at LDEQ, 602 North Fifth Street, Baton Rouge, LA 70802
(Point of Contact: Jessica Walker, 225-219-3835)
- 9:30 am LDEQ Controller Briefing, Conference Room 819 at LDEQ, 602 North Fifth Street, Baton Rouge, LA 70802
(Point of Contact: Jessica Walker, 225-219-3835 (w), 225-571-3719 (m))

Tuesday, November 19, 2019

- 3:00 pm LDEQ Controller Briefing, Courtyard Marriott, 2 Galleria Blvd., Metairie, LA
(Point of Contact: Jessica Walker, 225-571-3719 (w), 225-571-3719 (m))
- 4:15 pm FEMA Evaluator Meeting, Courtyard Marriott, 2 Galleria Blvd., Metairie, LA
(Point of Contact: Linda Gee, 940-898-5368 (w), 940-367-8772 (m))

Wednesday, November 20, 2019

- 6:45 am **Waterford 3 Biennial Exercise, Various Locations**

Thursday, November 21, 2019

- 9:00 am FEMA Debriefing with LDEQ, W3, and Parish EOC Directors, St. John the Baptist EOC, 1801 West Airline Highway, Laplace, LA
(Point of Contact: Travis Perrilloux, 985-652-222 (w), 985-379-6710 (m))
- 10:00 am Town Hall Meeting, 1801 West Airline Highway, Laplace, LA
(Point of Contact: Travis Perrilloux, 985-652-222 (w), 985-379-6710 (m))

SCENARIO NARRATIVE

IV. Narrative Summary

A. Initial Conditions

The scenario begins with 100% Reactor Power at the beginning of core life. Plant Safety Index is 10.0 Green. The sky is sunny with 10% chance of rain.

Protected Train is A. The AB bus is aligned to the A side.

Containment Spray (CS) Pump B is out of service for preventative maintenance (oil change). The pump was tagged out at 0400 on November 20, 2019. The oil has been drained from the pump and the motor. The coupling has been disassembled, the grease has been removed and the coupling has been cleaned. Mechanical Maintenance personnel are expected to complete the PM by approximately 1700, November 20, 2019.

B. Summary of Events

At 0805, RCP1A lower seal failure occurs. The control room receives computer point alarms A13101, RCP 1A middle SL Wtr press, Hi-Hi alarm on the PMC alarm screen.

*At 0806, a large break Loss of Coolant Accident (LOCA) of 400 gpm is initiated releasing radioactive primary coolant into Containment. The Containment High Range monitors start to ramp up. The Control Room staff trips the Reactor and manually initiates SIAS and CIAS. The Containment High Range Monitors start to ramp up.

At 0806, HPSI Pump B does not start on SIAS caused by the LOCA. The control room verifies HPSI Pump A is operating properly and dispatches an NAO to investigate HPSI Pump B locally and HPSI Pump B breaker. The NAO discovers the breaker in the open position with normal indications. Electrical repair team should be requested to inspect the breaker (failed aux switch terminal connection broken).

At 0806, the Containment High Range ARM-IRE-5400A and 5400B radiation monitors will start a ramp to read >1000 R/hr over a two minute ramp.

*At 0808, the threshold for Site Area Emergency, EAL FCB5 (>1000 R/hr) and RCB4 (>100 R/hr)/RCB2 (unisolable RCS leak >44 gpm) will be reached. The Containment High Range Monitors will continue to gradually increase for the duration of the drill but will not exceed 2000 R/hr.

The (SM)/ (ED) declares a Site Area Emergency based on Emergency Plan Implementing Procedure EP-001-001, Recognition and Classification of Emergency Conditions, Initiating Condition FS1, "Loss or Potential Loss of ANY two Barriers," EALs FCB5 and RCB4/RCB2. There are no Protective Action Recommendations (PARs)

required at this time. There is no offsite radiological release at this time. RCB2 is applicable to the scenario conditions but is a Potential Loss where as RCB4 is a loss of the RCS Barrier.

The threshold for Alert conditions existed at 0806 with the LOCA conditions. The SM/ED may decide to declare an Alert FA1 (RCB2) prior to the Site Area Emergency declaration of FS1 (FCB5 and RCB4/RCB2).

The Emergency Director selects an offsite assembly area and announces a site evacuation. Based on the wind direction, the ED should select Monsanto Park for the assembly area. The Assembly Area Supervisor is dispatched and Security performs accountability in accordance with EP-002-190, Personnel Accountability. For the purposes of this drill a small number of pre-designated personnel will evacuate to the selected offsite assembly area. The evacuation of the Protected Area will be simulated.

At 0901, Component Cooling Water Pump B trips. CCW Pump AB should be aligned to replace CCW Pump B. The control room dispatches an operator to investigate CCW Pump B breaker and locally investigate the pump. The operator finds the breaker tripped on overcurrent and the pump bearing casing is hot to the touch and heavily discolored. This malfunction will not be returned to service prior to the end of the exercise.

At 0922, EDG B trips due to overspeed linkage breaking. The control room dispatches an operator to investigate locally. The operator will find the lever attached to linkage indicating the butterfly OSBV has closed. Linkage holding valve open found detached from its mounting bracket due to a sheared bolt. Both bolt and nut are visible after investigation.

At 0934, Control Room normal AHU B (AH-12B) trips. The control room receives annunciator, Control Room AH-12B Power Lost. AH-12 B control switch indication is lost. The control room dispatches an operator to investigate CR normal AHU B (AH-12B) locally. The operator finds the breaker tripped for Control Room normal AHU B and requests PME to investigate. PME finds the control power transformer faulty. The AHU B will not be returned to service prior to the end of the exercise.

*At 0940, Containment Spray Pump A fails as Containment Spray flow deteriorates to 1200 gpm. The control room receives annunciator, Cntmt Spray HDR A Flow Lo alarm on panel M (F-4). The crew recognizes the reduced flow rate and reports the Containment Temperature and Pressure Control Safety Function is no longer met. The control room dispatches an operator to investigate locally. The operator finds the pump making a loud banging noise and vibrating wildly. The operator recommends the control room secure CS Pump A. CSP A will not be returned to service prior to the end of the drill.

The SM/ED recognizes the conditions for a General Emergency declaration exists

based on Emergency Plan Implementing Procedure EP-001-001, Recognition and Classification of Emergency Conditions, Initiating Condition FG1, "Loss of any two barriers and loss or potential loss of the third barrier" EAL FCB5, RCB4 and CNB2.

Initial Protective Action Recommendations (PARs) of evacuation of Protective Response Areas will be PAR Scenario 5 which includes A1, B1, C1, D1 (2-mile radius), C2 (5 miles downwind) and Monitor and Prepare for the remainder of the Protective Response Areas in the 10-mile EPZ are made. There is no offsite radiological release at this time above federal limits.

At 1022, the control room receives annunciator, HPSI Pump A BRNG Water Flow LO panel M (C-3) alarm. The control room dispatches an operator to investigate locally and the operator observes the CCW flow to HPSI Pump A fluctuating from 8 to 11 gpm. CCW Outlet and Inlet Isolation (CC-934A, CC-942A) valves are verified open. An OSC repair team is requested to investigate the problem with the bearing water flow. An Engineering evaluation may be performed to verify that the pump can be run under current conditions.

At 1042, a failure of Penetration into the annulus will start the radiological release. The release will be recognizable via the Plant Stack WRGM and will gradually increase over a 23 minute period and will stabilize for the duration of the drill. The radiological release will not change the current PARs declared. The drill will be terminated with a release in progress.

~At 1200 (END DRILL), in the opinion of the Lead Controller, the drill objectives have been sufficiently demonstrated and continuing the drill will provide no additional benefit, the drill will be terminated. This decision will be coordinated with LDEQ. When the drill is terminated, area critiques will be conducted.

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V. Timeline

<u>Time</u>	<u>Event</u>	<u>Drill Activity</u>
0700 Message – 1	Drill Controllers brief the Operations shift personnel in the Simulator. Drill guidelines and initial conditions are discussed with the participants.	<p>Following the briefing, the NAOs and on shift personnel take their positions in the plant.</p> <p>The scenario begins with 100% Reactor Power at Beginning of Core life. Plant Safety Index is 10.0 Green.</p> <p>The Protected Train is A.</p> <p>The AB bus is aligned to the A side.</p> <p>CS Pump B is out of service for preventative maintenance (oil change). The pump was tagged out at 04:00 on November 20, 2019. The oil has been drained from the pump and the motor. The coupling has been disassembled, the grease has been removed and the coupling has been cleaned. Mechanical. Expected completion of the PM is approximately 1700 on 11/20/19.</p>
0755	The Control Room participants are instructed to start the Drill.	Shift Crew will take the shift.
0800 Message – 2	Drill continuation announcement.	Lead Controller will make plant announcement.
0805 Message – 3	RCP1A lower seal failure occurs	The control room receives computer point alarms A13101, RCP 1A middle SL Wtr press, Hi-Hi alarm on the PMC alarm screen
0806 Message – 4	<p>Loss of Coolant Accident (LOCA) occurs</p> <p>*Alert condition met</p>	A large break Loss of Coolant Accident (LOCA) is initiated releasing radioactive primary coolant into Containment
Message – 5 Attachment HPSI Pump B	High Pressure Safety Injection Pump (HPSI) B fails to start	HPSI Pump B does not start on SIAS caused by the LOCA. The control room verifies HPSI Pump A is operating properly and dispatches an NAO to investigate HPSI Pump B locally and HPSI Pump B breaker.
0809	Rise in Containment High Range Radiation Monitor	Containment High Range ARM-IRE-5400A and 5400B radiation monitors will start to increase to >1000 R/hr over a three minute period.

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0811 Message – 6	*Site Area Emergency condition met	The SM/ED declares a Site Area Emergency (SAE) based on EP-001-001, Recognition and Classification of Emergency Conditions, Initiating Condition (IC) FS1 – Loss or Potential Loss of any two barriers, EAL FCB5, RCB4/RCB2. There are no PARs required for this declaration. There is no release in progress.
Message – 7, 8, 9		<p>EP-001-030, SAE, is implemented. The emergency condition is announced to station personnel.</p> <p>The Onsite (TSC & OSC), Nearsite (EOF) Emergency Organizations are mobilized (if not completed at Alert).</p> <p>State and local government agencies, Waterford 1 & 2 and the NRC are notified. Waterford 1 & 2 is directed to evacuate non-essential personnel (for the purposes of this drill, evacuation of Waterford 1 & 2 will not occur).</p> <p>For the purposes of this drill, there will not be a Protected Area evacuation. A small group of predesignated persons will be evacuated to the assembly area to demonstrate evacuation and assembly area activities.</p>
Message – 10	Completion of Accountability	Security will complete accountability (missing person's list simulated) and notify the Security Coordinator in the OSC.
Message – 10	Assembly Area personnel return to plant	After Assembly Area muster activities are performed, the evacuated personnel should be called back to the plant. This objective will have been completed and this portion of the Drill is also completed.
0901 Message – 11, 12, Attachment CCW Pump B Attachment CCW Pump B-1	Component Cooling Water (CCW) Pump B trips	CCW Pump B trips. CCW Pump AB should be aligned to replace CCW Pump B. The control room dispatches an operator to investigate CCW Pump B breaker and locally investigate the pump. The operator finds the breaker tripped on overcurrent and the pump bearing casing is hot to the touch and heavily discolored.
0922 Message – 13,	Emergency Diesel Generator (EDG) B trips	EDG B trips due to overspeed linkage breaking. The control room dispatches

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Attachment EDG B		an operator to investigate locally. The operator will find the lever attached to linkage indicating the butterfly OSBV has closed. Linkage holding valve open found detached from its mounting bracket due to a sheared bolt. Both bolt and nut are visible after investigation.
0934 Message – 14	Control Room Air Handling Unit trips, AH – 12 B	The control room receives annunciator, Control Room AH-12B Power Lost. AH-12 B control switch indication is lost.
0940 Message – 15	CS Pump A fails *General Emergency conditions met	CS Pump B fails as Containment Spray flow deteriorates to 1200 gpm. The control room receives annunciator, Contmt Spray HDR A Flow Lo alarm on panel M (F-4). The crew recognizes the reduced flow rate and reports the Containment Temperature and Pressure Control Safety Function is no longer met.
Message – 16, 17	General Emergency declaration	The Emergency Director declares a General Emergency based on EP-001-001, Recognition and Classification of Emergency Conditions, Initiating Condition FG1, "Loss of any two barriers and loss or potential loss of the third barrier" EAL FCB5, RCB4 and CNBZ. Scenario 5 for initial Protective Action Recommendation of evacuation of Protective Response Areas A1, B1, C1, D1 (2-mile radius), C2 (5 miles downwind) and Monitor and Prepare for the remainder of the Protective Response Areas in the 10-mile EPZ are made. There is no offsite radiological release at this time above federal limits.
1022 Message – 18 Attachment HPSI Pump A	HPSI Pump A BRNG Water Flow low	Control Room receives annunciator, HPSI Pump A BRNG Water Flow LO panel M (C-3) alarm. The control room dispatches an operator to investigate locally and the operator observes the CCW flow to HPSI Pump A fluctuating from 8 to 11 gpm.
1042	Penetration failure – start of radiological release	Failure of Penetration into the annulus to start the radiological release. The release will ramp over a 23 minute period.

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~1200
Message – 19, 20

Termination of drill

When in the opinion of the Lead Controller, the drill objectives have been sufficiently demonstrated, the drill will be terminated.

WATERFORD 3 STEAM ELECTRIC STATION

2019

MEDICAL DRILL (MS-1) Revision 4

October 17, 2019

Evaluated Organizations

OCHSNER CLINIC FOUNDATION

ST CHARLES PARISH AMBULANCE SERVICE

II. EXTENT OF PLAY

A. ASSESSMENT AREA 1: EMERGENCY OPERATIONS MANAGEMENT

Sub-Element 1.e – Equipment and Supplies to Support Operations

Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations. (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b)

1. Locations

Ochsner Medical Center and St Charles Parish Ambulance

2. Extent of Play

Correction on the spot, at the discretion of and concurrence between the evaluator and the controller, may be acceptable at these locations. Caution should be exercised to insure that exercise play is not interrupted.

3. Level 2 Findings – None

B. ASSESSMENT AREA 3: PROTECTIVE ACTION IMPLEMENTATION

Sub-Element 3.a – Implementation of Emergency Worker Exposure Control

Criterion 3.a.1: OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. (NUREG-0654/FEMA-REP-1, J.10.e; K.3.a, b; K.4)

1. Locations

Ochsner Medical Center and St Charles Parish Ambulance

2. Extent of Play

a. Area dosimetry may be used at the hospital.

b. Correction on the spot, at the discretion of and concurrence between the evaluator and the controller, may be acceptable at these locations.

Caution should be exercised to insure that exercise play is not interrupted.

3. Level 2 Findings – None

C. ASSESSMENT AREA 6: SUPPORT OPERATIONS/FACILITIES

Sub-Element 6.d–Transportation and Treatment of Contaminated Injured Individuals

Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources and trained personnel to provide transport, monitoring, decontamination and medical services to contaminated injured individuals. (NUREG-0654/FEMA-REP-1, F.2; H.10; K.5.a, b; L.1, 4)

1. Locations

Ochsner Medical Center and St Charles Parish Ambulance

2. Extent of Play

- a. Attachment C – Aeromedical Transportation of a Radioactively Contaminated Patient of Radiation Accident Plan will remain in place since this procedure is applicable to the patient transportation from utility. However, Louisiana Peacetime Radiological Response Plan does not include the use of Ochsner Flight Care and it will not be demonstrated.
- b. All surgical procedures, X-rays, blood samples, starting of IV's, etc., will be simulated.
- c. Ambulance travel times will be simulated.
- d. Ambulance will be pre-staged at a Ochsner Medical Center where simulated contaminated patient loading will be demonstrated.
- e. The lead controller initiates the drill by contacting the Ochsner Medical Center and reporting a contaminated injured member of the public being transported to the Hospital from the simulated location of the injury.
 - i. The simulated estimated time of arrival (ETA) will allow the hospital to completely mobilize.
 - ii. The Hospital will be contacted immediately before the ambulance in order to increase the preparation time available.

- f. Immediately after contacting Ochsner Medical Center, the lead controller contacts the St Charles Ambulance Service and reports a contaminated injured member of the public at a simulated accident location.
 - i. The accident site where the injury occurred will be simulated. The ambulance will be parked by the emergency room for Ochsner and the moulage will be completed while simulating arrival time.
 - ii. Evaluation of loading and transport of simulated contaminated patient will be conducted by interview while simulating arrival time.
 - iii. If for some reason, the EMS unit is called into service in response to an actual event, the patient transportation will take place using an alternate vehicle.
 - iv. Information provided by the ambulance crew during transportation of the patient will be provided by cue cards.
 - g. After approximately 30 minutes, the ambulance will arrive at the hospital entrance with the packaged patient. The patient will be a contaminated injured member of the public.
 - h. Correction on the spot, at the discretion of and concurrence between the evaluator and the controller, may be acceptable at these locations. Caution should be exercised to insure that exercise play is not interrupted.
3. Level 2 Findings – None

D. GENERAL EXTENT-OF-PLAY (EOP):

- 1. Any last minute additions or changes to any previously approved Extent-of-Play must be forwarded to the RAC Chair for approval.
- 2. The goal of all offsite response organizations (ORO) is to protect the health and safety of the public. This goal is achieved through the execution of appropriate plans and procedures. It is recognized that situations may arise that could limit the organizations in the exact execution of these plans and procedures.
- 3. In the event of an unanticipated situation, OROs are permitted to exercise flexibility in the implementation of their plans and procedures in order to

I. INTRODUCTION

In the interest of assuring the health and safety of the general public near the Waterford 3 Steam Electric Station, in the event of a radiological emergency, Waterford 3 periodically conducts drills jointly with the Federal, State and local agencies.

This manual contains the scenario of activities and supporting data describing the Waterford 3 Emergency Preparedness Medical Services Drill.

This scenario was developed by postulating events that will require response by offsite organizations.

During this drill, the support organizations will respond to the simulated events and conditions that have been selected to provide the level of activity necessary to meet the scenario objectives.

Ochsner Medical Center and St Charles Parish Ambulance will participate in this drill.

Drill participants will have no prior knowledge of the sequence of events. The drill scenario will allow those individuals and agencies assigned to respond during a radiological emergency to demonstrate their performance according to current emergency preparedness plans and procedures.

The scenario is a mechanism by which selected drill controllers will initiate and evaluate the activities of the drill participants. The individual drills will be initiated as shown below and each are expected to last approximately three hours.

Participating organizations are shown in Section IV, Guidelines, of this manual.

A. SCHEDULE

1. Thursday October 17, 2019
08:00 Ochsner Medical Center

An evacuee is injured in a motor vehicle accident and has been transported by relatives to the Alario Center. The evacuee has been surveyed by members of the Reception Center staff and has been found to be contaminated. St Charles Ambulance Service was requested to provide treatment and transportation of a contaminated patient to the Ochsner Medical Center for treatment.

The Drill Control Team simulates first aid.

At approximately 07:45, the St Charles Ambulance Service is (simulated) dispatched to the patient location.

At 08:00, the Drill Control Team calls the Ochsner Medical Center to report the simulated medical emergency. The initial advisement to the ambulance has been that there is an injured individual located at the Alario Center who is radiologically contaminated due to a radiological release from Waterford-3. A turnover (from the controller) of the radiological status will be provided to the ambulance personnel. As medical treatment and patient transport continue, contamination control measures should proceed. The ambulance personnel should communicate with Ochsner Medical Center upon their departure from the simulated Alario Center which should include medical and radiological information as well as an ETA (estimated time of arrival).

The EMTs will provide radio updates to medical center staff during simulated transportation of the patient.

At approximately 08:30, the ambulance will arrive at the medical center. The patient will be taken into the REA, decontaminated and treated for the simulated injuries. After the patient has been removed from the REA and the proper removal of protective clothing has been demonstrated, the medical drill will be terminated. A critique of the events will be conducted.

Any required x-rays or required samples may be simulated by hospital personnel after demonstrating knowledge of requirements and processes.

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