



FEMA

December 7, 2016

Mr. Kriss Kennedy, Regional Administrator
U.S. NRC, Region IV
1600 E. Lamar Boulevard
Arlington, TX 76011-4511

Dear Mr. Kennedy:

Enclosed is a copy of the radiological emergency preparedness final report for the River Bend Station (RBS) Medical Services drill evaluated on October 26, 2016. FEMA Region 6 staff evaluated the Our Lady of the Lake Regional Medical Center and Acadian Ambulance Service. As a result of the drill, there were no Level 1 Findings or Plan Issues identified during the drill. There was one Level 2 Finding corrected during the drill.

Based on the results of the drill, the planning and preparedness for the State of Louisiana and affected local jurisdictions provide reasonable assurance that appropriate measures can be taken to protect public health and safety in the event of a radiological release, Therefore, 44 CFR Part 350 approval of the offsite radiological emergency response plans and preparedness for the State of Louisiana - specific to the RBS will remain in effect.

Sincerely,

A handwritten signature in black ink, appearing to read "Nan Williams".

Nan Williams
RAC Chair

Enclosure

cc: Vanessa Quinn, DHS/FEMA Headquarters
Jesse King, DHS/FEMA Headquarters
Bryan Riche, LDEQ
James Waskom, GOHSEP
Fred Hurst, RBS

IX-19
NRR



River Bend Station
**After Action Report/
Improvement Plan**

Drill Date – October 26, 2016
Radiological Emergency Preparedness (REP) Program



FEMA

Published December 7, 2016

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

River Bend Station

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River Bend Station

After Action Report/Improvement Plan

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EXECUTIVE SUMMARY

On October 26, 2016, an out of sequence Medical Services drill was conducted for the River Bend Station (RBS), located near St. Francisville, Louisiana. Personnel from the U.S. Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA) Region VI, evaluated all activities. The purpose of the drill was to assess the level of preparedness of local responders to react to a simulated radiological emergency at River Bend Station. The previous medical drill at this site was conducted on September 24, 2014. The previous exercise was conducted on June 29, 2016.

Personnel from the State of Louisiana, River Bend Station, East Baton Rouge Parish, Our Lady of the Lake Regional Medical Center, and Acadian Ambulance participated in the drills. Cooperation and teamwork of all the participants was evident during the drill and DHS/FEMA wishes to acknowledge these efforts.

This report contains the final evaluation of the out of sequence drill. The participants demonstrated knowledge of their emergency response plans and procedures and adequately demonstrated them. There were no Level 1 Findings or Plan Issues identified during the drill. There was one Level 2 Finding corrected during the drill.

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name

River Bend Station Drill 2016-10-26

Type of Exercise

Drill

Exercise Date

October 26, 2016

Program

DHS/FEMA Radiological Emergency Preparedness Program

Scenario Type

Medical Services

1.2 Exercise Planning Team Leadership

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1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the River Bend Station exercise:

State Jurisdictions

Louisiana Department of Environmental Quality

Support Jurisdictions

East Baton Rouge Parish

Private Organizations

River Bend Station
Our Lady of the Lake Regional Medical Center
Acadian Ambulance Service

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

The DHS/FEMA Region VI Office evaluated the drill on October 26, 2016 to assess the capabilities of 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 River Bend Station (RBS). The purpose of this report is to represent 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 to be exercised are discussed in the Exercise Plan (EXPLAN), Appendix C.

2.3 Scenario Summary

The drill scenario was developed to evaluate the response of drill participants to an incident requiring evacuation of the public from the 10-mile Emergency Planning Zone surrounding the River Bend Station. The drill scenario provided for the evaluation of Our Lady of the Lake Regional Medical Center's and Acadian Ambulance Service's ability to transport and treat a contaminated injured individual.

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 October 26, 2016 drill to test the offsite emergency response capabilities of local governments in the 10-mile Emergency Planning Zone surrounding the River Bend Station.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in the exercise evaluation areas as outlined in the January 2016, Radiological Emergency Preparedness Manual. Detailed information on the exercise evaluation area criteria and the extent of play agreement used in this drill are found in Appendix C of this report.

3.2 Summary Results of Exercise Evaluation

The matrix presented in Table 3.1 on the following page, represents 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 letters:

M - Met (No Level 1 or 2 Findings assessed and no unresolved Findings from prior exercises or drills)

L1- Level 1 Finding

L2 – Level 2 Finding

P – Plan Issue

N - Not Demonstrated

Table 3.1 – Exercise Evaluation – Criteria Met

Date: 10/26/2016 Site: River Bend Station			
Location	Criteria Title	Criteria	Status
Acadian Ambulance	Contaminated Injured Transport & Care	6d1	M
Acadian Ambulance	EW Exposure Control Implementation	3a1	M
Acadian Ambulance	Equipment and Supplies	1e1	M
Our Lady of the Lake	Contaminated Injured Transport & Care	6d1	M
Our Lady of the Lake	EW Exposure Control Implementation	3a1	M
Our Lady of the Lake	Equipment and Supplies	1e1	M

3.3 Criteria Evaluation Summaries

3.3.1 Private Jurisdictions

3.3.1.1 Acadian Ambulance

In summary, the status of DHS/FEMA criteria for the Private Jurisdiction is as follows:

- a. LEVEL 1 FINDINGS: NONE
- b. LEVEL 2 FINDINGS: NONE
- c. PLAN ISSUES: NONE
- d. PRIOR ISSUES – RESOLVED: NONE
- e. PRIOR ISSUES – UNRESOLVED: NONE

3.3.2.1 Our Lady of the Lake Regional Medical Center

In summary, the status of DHS/FEMA criteria for the Private Jurisdiction is as follows:

- a. LEVEL 1 FINDINGS: NONE
- b. LEVEL 2 FINDINGS:

LOCATION: Our Lady of the Lake Regional Medical Center

ISSUE NO: 53-16-6d1-L2-1

CRITERION: Equipment and Supplies

CONDITION: Improper survey technique was used to monitor the patient. The speed of survey was excessive.

POSSIBLE CAUSE: Insufficient training on survey technique or lack of effort due to drill artificiality.

REFERENCE: NUREG-0654/FEMAREP-1, F.2; H.10; K.5.a, b; L.1, 4
REP Program Manual, Part III, 1.e.1

Decontamination and Treatment of the Radioactively Contaminated Patient(s) at Our Lady of the Lake Regional Medical Center, Effective Date: 09/14

EFFECT: Any contamination present on the patient could be missed due to the excessive speed of the patient survey which could lead to unnecessary exposure of the patient and spread of contamination to areas outside of the Radiation Emergency Area (REA).

CORRECTIVE ACTION DEMONSTRATED: A timeout was called by the Controller and retraining conducted, then the patient survey was correctly demonstrated.

- c. PLAN ISSUES: NONE
- d. PRIOR ISSUES – RESOLVED: NONE
- e. PRIOR ISSUES – UNRESOLVED: NONE

SECTION 4: CONCLUSION

Based on the results of the drill, the offsite radiological emergency response plans and preparedness for the State of Louisiana and the affected local jurisdictions 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 River Bend Station will remain in effect.

APPENDIX A: EXERCISE EVALUATORS AND TEAM LEADERS

DATE: 10/26/2016

SITE: River Bend Station

LOCATION	EVALUATOR	AGENCY
Acadian Ambulance	Linda Gee	FEMA R6
Our Lady of the Lake regional Medical Center	Timothy Pflieger	FEMA R6
Our Lady of the Lake regional Medical Center	Nan Calhoun	FEMA R6

APPENDIX B: ACRONYMS AND ABBREVIATIONS

Acronym	Description
DHS	Department of Homeland Security
EMS	Emergency Medical Service
EMT	Emergency Medical Technician
EOC	Emergency Operations Center
EPD	Electronic Personal Dosimeter
EPZ	Emergency Planning Zone
ETA	Estimate Time of Arrival
EW	Emergency Worker
FEMA	Federal Emergency Management Agency
KI	Potassium Iodide
LOL	Our Lady of the Lake
OSL	Optically Stimulated Luminescent
PPE	Personal Protective Equipment
RADEF	Radiological Defense
RBS	River Bend Station
REA	Radiation Emergency Area
REAC/TS	Radiation Emergency Assistance Center/Training Site
REP	Radiological Emergency Preparedness
RSO	Radiation Safety Officer

APPENDIX C: EXERCISE PLAN

RADIOLOGICAL EMERGENCY MEDICAL DRILL SCENARIO

FOR

RIVER BEND STATION

OUR LADY OF THE LAKE REGIONAL MEDICAL CENTER

AND

ACADIAN AMBULANCE SERVICE

October 26, 2016

RDRL-EP-16MS1DRIL

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I PURPOSE

This simulated radiation medical emergency is being conducted in order to exercise the emergency medical response at Our Lady of the Lake Regional Medical Center and the responding Acadian Ambulance Service. The basic objective is to assess the ability of the hospital and ambulance emergency service to handle contaminated and injured patients.

II PROPOSED SCHEDULE

DATE: October 26, 2016
TIME: 7:00 AM
LOCATION: Our Lady of the Lake Regional Medical Center
ILLNESS/INJURY: Motor vehicle accident with leg laceration

III EXERCISE CONTROLLERS/EVALUATORS

Fred Hurst / Will White	EBR EOC	225-324-6020 / 252-2784
Gil Cosnett	LOL Medical Center	1-856-261-5760

EXERCISE OBSERVERS

Ji Wiley	Hospital
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IV EVALUATION AREAS AND EXTENT-OF-PLAY-OFFSITE

EVALUATION AREA 1: EMERGENCY OPERATIONS MANAGEMENT

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

Criterion 1.e.1: Equipment, maps, displays, monitoring instruments, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operation (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)

Locations

Our Lady of the Lake Regional Medical Center and Acadian Ambulance Service

Extent of Play

The ambulance crew should be knowledgeable on how to acquire dosimetry kits and potassium iodide (KI) during a declared emergency. The ambulance crew will discuss the method of obtaining dosimetry kits and KI from the parish when an emergency has been declared at the nuclear power plant. The discussion can be accomplished by interview with the evaluator. In accordance with the scenario for this evaluation, the parish will provide necessary dosimetry to the ambulance crew. "Correction-on-the-spot" will be applicable for this demonstration.

EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION

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

Criterion 3.a.1: The OROs issue appropriate dosimetry, KI, and 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, K.3.a, b; K.4)

Locations

Our Lady of the Lake Regional Medical Center and Acadian Ambulance Service

Extent of Play

Dosimeters and a simulated TLD will be issued to participating ambulance crew members by East Baton Rouge Parish personnel. Hospital personnel will be issued dosimeters and TLDs at the hospital. "Correction-on-the-spot" will be applicable for this demonstration.

EVALUATION AREA 6: SUPPORT OPERATION/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)

Locations

Our Lady of the Lake Regional Medical Center and Acadian Ambulance Service

Extent of Play

The ambulance service will pick up the victim at a pre-staged location, the East Baton Rouge Parish Emergency Operation Center. Removal of victim's clothing will be simulated. Decontamination will be performed on and around wound areas that will be unclothed, and other areas if necessary. Intrusive bioassay samples will be simulated. No actual surgical procedures, X-ray, drawing of blood samples, etc. will be conducted. "Correction-on-the-spot" will be applicable for this demonstration.

GENERAL EXTENT-OF-PLAY (EOP):

1. 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.
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 successfully achieve the objective of protection of public health and safety and protection of the environment.

4. As a statement of fact, no ORO will deliberately deviate from its plans and procedures with the intent of avoiding responsibility.

References:

FEMA REP Manual – January 2016

V PERFORMANCE OBJECTIVES AND EVALUATION CRITERIA

	Program Elements	PERFORMANCE OBJECTIVES and General Evaluation Criteria	MED
B.8	Emergency Services Support Organizations	Demonstrate the ability to utilize onsite first aid / fire brigade personnel and to coordinate with required offsite emergency services (police, fire, ambulance, medical, hospital)	
	B.8.1	Appropriate offsite emergency services like law enforcement, fire, ambulance, medical and hospital care were contacted	N/A
	B.8.2	Appropriate points of contact were identified for the requested support.	N/A
	B.8.3	Security response was prompt in providing site access to the responding agency.	N/A
	B.8.4	Fire brigade coordination and communications were appropriate (applicable to fire scenarios only).	N/A
	B.8.5	Medical and First Responder Team coordination and communications were appropriate (applicable to medical scenarios only).	N/A
	B.8.6	RP support was contacted promptly for scenarios involving radiological controls.	N/A
	B.8.7	Dosimetry was properly issued to incoming responders.	N/A
L.1	Hospital Response	Demonstrate the radiological capabilities of local and backup hospitals. (Criteria demonstrated by alternating one hospital/year)	
	L.1.1	Appropriate in-house notifications were made, including medical and radiological conditions of the victim, and staff assignments to support the emergency.	
	L.1.2	Required protective clothing was properly donned.	
	L.1.3	The radiological emergency area (REA) was properly set up for treatment of contaminated victims.	
	L.1.4	The REA staff/ambulance crew/RP technicians performed a clean transfer of the victim,, including documentation of radiological and medical conditions.	
	L.1.5	Ambulance and crew were properly monitored for contamination, and decontaminated if necessary, prior to being released.	
	L.1.6	Proper triage and medical treatment was performed as much as practical.	
	L.1.7	The victim's radiological condition and the dosimetry records of the RES staff were properly documented by the Buffer Zone Nurse.	
	L.1.8	Necessary samples from the victim were obtained and properly labeled.	
	L.1.9	Proper techniques were used to decontaminate victim without compromising their medical condition.	
	L.1.10	Proper contamination control practices were demonstrated in transferring decontaminated victim from the REA.	

	L.1.11	Proper exit procedures were demonstrated by hospital staff entering and leaving the REA.	
	L.1.12	The REA and hospital staff were properly monitored for contamination, and decontaminated if necessary, prior to being released.	
L.2	First Aid	Demonstrate the ability to provide first aid treatment onsite.	
	L.2.1	First aid team was promptly dispatched after notification received in the Control Room.	N/A
	L.2.2	Life-threatening medical conditions were addressed as a priority over contamination issues.	
	L.2.3	Team exposure was considered and not permitted to exceed pre-established values.	
	L.2.4	Appropriate contamination controls and /or decontamination practices were employed.	
	L.2.5	Communications between the injury scene and control room were effectively maintained.	
	L.2.6	Team leader demonstrated effective command and control of the accident scene.	
	L.2.7	Team personnel demonstrated proficiency in the use of protective and first aid equipment.	
	L.2.8	The condition and radiological status of the victim was properly documented.	
L.3	Contaminated Injured Transportation	Demonstrate the capability to transport a contaminated injured person offsite. (Criteria demonstrated by alternating one ambulance service/year)	
	L.3.1	Prompt access was gained by ambulance into the protected area.	N/A
	L.3.2	Appropriate dosimetry and protective clothing were issued to ambulance personnel and clothing was donned appropriately.	
	L.3.3	Ambulance personnel verified the medical condition of the victim and received report on injuries / status.	
	L.3.4	Ambulance personnel received turnover on radiological condition of the patient.	
	L.3.5	Contamination control methods were effectively used.	
	L.3.6	An RP tech with a survey meter accompanied patient off-site.	N/A

VI SEQUENCE OF EVENTS / SCENARIO NARRATIVE

SEQUENCE OF EVENTS

- 0700 Ambulance arrives (EBR EOC)
- 0730 Ambulance departs (EBR EOC)
- 0800 Ambulance arrives at Our Lady of the Lake Regional Medical Center Emergency Room
- 0900 Drill Terminated (time may vary based on drill scenario flow)

SCENARIO NARRATIVE

NOTE: The Acadian Ambulance unit will be requested to pre-stage at the East Baton Rouge Parish Emergency Operations Center (EBR EOC), parking lot due to time constraints. The drill will be conducted to allow for an arrival time at Our Lady of the Lake Regional Medical Center at approximately 8:00AM.

The scenario is based on the premise that there has been a radiological release from the River Bend Nuclear Station.

NOTE: Our Lady of the Lake Regional Medical Center will be advised of the events at East Baton Rouge EOC by a simulated EOC staff member (controller). This will occur in advance of the hospital notification by the ambulance of the incoming injured contaminated patient. This advisement will be performed by the Hospital Drill Controller (see **Controller Message #1**).

An evacuation has been ordered and the general public is exiting the 10-mile EPZ. In this scenario, an evacuee is injured in a motor vehicle accident and has been transported by relatives to the East Baton Rouge Parish EOC. The evacuee has been surveyed by the EOC staff and has been found to be contaminated. Acadian Ambulance has been requested to provide treatment/transportation of a contaminated patient to Our Lady of the Lake Regional Medical Center for treatment.

The Acadian Ambulance unit has been dispatched to the location of the evacuee at the East Baton Rouge Parish EOC. The initial advisement to the ambulance has been that there is an injured individual located at the EOC that is radiologically contaminated due to a radiological release from River Bend. Once the ambulance arrives the individual should be medically evaluated. A turnover (controller) of the radiological status will be provided to the ambulance personnel. As medical

treatment and patient transport evolve, contamination control measures should continue. The ambulance personnel should provide a radio message to Our Lady of the Lake upon their departure from the EOC which should include medical and radiological information as well as an ETA (estimated time of arrival).

Upon notification of the situation, the hospital should prepare the medical and radiological team (anti-contamination clothing and dosimetry) as well as the REA (Radiation Emergency Area).

When the ambulance arrives at the hospital, Emergency Department staff person should meet the patient outside for the purpose of immediately determining the acuity of the case. The patient should be transferred into the REA. The ambulance personnel will be detained temporarily while a member of the hospital's radiological monitoring team surveys the ambulance personnel, equipment, and vehicle.

The patient should be evaluated as appropriate for their condition. A hospital radiological monitoring staff person should complete a thorough radiological survey of the patient and the findings should be verbalized and documented. The medical team should proceed with sample taking and decontamination. Radiological samples should be taken from contaminated areas of intact skin and wounds. Facial orifices should be sampled as well.

Decontamination efforts should be carried out until the radiological surveys indicate that background levels are obtained. Particular attention to the decontamination of the open leg wound should be observed.

Following the successful decontamination of the patient, the patient exit process should commence. The patient should receive a full body survey prior to exiting the REA. At this point the staff should exit the REA one at a time and follow the posted Staff Exit chart.

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