



River Bend Station

# After Action Report/ Improvement Plan

Drill Date - September 02, 2010

Radiological Emergency Preparedness (REP) Program



FEMA

*Published September 30, 2010*

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# River Bend Station After Action Report/Improvement Plan

*Published September 30, 2010*

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## EXECUTIVE SUMMARY

On September 2, 2010, 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 December 10, 2008. The previous plume and ingestion exercise was conducted on June 8-9, 2010.

Personnel from the State of Louisiana, River Bend Station, Our Lady of the Lake Regional Medical Center and Acadian Ambulance Service participated in the drill. 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 Deficiencies and no Areas Requiring Corrective Action (ARCAs) identified during the drill.

## **SECTION 1: EXERCISE OVERVIEW**

### **1.1 Exercise Details**

**Exercise Name**

River Bend Station

**Type of Exercise**

Drill

**Exercise Date**

September 02, 2010

**Program**

Department of Homeland Security/FEMA Radiological Emergency Preparedness  
Program

**Scenario Type**

Radiological Emergency

### **1.2 Exercise Planning Team Leadership**

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Baton Rouge, Louisiana, 70802  
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## 1.3 Participating Organizations

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

Support Jurisdictions

Acadian Ambulance Service

Our Lady of the Lake Regional Medical Center

Private Organizations

River Bend Station

## **SECTION 2: EXERCISE DESIGN SUMMARY**

### **2.1 Exercise Purpose and Design**

The DHS/FEMA Region VI Office evaluated the drill on September 2, 2010 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 Louisiana portion of the 10-mile Emergency Planning Zone surrounding the River Bend Station. The drill scenario provided for the evaluation of the Our Lady of the Lake Regional Medical Center and Acadian Ambulance Service's ability of transportation and treatment of a contaminated injured individual.



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## **SECTION 3: ANALYSIS OF CAPABILITIES**

### **3.1 Drill 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 September 2, 2010 drill to test the offsite emergency response capabilities of state and local governments in the 10-mile EPZ 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 April 25, 2002, Federal Register, Radiological Emergency Preparedness: Evaluation Methodology. 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 Drill 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 Deficiency or ARCAs assessed and no unresolved ARCAs from prior exercises)

D - Deficiency assessed

A - ARCA(s) assessed or unresolved ARCA(s) from prior exercise(s)

N - Not Demonstrated (Reason explained in Subsection 4.2)

Table 3.1 - Summary of Drill Evaluation

| DATE: 2010-09-02<br>SITE: River Bend Station, LA<br><br>M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated |     |     |      |
|--|-----|-----|------|
|  |     | AAS | OLOL |
| Emergency Operations Management  |     |     |      |
| Mobilization   | 1a1 |     |      |
| Facilities   | 1b1 |     |      |
| Direction and Control  | 1c1 |     |      |
| Communications Equipment   | 1d1 |     |      |
| Equip & Supplies to support operations   | 1e1 | M   | M    |
| Protective Action Decision Making  |     |     |      |
| Emergency Worker Exposure Control  | 2a1 |     |      |
| Radiological Assessment and PARs   | 2b1 |     |      |
| Decisions for the Plume Phase -PADs  | 2b2 |     |      |
| PADs for protection of special populations   | 2c1 |     |      |
| Rad Assessment and Decision making for the Ingestion Exposure Pathway  | 2d1 |     |      |
| Rad Assessment and Decision making concerning Relocation, Reentry, and Return  | 2e1 |     |      |
| Protective Action Implementation   |     |     |      |
| Implementation of emergency worker exposure control  | 3a1 | M   | M    |
| Implementation of KI decision  | 3b1 |     |      |
| Implementation of protective actions for special populations - EOCs  | 3c1 |     |      |
| Implementation of protective actions for Schools   | 3c2 |     |      |
| Implementation of traffic and access control   | 3d1 |     |      |
| Impediments to evacuation are identified and resolved  | 3d2 |     |      |
| Implementation of ingestion pathway decisions - availability/use of info   | 3e1 |     |      |
| Materials for Ingestion Pathway PADs are available   | 3e2 |     |      |
| Implementation of relocation, re-entry, and return decisions.  | 3f1 |     |      |
| Field Measurement and Analysis   |     |     |      |
| Adequate Equipment for Plume Phase Field Measurements  | 4a1 |     |      |
| Field Teams obtain sufficient information  | 4a2 |     |      |
| Field Teams Manage Sample Collection Appropriately   | 4a3 |     |      |
| Post plume phase field measurements and sampling   | 4b1 |     |      |
| Laboratory operations  | 4c1 |     |      |
| Emergency Notification and Public Info   |     |     |      |
| Activation of the prompt alert and notification system   | 5a1 |     |      |
| Activation of the prompt alert and notification system - Fast Breaker  | 5a2 |     |      |
| Activation of the prompt alert and notification system - Exception areas   | 5a3 |     |      |
| Emergency information and instructions for the public and the media  | 5b1 |     |      |
| Support Operations/Facilities  |     |     |      |
| Mon / decon of evacuees and emergency workers, and registration of evacuees  | 6a1 |     |      |
| Mon / decon of emergency worker equipment  | 6b1 |     |      |
| Temporary care of evacuees   | 6c1 |     |      |
| Transportation and treatment of contaminated injured individuals   | 6d1 | M   | M    |

## **3.3 Criteria Evaluation Summaries**

### **3.3.1 Support Jurisdictions**

#### **3.3.1.1 Our Lady of the Lake Regional Hospital**

- a. MET: 1.e.1, 3.a.1, 6.d.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

### **3.3.2 Private Organizations**

#### **3.3.2.1 Acadian Ambulance Service**

- a. MET: 1.e.1, 3.a.1, 6.d.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. 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.

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## APPENDIX A: DRILL EVALUATORS AND TEAM LEADERS

DATE: 2010-09-02, SITE: River Bend Station, LA

| LOCATION                               | EVALUATOR                                   | AGENCY                           |
|--|---|----------------------------------|
| Our Lady of the Lake Regional Hospital | Bill Bischof<br>Elsa Lopez<br>*Tim Pflieger | DHS/FEMA<br>DHS/FEMA<br>DHS/FEMA |
| Acadian Ambulance Service              | *Linda Gee                                  | DHS/FEMA                         |
| * Team Leader                          |   |                                  |

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## APPENDIX B: ACRONYMS AND ABBREVIATIONS

| Acronym  | Meaning   |
|----------|---|
| ARCA     | Areas Requiring Corrective Action                                   |
| DHS/FEMA | Department of Homeland Security/Federal Emergency Management Agency |
| DLR      | Dosimeter of Legal Record   |
| EPZ      | Emergency Planning Zone   |
| EXPLAN   | Exercise Plan   |
| KI       | Potassium Iodide  |
| LOL      | Our Lady of the Lake Regional Medical Center                        |
| ORO      | Offsite Response Organization                                       |
| PIC      | Pocket Ion Chamber  |
| PPE      | Personal Protective Equipment                                       |
| RBS      | River Bend Station  |
| REA      | Radiation Emergency Area  |
| REP      | Radiological Emergency Preparedness                                 |
| RP       | Radiation Protection Technician                                     |
| RSO      | Radiation Safety Officer  |

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## **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**

**RDRL-EP-10MS1DRIL**



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RIVER BEND STATION  
2010 MEDICAL EMERGENCY RESPONSE EVALUATED DRILL  
EVALUATION AREAS AND EXTENT-OF-PLAY (EOP) AGREEMENT & ONSITE OBJECTIVES

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**I     PURPOSE**

This simulated radiation medical emergency is being conducted in order to exercise the emergency medical response at River Bend Station and the secondary medical support facility, Our Lady of the Lake Regional Medical Center and Acadian Ambulance Service. The basic objective is to assess the ability of the plant staff to respond effectively to a radiation medical emergency within the plant and to test the ability of hospital and ambulance emergency service to handle contaminated and injured patients.

**II    PROPOSED SCHEDULE**

|                 |   |
|-----------------|---|
| DATE:           | September 2, 2010   |
| TIME:           | 6:30 AM (Start time at River Bend Station)                        |
| LOCATIONS:      | River Bend Station & Our Lady of the Lake Regional Medical Center |
| INJURY/ILLNESS: | Fall victim conscious and bleeding                                |

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### **III 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, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operation. (NUREG-0654, H.7, 10; J.10.a, b, e J.11; K.3.a)**

##### **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 utility 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 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, K.3.a, b)**

##### **Locations**

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

##### **Extent of Play**

Dosimeters and a simulated DLR (dosimeter of legal record) will be issued to participating ambulance crew members by River Bend Station plant personnel. Hospital personnel will be issued dosimeters and DLRs at the hospital. Ambulance crew members will be prepared to discuss the method by which they would acquire dosimetry kits from the ambulance in the event of a declared emergency.

“Correction-on-the-spot” will be applicable for this demonstration.

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## **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, 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 pre-stage at the River Bend Training Center to facilitate a security check prior to the drill for entrance into the protected area. The ambulance will pick up the victim inside the protected area. Removal of victim's clothing will be simulated.

At the hospital, decontamination will be demonstrated to the evaluators using methods contained in the hospital procedure. These methods could include soap and water, wipes, or tape. 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.

#### **Onsite Objectives**

1. Demonstrate the use of emergency teams - onsite first aid (medical).
2. Demonstrate the capability to communicate with all appropriate emergency personnel at facilities and in the field.

### **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:**

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Preparedness, Training and Exercises. Acceptable locations/activities for “on-the-spot-correction” are clearly indicated in the extent of play portion under each criterion.

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## **EXERCISE CONTROLLERS/EVALUATORS**

|                 |  |                |
|-----------------|--|----------------|
| Norman Tison    | Control Room                                 | 2789           |
| John Standridge | Plant site (Radiological response)           | 721-0887       |
| Fred Hurst      | Plant site (First Aid Team)/Ambulance        | 324-6020       |
| Gil Cosnett     | Our Lady of the Lake Regional Medical Center | 1-856-261-5760 |

## **EXERCISE OBSERVERS**

|              |           |
|--------------|-----------|
| Cheryl Chubb | Hospital  |
| Greg Gothard | Hospital  |
| Ji Wiley     | Ambulance |

## **ONSITE PHONE NUMBERS**

|               |   |
|---------------|---|
| Shift Manager | 2776 --OSM/Communicator Console<br>2789 |
| RP            | 2771                                    |

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## **NARRATIVE SCENARIO**

**Approximate Time:**

0630

**Location:**

65' Level, Radwaste Building

**Description:**

An individual investigating radiation alarms in the Radwaste Building near Phase Separator Tank TK-6B slips, and falls while climbing on maintenance scaffolding. During the fall, he hits a sharp object and is injured and contaminated with spilled resins and water. The individual will be found on the floor by a co-worker, conscious, and bleeding slightly from a leg wound. The individual will be carried from the contaminated area by the co-worker in an attempt to seek help at the RCA control point. The individual, however, collapses prior to reaching the RCA control point. The control room is then called for assistance.

*Expected actions:*

When contacted, the operations shift manager should implement the steps of ADM-0060, First Responder Emergencies. The First Responders should be contacted and RP support requested.

The first aid team responding to the call should perform an assessment of the patient's condition and treat any life-threatening injuries. Based on the individual's condition and vital signs, the responding First Responders should make the decision to transport without decontamination. The control room should be contacted to arrange for ambulance and hospital support based on ADM-0060.

Radiation protection should monitor radiological exposures for both the responders and the patient. Contamination controls which do not impact care of the patient should be employed. Consideration should also be given to the path the patient took from the original accident scene.

While awaiting ambulance arrival, the first aid team should perform the necessary actions to prepare the patient for transport. Assistance should be requested for patient transfer and the Primary Access Point (PAP) should be informed to prepare for ambulance arrival. RP should assist in planning the patient move to the ambulance pick up point.

Upon arrival of the ambulance, a turnover of patient medical and radiological conditions should be provided to the ambulance personnel. RP should arrange for two technicians to provide radiological coverage for the patient and medical personnel while in route and at the hospital.

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The onsite portion of the drill will be evaluated by Emergency Planning and Training department personnel. The individual will be transported to the hospital where FEMA will observe hospital activities in accordance with the stated objectives.

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**Pre-Staging:**

The ambulance will be pre-staged near River Bend Station to help ensure expedited entry into the security area. This will allow for an arrival time at Our Lady of the Lake Regional Medical Center at approximately 8:15 AM.

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**Scenario Timeline**

0700 Ambulance enters River Bend Station

0735 Ambulance departs site

0815 Ambulance arrives at Our Lady of the Lake Regional Medical Center

0930 Drill Terminated







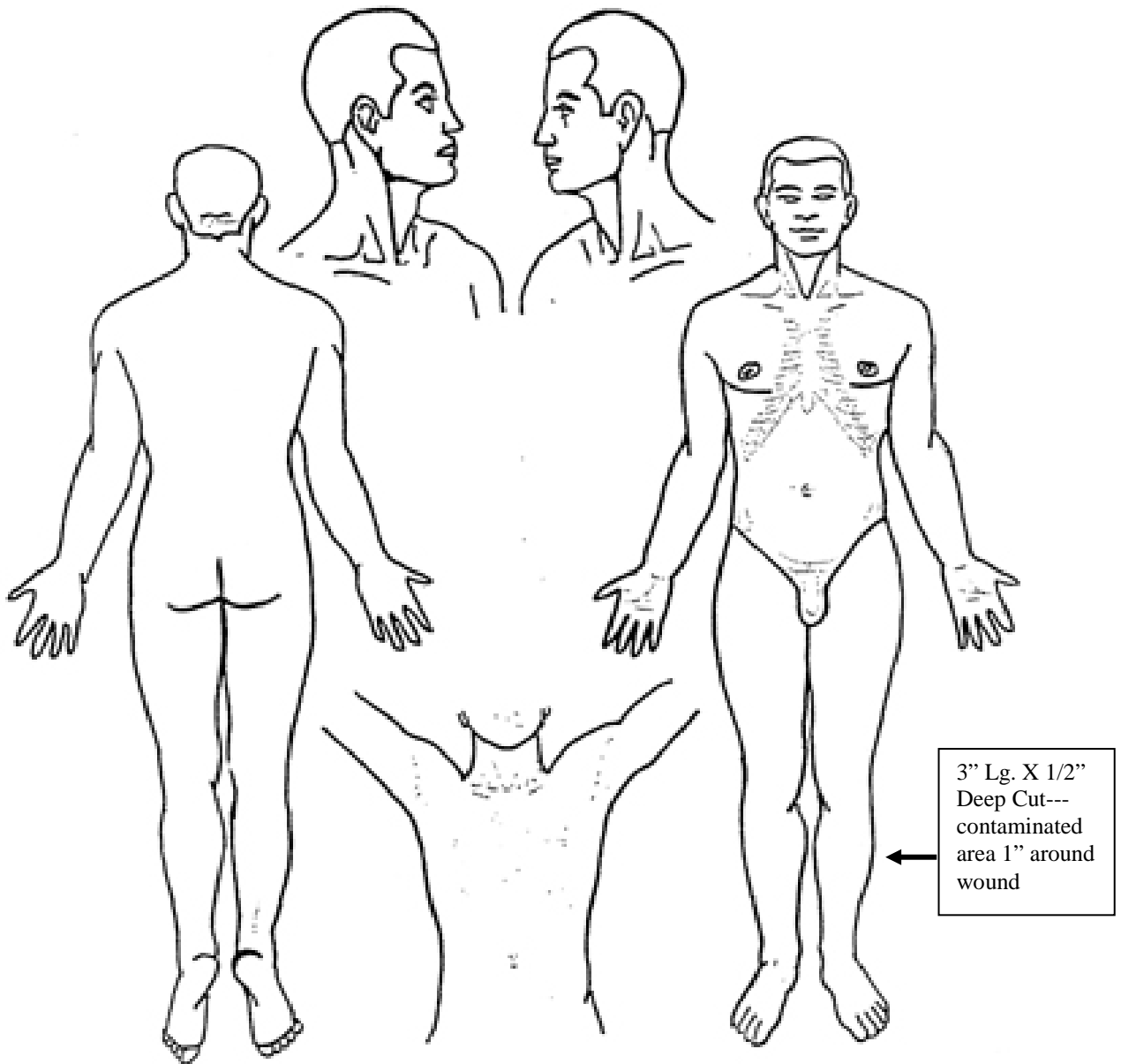


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**ANATOMICAL DIAGRAM**









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# **ATTENTION**

THERE WILL BE AN ONSITE  
MEDICAL DRILL TODAY

9/2/10

ACADIAN AMBULANCE SERVICE  
WILL BE ONSITE



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