



**FEMA**

November 6, 2012

Mr. Elmo E. Collins, Jr.  
Regional Administrator  
U.S. NRC, Region IV  
612 E. Lamar Blvd, Suite 400  
Arlington, TX 76011-4005

Dear Mr. Collins:

Enclosed is a copy of the radiological emergency preparedness final report for the Grand Gulf Nuclear Station Medical Services Drill drills evaluated on September 2012. FEMA Region VI staff evaluated the Riverland Medical Center and the Northeast Louisiana Ambulance Service. Three Areas Requiring Corrective Action (ARCA's) were identified and two were corrected during the drill.

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-specific to Grand Gulf Nuclear Station will remain in effect.

A copy of this report was forwarded to the REP Headquarters Branch Chief and Headquarters Project Officer, U. S. Nuclear Regulatory Commission, in Washington, D.C. Should you have questions, please contact me at (940) 898-5199, or Nan Calhoun, Radiological Emergency Preparedness Site Specialist for Grand Gulf, at (940) 898-5398.

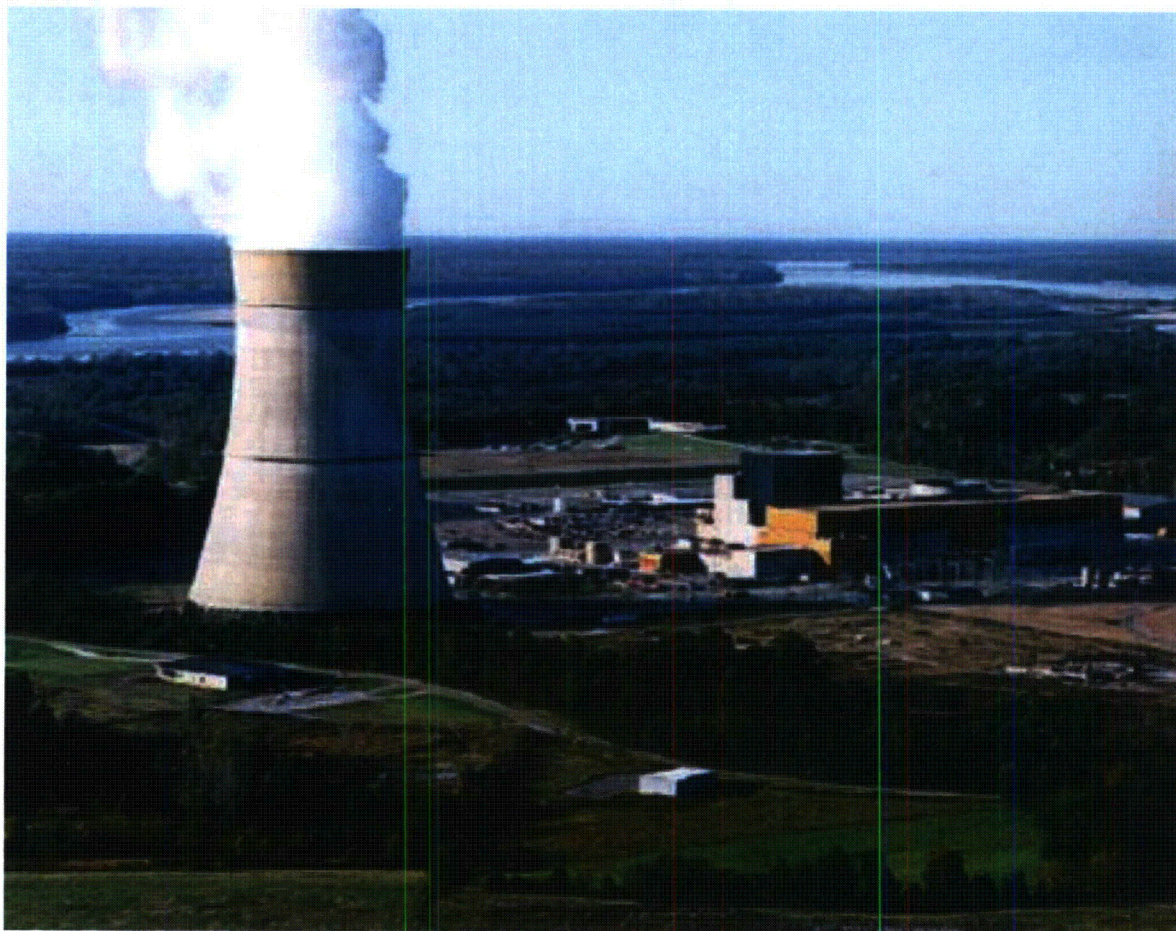
Sincerely,

Lisa R. Hammond  
RAC Chair

Enclosure

cc: DHS/FEMA HQ-Vanessa Quinn  
LDEQ – Tim Knight  
GOHSEP – Earl Patrick Santos, Jr.  
W 3 Entergy Ops. Inc. – Greg Fey

IX49  
NRK



Grand Gulf Nuclear Station

# After Action Report/ Improvement Plan

Drill Date - September 25, 2012

Radiological Emergency Preparedness (REP) Program



**FEMA**

*Published October 31, 2012*

This page is intentionally blank.

---

# Grand Gulf Nuclear Station After Action Report/Improvement Plan

*Published October 31, 2012*

## Contents

Executive Summary	3
Section 1: Exercise Overview	4
1.1 Exercise Details	4
1.2 Exercise Planning Team Leadership	4
1.3 Participating Organizations	5
Section 2: Exercise Design Summary	6
2.1 Exercise Purpose and Design	6
2.2 Exercise Objectives, Capabilities and Activities	6
2.3 Scenario Summary	6
Section 3: Analysis of Capabilities	7
3.1 Drill Evaluation and Results	7
3.2 Summary Results of Drill Evaluation	7
3.3 Criteria Evaluation Summaries	9
3.3.1 Support Jurisdictions	9
3.3.1.1 Riverland Medical Center	9
3.3.2 Private Organizations	10
3.3.2.1 Northeast Louisiana Ambulance Service	10
Section 4: Conclusion	12
Appendix A: Improvement Plan	13
Appendix B: Drill Evaluators and Team Leaders	14
Appendix C: Acronyms and Abbreviations	15
Appendix D: Exercise Plan	16

This page is intentionally blank.

---

## EXECUTIVE SUMMARY

On September 25, 2012 an out-of-sequence Medical Services drill was conducted for the Grand Gulf Nuclear Station (GGNS), located in Port Gibson, Claiborne County, Mississippi. 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 GGNS. The previous plume exercise was conducted on November 1, 2011.

Personnel from the State of Louisiana, Riverland Medical Center, Northeast Ambulance Service and Grand Gulf Nuclear Station 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. There were 3 Areas Requiring Corrective Action observed during this demonstration. Two of the Areas Requiring Corrective Action were corrected during the demonstration.

## **SECTION 1: EXERCISE OVERVIEW**

### **1.1 Exercise Details**

**Exercise Name**

Grand Gulf Nuclear Station

**Type of Exercise**

Drill

**Exercise Date**

September 25, 2012

**Program**

Department of Homeland Security/FEMA Radiological Emergency Preparedness  
Program

**Scenario Type**

Radiological Emergency

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

Lisa Hammond

RAC Chair

FEMA Region VI

Technological Hazards Branch Chief

800 N. Loop 288

Denton, Texas, 76209

940-898-5199

[lisa.hammond@fema.dhs.gov](mailto:lisa.hammond@fema.dhs.gov)

Nan Calhoun

Federal Planning Team Lead

FEMA Region VI

Technological Hazards Program Specialist

800 North Loop 288

Denton, Texas, 76209  
940-898-5398  
nan.calhoun@fema.dhs.gov

Cheryl Chubb  
State Planning Team Lead  
Louisiana Department of Environmental Quality  
Environmental Scientist  
602 N. Fifth St.  
Baton Rouge, Louisiana, 70802  
225-219-3626  
cheryl.chubb@la.gov

Richard Vandenakker  
Utility Planning Lead  
Grand Gulf Nuclear Station  
Senior Emergency Preparedness - Training Officer  
Emergency Preparedness  
P.O. Box 756  
Port Gibson, Mississippi, 39150  
601-437-6567  
rvanden@entergy.com

### **1.3 Participating Organizations**

Agencies and organizations of the following jurisdictions participated in the Grand Gulf Nuclear Station drill:

Private Organizations

Riverland Medical Center  
Entergy Operations, Inc.  
Northeast Louisiana Ambulance Service



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

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

The DHS/FEMA Region VI Office evaluated the drill on September 25, 2012 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 Grand Gulf Nuclear Station (GGNS). 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 to be exercised are discussed in the Exercise Plan (EXPLAN), Appendix D.

### **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 Grand Gulf Nuclear Station. The drill scenario provided for the evaluation of Northeast Louisiana Ambulance Service's ability to transport a contaminated injured person as well as the Riverland Medical Center's ability to treat a radiologically contaminated injured individual.

---

## **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 25, 2012 drill evaluation to test the offsite emergency response capabilities of Northeast Louisiana Ambulance Service to transport a contaminated injured person as well as the Riverland Medical Center to treat a contaminated injured individual.

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 2012, Radiological Emergency Preparedness Program (REP) Manual. Detailed information on the exercise evaluation area criteria and the extent of play agreement used in this drill are found in Appendix D of this report.

### **3.2 Summary Results of Drill Evaluation**

The matrix presented in Table 3.1 on the following page, presents the status of all drill evaluation area criteria that were scheduled for demonstration during this drill 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 exercise)

D - Deficiency assessed

A - ARCAs assessed or unresolved ARCAs from previous exercises

P - Plan Issue

N - Not Demonstrated

Table 3.1 - Summary of Drill Evaluation

DATE: 2012-09-25 SITE: Grand Gulf Nuclear Station, MS  M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated			NELA	RMC
<b>Emergency Operations Management</b>				
Mobilization	1a1			
Facilities	1b1			
Direction and Control	1c1			
Communications Equipment	1d1			
Equipment and Supplies	1e1	M	M	
<b>Protective Action Decision Making</b>				
EW Exp. Control Decisions	2a1			
PARs	2b1			
PADs	2b2			
PADs for Disabled/Functional Needs	2c1			
Ingestion PADs	2d1			
RRR Decisions	2e1			
<b>Protective Action Implementation</b>				
EW Exp. Control Implementation	3a1	M	M	
KI Public/Institutionalized	3b1			
PAD Imp. Disabled/Functional Needs	3c1			
PAD Imp. Schools	3c2			
TACP Establishment	3d1			
Impediments to Evacuation	3d2			
Implementation of Ingestion PADs	3e1			
Ingestion Strategies and Information	3e2			
Imp. of RRR Decisions	3f1			
<b>Field Measurement and Analysis</b>				
RESERVED	4a1			
Field Team Management	4a2			
Field Team Operations	4a3			
Field Team Sampling	4b1			
Laboratory Operations	4c1			
<b>Emergency Notification and Public Info</b>				
Initial Alert & Notification	5a1			
Backup Alert & Notification	5a3			
Exception Area Alerting	5a4			
Subsequent Public Information	5b1			
<b>Support Operations/Facilities</b>				
Reception Center Operations	6a1			
EW Monitoring & Decon	6b1			
Congregate Care	6c1			
Contaminated Injured Transport & Care	6d1	A	M	

---

## 3.3 Criteria Evaluation Summaries

### 3.3.1 Support Jurisdictions

#### 3.3.1.1 Riverland Medical Center

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.
- b. AREAS REQUIRING CORRECTIVE ACTION: 6.d.1.

ISSUE NO.: 28-12-6d1-A-02

**CRITERION:** The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals.

**CONDITION:** The initial survey of the patient was conducted with the survey meter set to the x100 scale.

**POSSIBLE CAUSE:** The nurse did not adjust the survey meter back to the lowest scale, x0.1, following the operation check of the meter.

**REFERENCE:** NUREG 0654/FEMA REP 1 Criterion L.1

**EFFECT:** With the survey meter set to the x100 scale, it was possible for radiological contamination to go undetected.

**CORRECTIVE ACTION DEMONSTRATED:** The staff member was provided training and successfully demonstrated the proper use of the survey meter, beginning all surveys on the lowest possible scale.

ISSUE NO.: 28-12-6d1-A-03

**CRITERION:** The facility/ORO has the appropriate space, adequate resources, and

---

trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals.

CONDITION: The initial survey of the x-ray film as it was passed into the Buffer Zone from the Radiation Emergency Area was conducted too quickly and too far from the surface of the film to properly detect contamination.

POSSIBLE CAUSE: The Buffer Zone Nurse did not follow proper radiation survey techniques.

REFERENCE: NUREG 0654/FEMA REP 1 Criterion L.1

EFFECT: Without proper survey of all potentially contaminated items leaving the Buffer Zone from the Radiation Emergency Area, it was possible for contamination to spread to clean areas in the hospital leading to additional exposure and contamination.

CORRECTIVE ACTION DEMONSTRATED: The staff member was provided training and successfully demonstrated the proper use of the survey meter and proper survey technique.

- 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 Northeast Louisiana Ambulance Service**

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

- a. MET: 1.e.1, 3.a.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: 6.d.1.

ISSUE NO.: 28-12-6d1-A-01

**CRITERION:** The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals.

**CONDITION:** Medical treatment of the patient was not given priority over monitoring and contamination control.

**POSSIBLE CAUSE:** Ambulance staff may be unfamiliar with the procedures, or need additional training.

**REFERENCE:** NUREG-0654/FEMA-REP-1, L.4

Tensas Parish Office of Emergency Preparedness Emergency Medical Service (EMS)/Ambulance Procedure for Response to Radiological Emergencies, Revision 3

**EFFECT:** The patient would not be transported quickly to the medical facility for proper treatment.

**RECOMMENDATION:** Ensure that ambulance staff members are well trained and familiar with procedures.

- 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, Riverland Medical Center satisfactorily demonstrated their required criteria and no additional demonstration is necessary until the next regularly scheduled drill/exercise at this location.

## APPENDIX A: IMPROVEMENT PLAN

Issue Number: 28-12-6d1-A-01		Criterion: 6d1
ISSUE: Medical treatment of the patient was not given priority over monitoring and contamination control.		
RECOMMENDATION: Ensure that ambulance staff members are well trained and familiar with procedures.		
CORRECTIVE ACTION DESCRIPTION: Additional training will be provided to ambulance staff emphasizing medical treatment of patient over contamination control.		
CAPABILITY: Emergency Triage and Pre-Hospital Treatment	PRIMARY RESPONSIBLE AGENCY: Louisiana Department of Environmental Quality	
CAPABILITY ELEMENT: Training	START DATE: 2012-09-25	
AGENCY POC: Cheryl Chubb 225-219-3626	ESTIMATED COMPLETION DATE: 2013-09-26	



---

## APPENDIX B: DRILL EVALUATORS AND TEAM LEADERS

DATE: 2012-09-25, SITE: Grand Gulf Nuclear Station, MS

LOCATION	EVALUATOR	AGENCY
Riverland Medical Center	*Nan Calhoun Linda Gee	FEMA RVI FEMA RVI
Northeast Louisiana Ambulance Service	*Timothy Pflieger	FEMA RVI
* Team Leader		

---

## APPENDIX C: ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
ARCA	Area Requiring Corrective Action
CPM	Counts per Minute
DHS/FEMA	Department of Homeland Security/Federal Emergency Management Agency
DRD	Direct Reading Dosimeter
EMS	Emergency Medical Service
EPZ	Emergency Planning Zone
EW	Emergency Worker
EXPLAN	Exercise Plan
GGNS	Grand Gulf Nuclear Station
KI	Potassium Iodide
NELA	Northeast Louisiana Ambulance
ORO	Offsite Response Organization
PPE	Personal Protective Equipment
REA	Radiation Emergency Area
REP	Radiological Emergency Preparedness
TLD	Thermoluminescent Dosimeter

---

## APPENDIX D: EXERCISE PLAN

**RADIOLOGICAL EMERGENCY  
MEDICAL DRILL SCENARIO (MS-1)  
  
FOR  
  
GRAND GULF NUCLEAR STATION**

**September 25, 2012**

**Participants**

**Riverland Medical Center  
Northeast Louisiana Ambulance Service**

**RADIOLOGICAL EMERGENCY  
MEDICAL DRILL SCENARIO (MS-1)**

**FOR**

**GRAND GULF NUCLEAR STATION**

**September 25, 2012**

Prepared By: \_\_\_\_\_ / \_\_\_\_\_  
Name Date

Reviewed By: \_\_\_\_\_ / \_\_\_\_\_  
Name Date

Approved By: \_\_\_\_\_ / \_\_\_\_\_  
Name Date

## **I. PURPOSE**

This simulated radiation medical emergency is being conducted in order to exercise the emergency medical response for Grand Gulf Nuclear Station (GGNS) at Riverland Medical Center and Northeast 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: September 25, 2012

TIME: 8:00 am Drill Starts (GGNS General Emergency)  
8:30 am Accident Reported  
9:00 am Patient Arrives at Hospital (Approximate)  
11:00 pm Drill Terminates (Approximate)  
11:15 pm Evaluator Comments  
11:30 pm Player Critique

LOCATION: Riverland Medical Center

INJURY/ILLNESS: Fisherman bit by a snake on the way to his car to evacuate, runs off road and hits a tree. Injuries include: bite to right hand, bruise/laceration to forehead, bruised left knee (possible fracture/dislocation).

## **III. DISCLAIMER**

Real life emergencies take precedence over this demonstration. In case of an emergency, the demonstration will be cancelled and rescheduled for a later date.

#### **IV. EVALUATION AREAS AND EXTENT-OF-PLAY-OFFSITE**

##### **A. 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)**

###### **Location**

Riverland Medical Center, Northeast Louisiana Ambulance Service.

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

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

##### **B. 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)**

###### **Location**

Riverland Medical Center, Northeast Louisiana Ambulance Service.

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

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

## **C. 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)**

#### **Location**

Riverland Medical Center, Northeast Louisiana Ambulance Service.

#### **Extent of Play**

The initial call(s) will be simulated by cell phone from the Tensas Emergency Director who will be on location at Riverland Medical Center.

No actual surgical procedures, X-ray, blood samples, starting of IV's etc. will be demonstrated. No actual transportation to Highway 605 to pickup the victim/patient. To avoid taking the ambulance out of service for an extended time, the area behind the hospital will be used to simulate the accident scene. The ambulance will be staged at the hospital to start the demonstration.

Once the patient is loaded on the ambulance, play will pause for approximately 15 minutes to simulate the travel time between the accident scene on Highway 605 and Ferriday.

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

## **D. 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.

**E. References:**

As indicated in the Extent-of-Play Agreement, the State of Louisiana requests the option to correct issues immediately as defined in FEMA Policy Paper, Strategic Review Steering Committee, Initiative 1.5, Correct Issues Immediately, effective March 31, 2000, signed by Kay C. Goss, CEM, Associate Director for Preparedness, Training and Exercises. Acceptable locations/activities for "on-the-spot-correction" are clearly indicated in the extent of play portion under each criterion.

## **V. NARRATIVE SCENARIO**

### **A. INITIAL CONDITIONS**

Grand Gulf Station has declared a General Emergency based on Offsite Radiation Monitoring Team reports. An extended Protective Action Recommendation (PAR) has been issued. An evacuation of all people within five miles of Grand Gulf and ten miles downwind has commenced. The wind direction is from 90 degrees (blowing into the West), Protective Action Section (PAS) 12 is being evacuated to Tallulah and Ferriday. Areas within five miles of the plant are expected to be contaminated.

A fisherman in the area of Lake Lakanardia, approximately 6 miles west of Grand Gulf, heard the sirens and evacuated the area. It took him twenty minutes to return his boat to the shore, and ten more minutes to put it on the trailer. As he was tying down the boat a snake bit him on his right hand, injecting venom. Suffering pain and swelling in his right hand, as well as slight tachycardia, he entered his vehicle and started to evacuate. His vehicle had a standard transmission and due to his hand injury he had to shift with his left hand, while trying to steer with his knees, causing him loose control of the steering at the intersection of highways 604 and 605, striking a telephone pole on highway 605 (**Refer to Attachment A.**) He suffered the following injuries:

- Snake bite with swelling and slight bleeding on right hand.
- Bruise and laceration with moderate bleeding to forehead
- Swelling/bruising with possible break/dislocation of left knee.

After the accident the fisherman contacted 9-1-1 on his cell phone.

### **B. NORTHEAST LOUISIANA AMBULANCE SERVICE**

**NOTE:** The accident scene will be set up in the back of Riverland Medical Center to prevent the ambulance from leaving it's service area. Once the patient is loaded on the ambulance, play will pause for approximately 15 minutes to simulate the travel time between the accident scene on Highway 65 and Ferriday.

---

## **CONTROLLER MESSAGE**

**Cue Card: # 1**  
**Time: ~0800**

---

**THIS IS A DRILL**

---

**Controller:** The controller will simulate a call from Grand Gulf Nuclear Station to the Tensas Parish 911 Center to report the General Emergency.

**Message:** Grand Gulf Nuclear Station has declared a General Emergency.

**Anticipated Response:** Tensas Parish Emergency Management will contact Riverland Medical Center.

Due to events in progress, the hospital should begin preparations for the treatment of the contaminated individual according to their procedures.

---

**THIS IS A DRILL**

---

---

## **CONTROLLER MESSAGE**

**Cue Card: # 2**  
**Time: 0830**

---

**THIS IS A DRILL**

---

**Controller:** The controller will simulate from the Tensas Parish 911 Center relaying a call from the injured evacuee of the accident.

**Message:** There is a guy at the intersection of Highway 604 and 605. He says he was bitten by a snake and has run off the road and struck a telephone pole. His forehead and left knee hurt. His right hand, the one bit by the snake, is swelling up.

**Anticipated Response:** As soon as EMS receives the call, it will immediately notify the hospital. The ambulance will proceed (simulated) to where the patient is, while the hospital finalizes the setup for a contaminated injured patient.

---

**THIS IS A DRILL**

---

---

## **CONTROLLER MESSAGE**

**Cue Card: # 3**  
**Time: 0900**

---

**THIS IS A DRILL**

---

**Controller:** The controller will ensure the patient has been properly prepared for the exercise, including makeup and clothing. The controller will provide the ambulance crew any information required for them to make a diagnosis.

**Message:**

**Injury:** Blow to forehead with minor bleeding and bruising.  
Blow to the left knee with swelling/bruising and possible break/dislocation  
Snake bite to the right hand with envenomation.

**Vitals:** Initial – Use actual vitals.  
During transport – Use actual vitals.  
Victim complains of nausea and is disoriented.  
Victim reports snake was brown with white belly, and about three feet long.  
(Note: victim may complain of a rapid pulse [tachycardia] but pulse returned to normal by the time ambulance crew arrived)

**Anticipated Response:** Vital signs should be taken, the wounds should be bandaged, the right hand should be lowered to minimize spread of venom, the knee/leg should be splinted and/or stabilized as necessary. The patient should be removed from the area.

During transport to the hospital the patient should be observed and vital signs retaken. All information should be relayed to the hospital.

---

**THIS IS A DRILL**

## **CONTROLLER MESSAGE**

**Cue Card: # 4**  
**Time: ~0915**

---

**THIS IS A DRILL**

---

**Controller:** The Northeast Louisiana Ambulance Service should make the following call to the hospital.

**Message:** We are transporting a patient. He is injured and radiologically contaminated. Injuries include: possible broken/dislocated left knee, snake bite to right hand, and minor abrasions/laceration to the forehead. Patient is disoriented. ETA is thirty minutes.

**Anticipated Response:** The hospital should continue preparations to treat a contaminated/injured patient.

---

**THIS IS A DRILL**

---

---

## **CONTROLLER MESSAGE**

Cue Card: # 5  
Time: ~0930

---

**THIS IS A DRILL**

---

**Controller:**

When the hospital staff meets the ambulance, the ambulance crew will provide the following message:

**Message:**

The patient was bitten on the right hand by a snake, then struck a telephone pole while evacuating the Grand Gulf area. He is injured and radiologically contaminated. Injuries include: possible broken or dislocated left knee, bruise and laceration to the forehead, and envenomed snake bite to the right hand. There is moderate bleeding from the forehead and right hand. Patient is disoriented and and complains of nausea. Vital signs are stable, there have been no changes during transport.

The patient is ready for transfer.

**Anticipated Response:**

Hospital staff should transfer the patient from the ambulance gurney to the hospital gurney and proceed to the Radiological Emergency Area.

---

**THIS IS A DRILL**

---

---

## **CONTROLLER MESSAGE**

**Cue Card: # 6**

---

**THIS IS A DRILL**

---

**Controller:**

The controller will provide the REA team additional information required to make a diagnosis and treat the patient, as requested.

**Message:**

**Injuries:** Left knee - Swelling and bruising.

**Right hand** - Abrasions and lacerations to an area roughly 2" x 2" on palm with moderate bleeding

**Forehead** - Bruising and small laceration.

**X-Rays:** X-Rays are to be simulated

**C-Spine** - Give Cue Card #6A to REA staff, if requested.

**Left Knee** - Give Cue Card #6B to REA staff, if requested.

**Right Hand** - Give Cue Card #6C to REA staff, if requested.

**Survey Readings:**

For survey readings, see Cue Card #7.

**Anticipated Response:**

The REA team should have the patient's wounds surveyed for contamination and act accordingly. See Cue Card #\_\_\_ for more information. REA staff should determine the left knee is broken, but the right wrist is sprained. REA staff should treat the patient's injuries and contamination, while performing contamination control.

Blood or other samples, IV's, and surgical procedures, if required, will be simulated.

---

**THIS IS A DRILL**

---



## **CONTROLLER MESSAGE**

**Cue Card: # 6A**

**C-Spine X Ray**



## CONTROLLER MESSAGE

Cue Card: # 6B

Left Knee X-Ray





## **CONTROLLER MESSAGE**

Cue Card: # 6C

Right Hand X-Ray



---

## **CONTROLLER MESSAGE**

**Cue Card: # 7**

---

**THIS IS A DRILL**

---

**Controller:** The controller will provide the REA team additional information required to make a diagnosis and treat the patient, as requested.

**Cue Cards:**

- Cue Card #7A** – overview of injured areas and contamination levels
- Cue Card #7B** – summary of decontamination efforts, survey readings, cue cards
- Cue Card #7C - #7G** – right hand survey cue cards
- Cue Card #7H - #7M** – forehead survey cue cards
- Cue Card #7N - #7U** – right leg survey cue cards

**Anticipated Response:** The REA team should have the patient's wounds surveyed for contamination.

Decontamination should start with wounds, then intact skin. The wound with the highest reading should be decontaminated first.

The team should decon the areas in the following order:

1. **Right Hand** (Wound: 2500 cpm)
2. **Forehead** (Wound: 1500 cpm)
3. **Right Leg** (External/Intact skin: 2000 cpm)

Note: The hospital staff will use both **mR/hr** and **cpm** for radiation measurements. (Monitoring of the REA will be in mR/hr, while contamination surveys will be in cpm.)

---

**THIS IS A DRILL**

---



## CONTROLLER MESSAGE

Cue Card: #7B

**THIS IS A DRILL**

### Survey Information

Cue Card #	Scale	Reading	Note	Description
7C	x1	Off scale	Right Hand -1	Before decontamination
7D	x10	2500 cpm	Hand-2	"
7E	x10	500 cpm	Hand-3	After 1st rinse
7F	x1	500 cpm	Hand-4	"
7G	→	→	→	Unable to decon further
7H	x1	Off scale	Forehead -1	Before decontamination
7I	x10	1500 cpm	Forehead -2	"
7J	x10	500 cpm	Forehead -3	After 1st rinse
7K	x1	500 cpm	Forehead -4	"
7L	x10	<100	Forehead -5	After 2 <sup>nd</sup> rinse
7M	x1	<100	Forehead - 6	"
7N	x1	Off scale	Right Leg -1	Before decontamination
7O	x10	2000 cpm	Leg -2	"
7P	x10	1200 cpm	Leg -3	After rinsing
7Q	x1	Off scale	Leg -4	"
7R	x10	700 cpm	Leg -5	After 1st scrubbing
7S	x1	Off scale	Leg -6	"
7T	x10	<100 cpm	Leg -7	After 2nd scrubbing
7U	x1	<100 cpm	Leg -8	"

35  
**THIS IS A DRILL**

---

## CONTROLLER MESSAGE

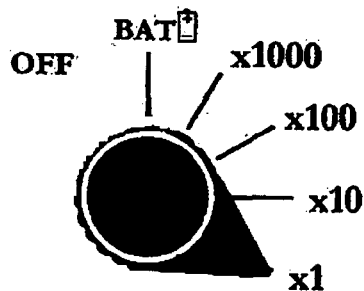
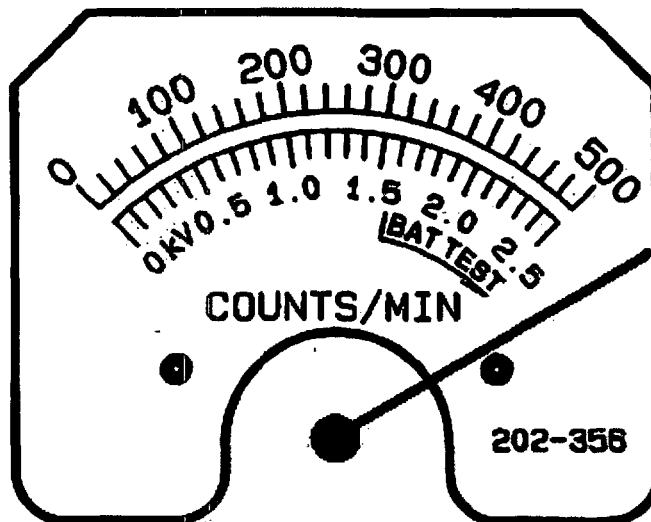
Cue Card: # 7C

---

THIS IS A DRILL

---

Note: Right Hand - 1



---

THIS IS A DRILL

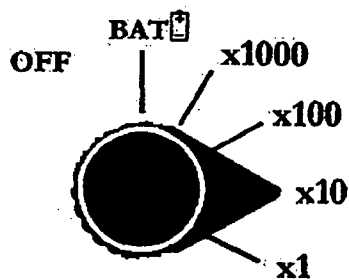
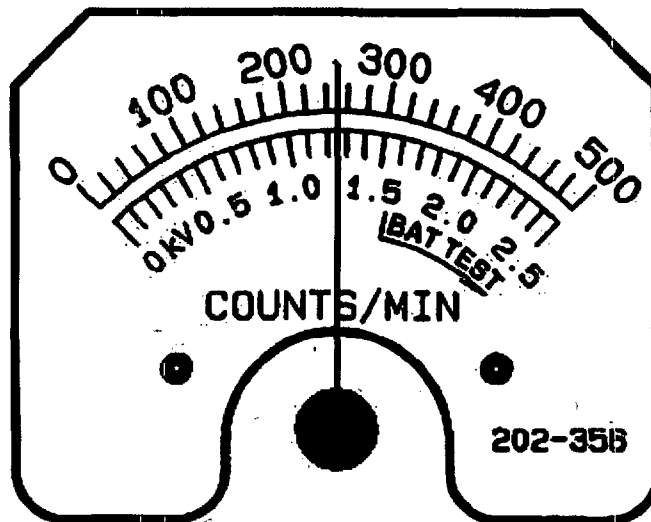
---

## CONTROLLER MESSAGE

Cue Card: # 7D

THIS IS A DRILL

Note: Hand - 2



THIS IS A DRILL

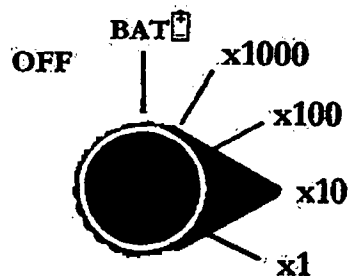
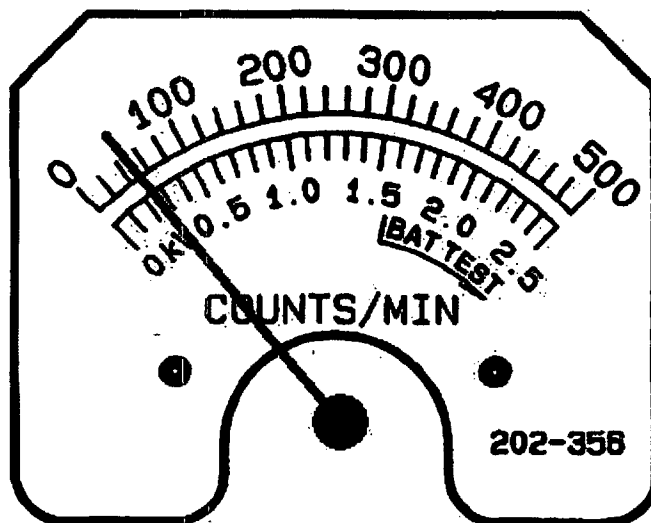


## CONTROLLER MESSAGE

Cue Card: # 7E

THIS IS A DRILL

Note: Hand - 3



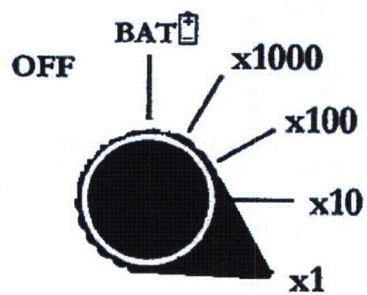
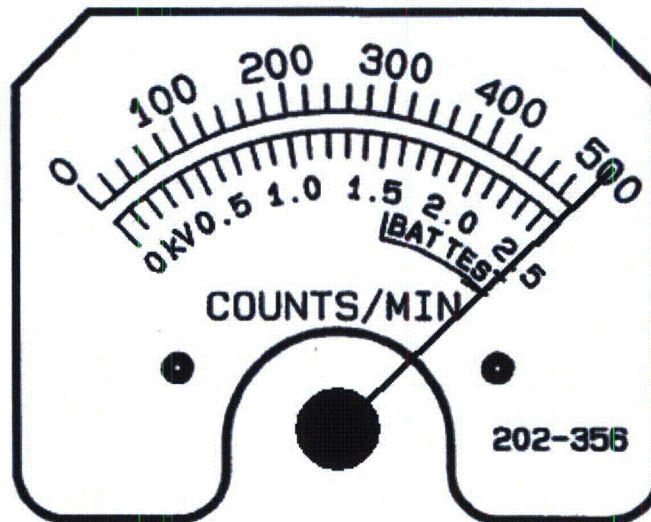
THIS IS A DRILL

## CONTROLLER MESSAGE

Cue Card: # 7F

THIS IS A DRILL

Note: Hand - 4



THIS IS A DRILL

---

## **CONTROLLER MESSAGE**

**Cue Card: # 7G**

---

### **THIS IS A DRILL**

---

**Controller:** The controller will continue to provide **Cue Card #7E** or **Cue Card #7F**, depending upon scale, to the REA staff.

**Message:** For x10 scale, show **Cue Card #7E** to the REA staff.  
For x1 scale, show **Cue Card #7F**

**Anticipated Response:** The REA team should determine that the hand wound cannot be cleaned further without more damage to the wound. The REA staff should contact REAC/TS for information on how to proceed.

The phone call to REAC/TS will not be simulated. Controllers will ensure that the REAC/TS office number, 865-576-3131 is used instead of the actual REAC/TS Emergency Number. Controllers should also ensure that the hospital says "This is a drill".

---

**THIS IS A DRILL**

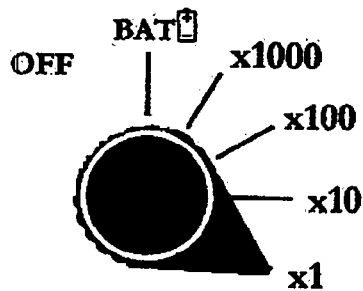
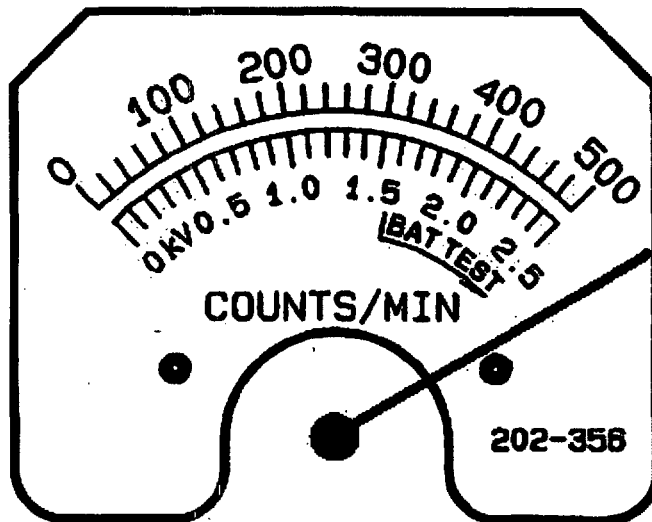
---

## CONTROLLER MESSAGE

Cue Card: # 7H

THIS IS A DRILL

Note: Forehead - 1



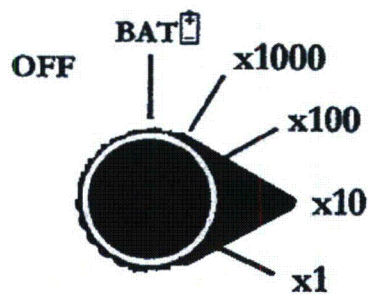
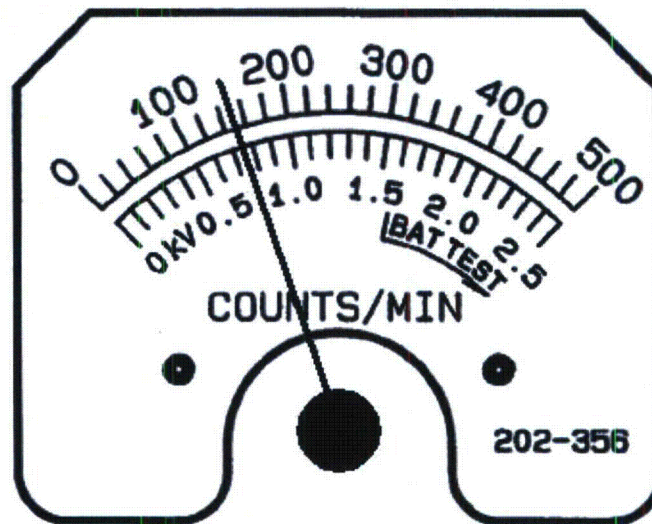
THIS IS A DRILL

## CONTROLLER MESSAGE

Cue Card: # 71

THIS IS A DRILL

Note: Forehead - 2



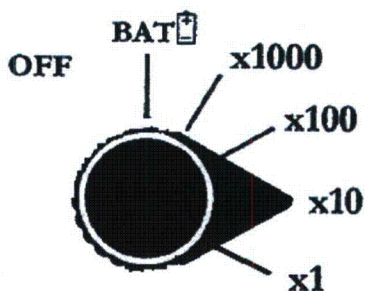
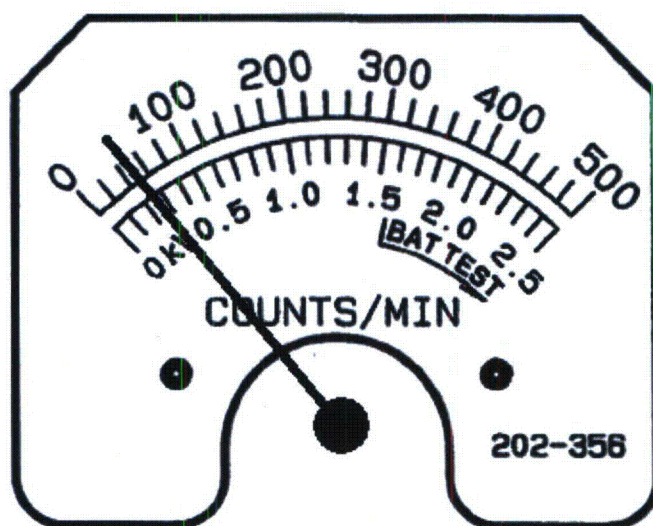
THIS IS A DRILL

## CONTROLLER MESSAGE

Cue Card: # 7J

THIS IS A DRILL

Note: Forehead - 3



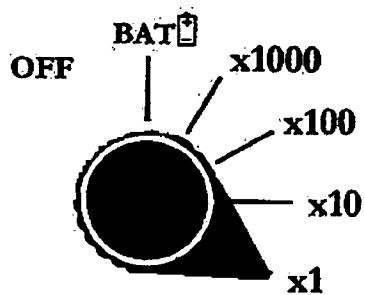
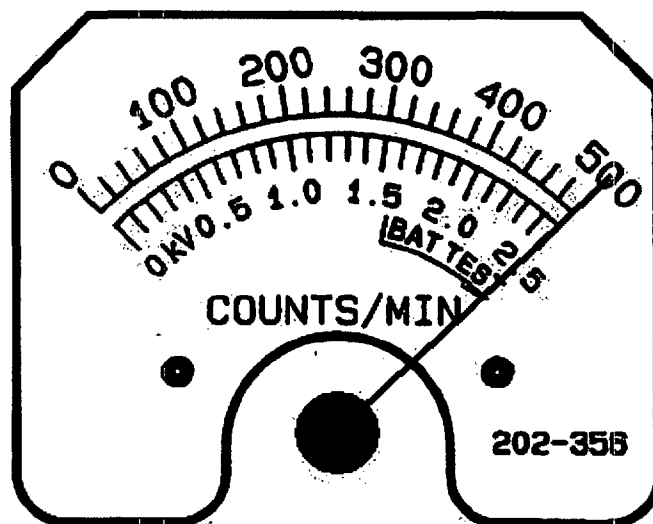
THIS IS A DRILL

## CONTROLLER MESSAGE

Cue Card: # 7K

THIS IS A DRILL

Note: Forehead - 4



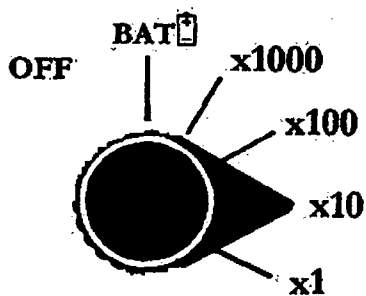
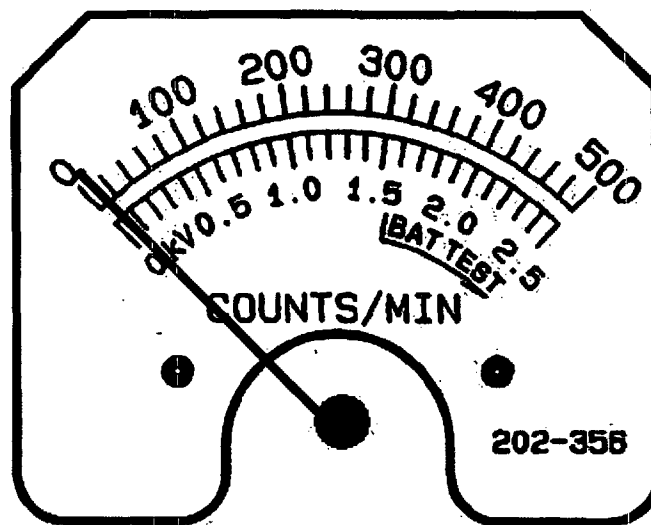
THIS IS A DRILL

## CONTROLLER MESSAGE

Cue Card: # 7L

THIS IS A DRILL

Note: Forehead - 5



THIS IS A DRILL

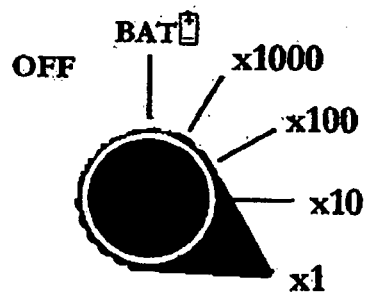
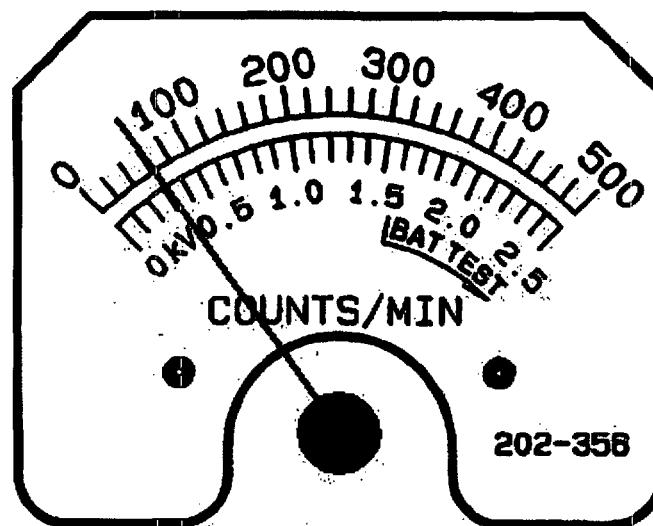


## CONTROLLER MESSAGE

Cue Card: # 7M

THIS IS A DRILL

Note: Forehead - 6



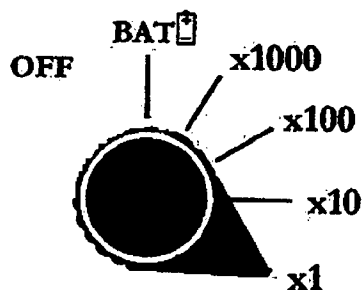
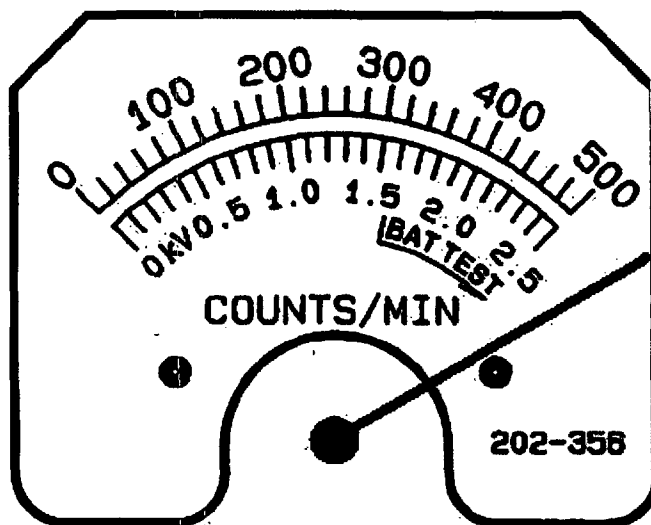
THIS IS <sup>46</sup>A DRILL

## CONTROLLER MESSAGE

Cue Card: # 7N

THIS IS A DRILL

Note: Right Leg 1



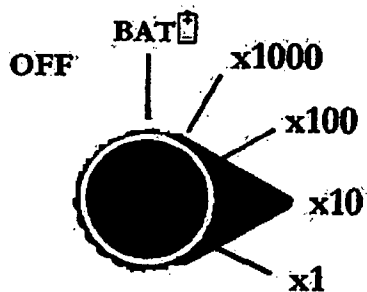
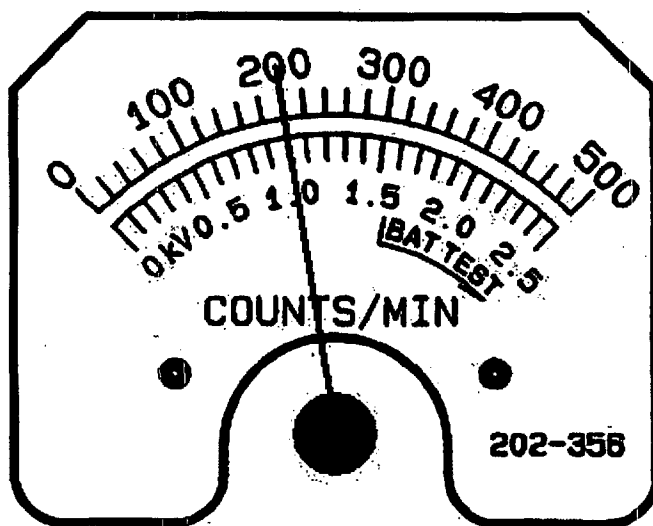
THIS IS A DRILL

## CONTROLLER MESSAGE

Cue Card: #70

THIS IS A DRILL

Note: Leg 2



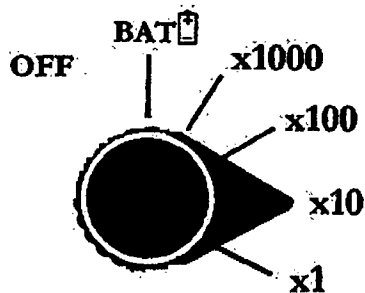
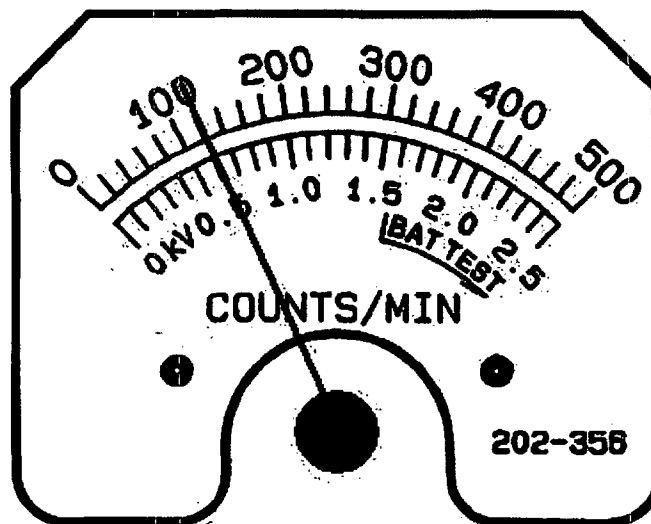
THIS IS A DRILL  
48

## CONTROLLER MESSAGE

Cue Card: # 7P

THIS IS A DRILL

Note: Leg 3



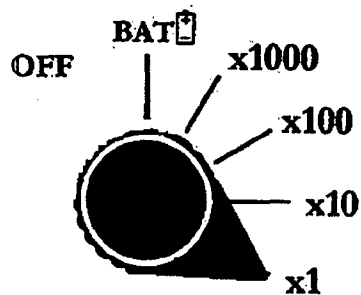
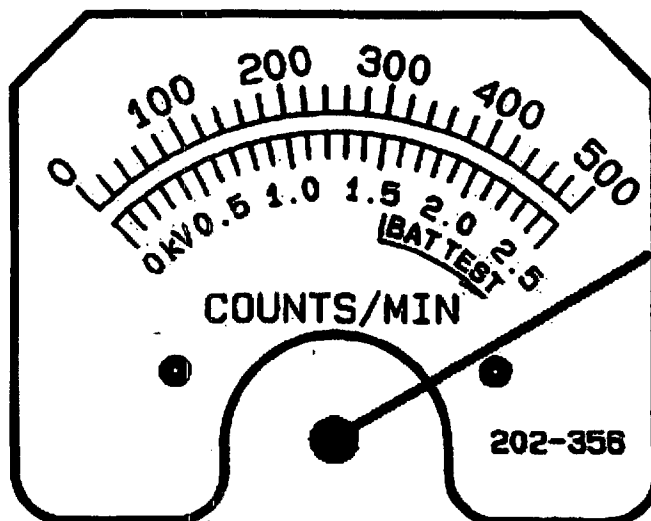
THIS IS A DRILL

## CONTROLLER MESSAGE

Cue Card: #7Q

THIS IS A DRILL

Note: Leg 4



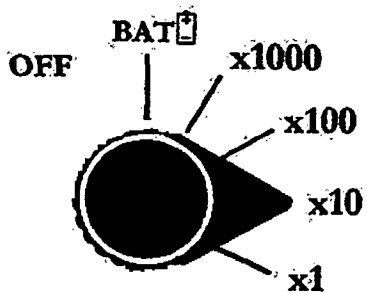
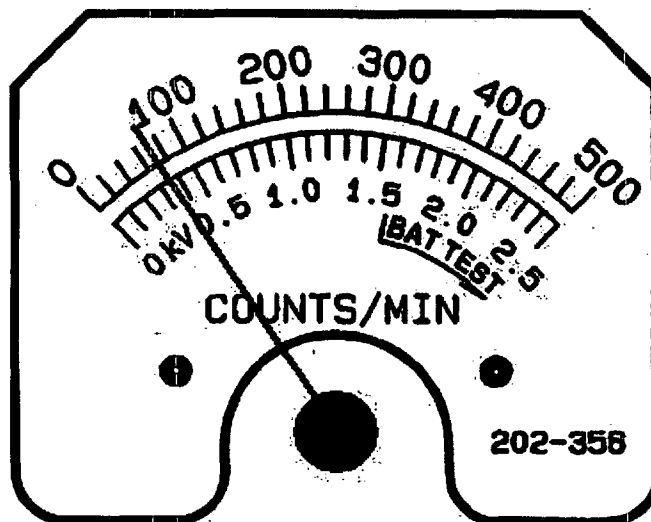
THIS IS A DRILL  
50

## CONTROLLER MESSAGE

Cue Card: # 7R

THIS IS A DRILL

Note: Leg 5



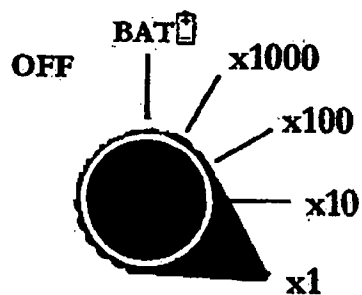
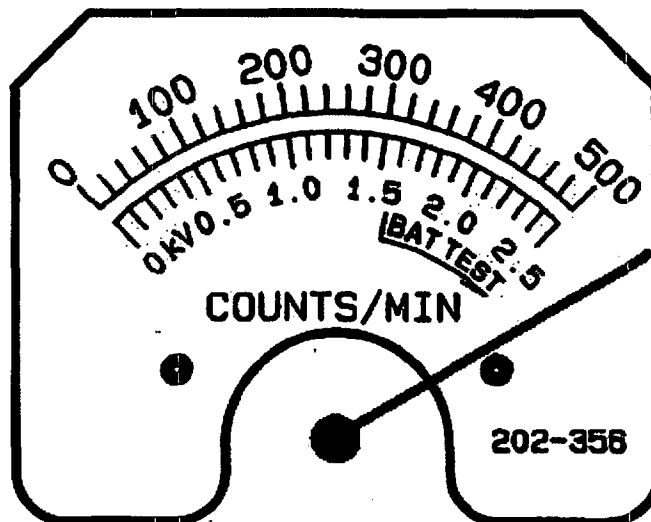
THIS IS A DRILL  
51

## CONTROLLER MESSAGE

Cue Card: # 7S

THIS IS A DRILL

Note: Leg 6



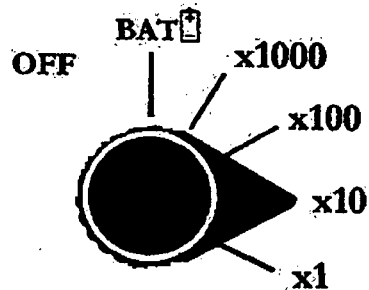
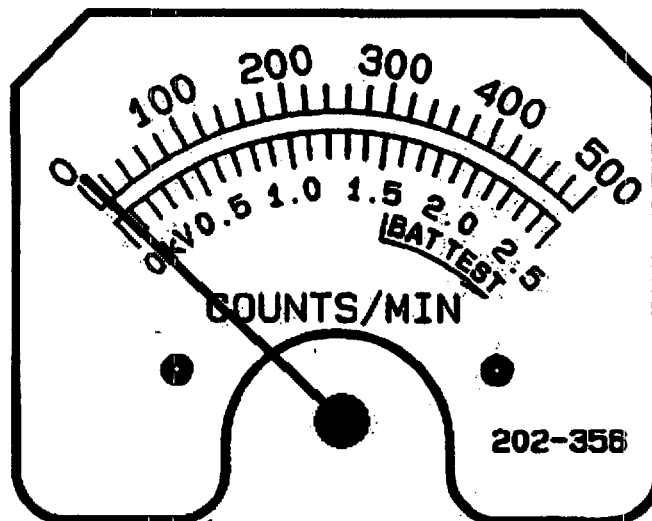
THIS IS A DRILL

## CONTROLLER MESSAGE

Cue Card: # 7T

THIS IS A DRILL

Note: Leg 7



THIS IS A DRILL

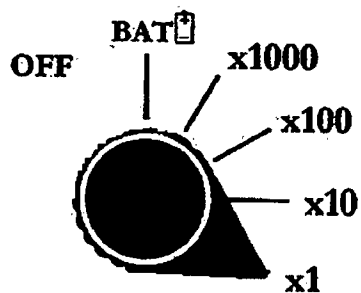
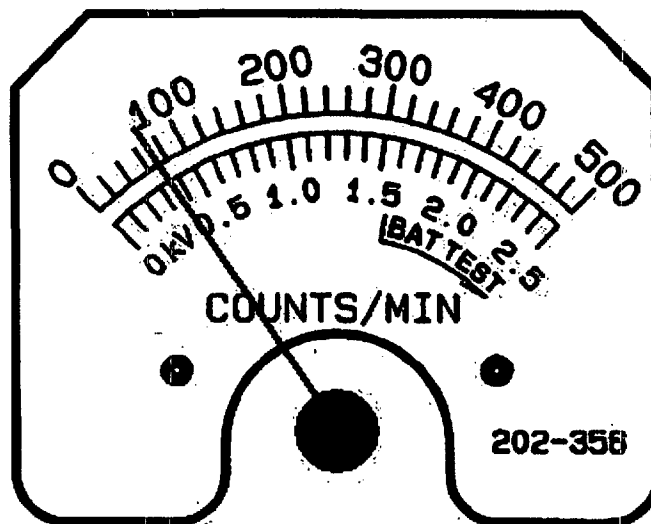


## CONTROLLER MESSAGE

Cue Card: # 7U

THIS IS A DRILL

Note: Leg 8



THIS IS A DRILL  
54

---

## **CONTROLLER MESSAGE**

**Cue Card: # 8**

---

**THIS IS A DRILL**

---

**Controller:**

Once the patient is successfully transferred from the room, the controller will instruct REA staff to demonstrate exit procedures.

NOTE: At this point, the drill is still in progress and has not been terminated.

After one person has demonstrated exit procedures, ask the FEMA evaluator if they would like to see another person demonstrate the exit procedures or if one was satisfactory.

**Message:**

Demonstrate the REA exit procedures.

**Anticipated Response:**

One REA team member will demonstrate removal of the personal protective equipment and exit survey technique.

If required by FEMA, other team members may also demonstrate the proper exit procedures.

---

**THIS IS A DRILL**

---

---

## **CONTROLLER MESSAGE**

**Cue Card: # 9**

---

**THIS IS A DRILL**

---

**Controller:**

The controller will request personnel to describe how the REA would be returned to normal operations.

Note: FEMA may require some of the procedure be demonstrated, such as surveying and testing for contamination. Confirm with FEMA evaluator what they require before notifying the drill team.

**Message:**

Please describe how you would return the REA to normal operations.

[Note: The contents of this message may change depending upon FEMA requirements.]

**Anticipated Response:**

Staff will describe and/or demonstrate how they would survey and test for contamination, what they would do with the waste, and any other requirements to return the room to normal operations.

---

**THIS IS A DRILL**

---

---

## **CONTROLLER MESSAGE**

**Cue Card: # 10**

---

**THIS IS A DRILL**

---

**Controller:** Once verbal confirmation has been received from FEMA that all requirements have been successfully demonstrated, the drill will be terminated.

**Message:** The drill is terminated.

**Anticipated Response:** The area will be returned to normal by the hospital staff.

---

**THIS IS A DRILL**

---

## ATTACHMENT A

### Accident Scene 1

- ←..... Victim Travel path  
←----- Ambulance Route to Hospital





## Attachment A

### Accident Scene 2

View looking North on highway 605.





## Attachment B

### Snake Bite Injury Information for Controllers and Victim

#### Grass Snake

Reference: [http://en.wikipedia.org/wiki/Snakebite#Signs\\_and\\_symptoms](http://en.wikipedia.org/wiki/Snakebite#Signs_and_symptoms)

**Common Effects** - The most common symptoms of all snakebites are overwhelming fear, panic, and emotional instability, which may cause symptoms such as nausea and vomiting, diarrhea, vertigo, fainting, tachycardia, and cold, clammy skin. Television, literature, and folklore are in part responsible for the hype surrounding snakebites, and a victim may have unwarranted thoughts of imminent death.

Dry snakebites, and those inflicted by a non-venomous species, can still cause severe injury to the victim. There are several reasons for this: a snakebite which is not treated properly may become infected (as is often reported by the victims of viper bites whose fangs are capable of inflicting deep puncture wounds), the bite may cause anaphylaxis in certain people, and the snake's saliva and fangs may harbor many dangerous microbial contaminants, including *Clostridium tetani*. If neglected, an infection may spread and potentially kill the victim.

Most snakebites, whether by a venomous snake or not, will have some type of local effect. There is minor pain and redness in over 90% of cases, although this varies depending on the site.

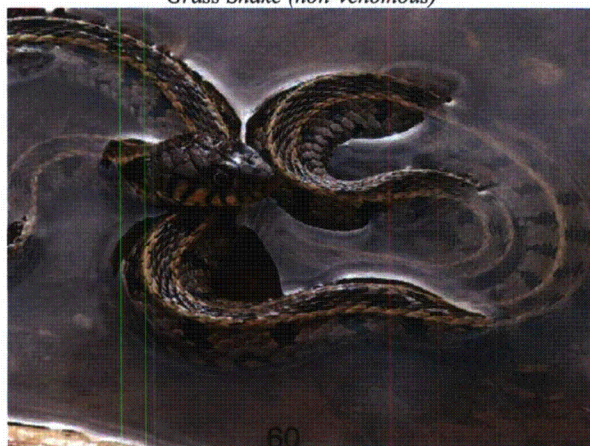
#### NOTE:

For the purposes of this scenario we will limit the effects to pain, nausea and disorientation, no loss of consciousness.

We will moulage swelling, redness, fang marks, slight bleeding but no blisters.

**Appearance** - The grass snake is typically dark green or brown in colour with a characteristic yellow collar behind the head, which explains the alternative name *ringed snake*. The colour may also range from grey to black, with darker colours being more prevalent in colder regions, presumably owing to the thermal benefits of being dark in colour. The underside is whitish with irregular blocks of black, which are useful in recognizing individuals. Females are considerably larger than males, typically reaching a size of 90–110 centimetres (2 ft 11 in–3 ft 7 in) when fully grown. Males are approximately 20 centimetres (8 in) shorter and significantly smaller in girth. Weight is about 240 grams (8 oz).

*Grass Snake (non-venomous)*



This page is intentionally blank.