



FEMA

October 13, 2010

Elmo E. Collins, Jr., Regional Administrator
U.S. NRC, Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-4005

Dear Mr. Collins:

Enclosed is a copy of the radiological emergency preparedness final report for the Comanche Peak Nuclear Power Plant (CPNPP) Medical Services drill evaluated on September 14, 2010, by the U.S. Department of Homeland Security/Federal Emergency Management Agency Region 6. Our staff evaluated the Lake Granbury Medical Center and Texas Emergency Medical Services. There were no Deficiencies, no Area Requiring Corrective Actions, and no Plan Issues identified as a result of the drill.

Based on the results of the drill, the offsite radiological emergency response plans and preparedness for the CPNPP 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 Texas site-specific to CPNPP will remain in effect.

A copy of this report was provided to Ms. Lisa Gibney at NRC Headquarters as well as the NRC Headquarters Document Control Desk. Should you have questions, please contact me at (940) 898-5199, or Linda Gee, Radiological Emergency Preparedness Site Specialist, at (940) 898-5368.

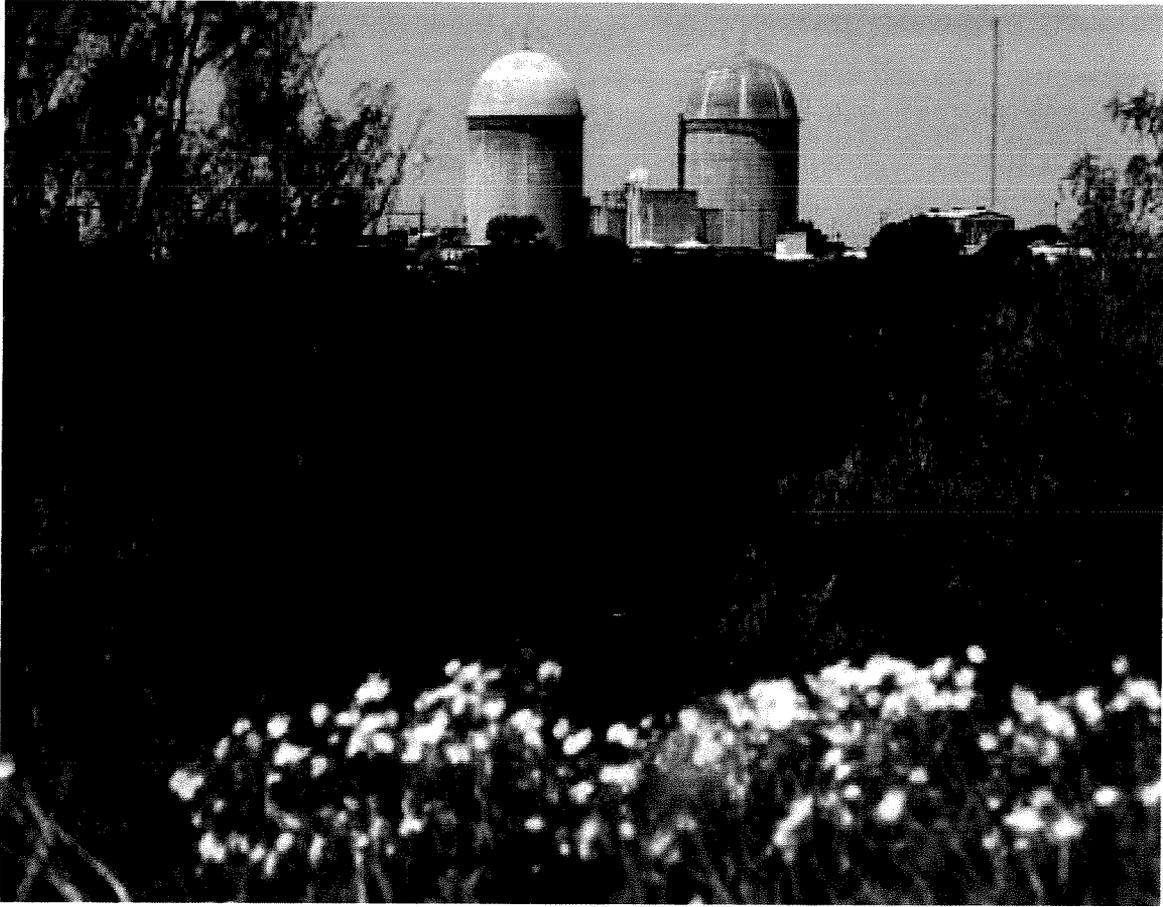
Sincerely,

A handwritten signature in black ink that reads "L. Hammond".

Lisa R. Hammond
RAC Chair

Enclosure

cc: DHS/FEMA Headquarters - Vanessa Quinn, Craig Fiore and Renae Connell
TDEM - W. Nim Kidd, CEM
TX DSHS, Radiation Control Program - Dr. David Lakey
CPNPP Manager of Emergency Preparedness - David Fuller



Comanche Peak Nuclear Power Plant

After Action Report/ Improvement Plan

Drill Date - September 14, 2010

Radiological Emergency Preparedness (REP) Program



FEMA

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Comanche Peak Nuclear Power Plant After Action Report/Improvement Plan

Published October 13, 2010

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Unclassified

Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Comanche Peak Nuclear Power Plant

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EXECUTIVE SUMMARY

On September 14, 2010, an out-of-sequence medical drill was conducted for the Comanche Peak Nuclear Power Plant (CPNPP), located near Glen Rose, Texas. Personnel from the U.S. Department of Homeland Security/FEMA (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 the CPNPP. The previous medical drill conducted at this site was on September 17, 2008.

Personnel from the Lake Granbury Emergency Medical Center, Texas Emergency Medical Services, and CPNPP participated in the drill. Evaluation Areas demonstrated included: Emergency Operations Management, Protective Action Implementation, and Support Operations/Facilities. Cooperation and teamwork of all participants was evident during the drill, and DHS/FEMA Region VI 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 implemented them. There were no Deficiencies and no Areas Requiring Corrective Action (ARCAs). Additionally, no Plan Issues were identified as a result of the drill.

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name

Comanche Peak Nuclear Power Plant

Type of Exercise

Drill

Exercise Date

September 14, 2010

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

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1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the Comanche Peak Nuclear Power Plant drill:

State Jurisdictions

Texas Department of State Health Services

Support Jurisdictions

Lake Granbury Medical Center

Texas Emergency Medical Services

Private Organizations

Comanche Peak Nuclear Power Plant

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

The DHS/FEMA Region VI Office evaluated the drill on September 14, 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 Comanche Peak Nuclear Power Plant (CPNPP). 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 at Comanche Peak Nuclear Power Plant requiring the transportation, treatment, and decontamination of a radiologically contaminated injured individual. The drill scenario provided for the evaluation of the Texas Emergency Medical Services and Lake Granbury Medical Center.

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 14, 2010, drill evaluation to test the offsite emergency response capabilities of local governments in the 10-mile Emergency Planning Zone surrounding Comanche Peak Nuclear Power Plant.

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 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 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 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: 2010-09-14 SITE: Comanche Peak Nuclear Power Plant, TX M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		LGMC	Texas EMS
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 Private Organizations

3.3.1.1 Lake Granbury Medical Center

- 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

3.3.1.2 Texas Emergency Medical 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 Texas 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 Texas site-specific to Comanche Peak Nuclear Power Plant will remain in effect.

APPENDIX A: BEST PRACTICES

1. Hanging of the Contaminated Waste Bag in the Ambulance

Summary: The Texas Emergency Medical Services (TX EMS) crew hung the orange contaminated waste bag from the overhead hand rail in the ambulance.

Description: The Texas Emergency Medical Services (TX EMS) crew hung the orange contaminated waste bag from the overhead hand rail in the ambulance. This allowed the TX EMS crew to slide the waste bag from the front to the back of the rear ambulance area, and not having to reach across the patient to drop gloves and other possibly contaminated waste into the waste bag.

APPENDIX B: DRILL EVALUATORS AND TEAM LEADERS

DATE: 2010-09-14, SITE: Comanche Peak Nuclear Power Plant, TX

LOCATION	EVALUATOR	AGENCY
Lake Granbury Medical Center	Nan Calhoun *Linda Gee	DHS/FEMA DHS/FEMA
Texas Emergency Medical Service	Tim Pflieger	DHS/FEMA
* Team Leader		

APPENDIX C: ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
CPNPP	Comanche Peak Nuclear Power Plant
DPS	Texas Department of Public Services
DSHS	Texas Department of State Health Services
EPZ	Emergency Planning Zone
ER	Emergency Room
LGMC	Lake Granbury Medical Center
OSL	Optically Stimulated Luminescent
REA	Radiation Emergency Area
RPT	Radiation Protection Technician
TX EMS	Texas Emergency Medical Services

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Radiological Emergency Preparedness Program (REP)

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Comanche Peak Nuclear Power Plant

APPENDIX D: EXERCISE PLAN

LAKE GRANBURY MEDICAL CENTER MS-1 HOSPITAL DRILL SEPTEMBER 14, 2010

1.0 Introduction

This drill will verify that the Lake Granbury Medical Center (LGMC) Radiological Emergency Area and personnel assigned to care for contaminated injured patients can meet FEMA MS-1 requirements. The drill will also verify that the Texas Emergency Medical Services (Texas EMS) Ambulance personnel can interface with the MS-1 hospital.

2.0 FEMA Evaluation Criteria

- 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations. (NUREG-0654, H., J.10.a.b.e.f.j.k., 11, K.3.a.)
- 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.)
- 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.)

3.0 Guidelines

The following guidelines have been developed to instruct drill participants of the extent of play required to fulfill the drill evaluation criteria.

1. Drill lead controller is responsible for conducting the drill per the drill package.
2. Controllers will be assigned as needed to ensure the completion of drill objectives.
3. This is a FEMA evaluated drill. Therefore, prompting is not permitted.
4. On-the-spot corrections are allowed in accordance with Recommended Initiative 1.5-Correct Issues Immediately (March 31, 2000)

4. The controllers should allow free-play. However, free-play will be stopped under the following conditions:
 - a. if the action taken would prevent a drill evaluation criterion from being met or is outside the scope of the drill.
 - b. if the actions are judged to be unsafe or leading to violations of the law.
 - c. if the actions would degrade systems or equipment, or degrade response to a real emergency.
5. If an actual emergency occurs, the drill will be terminated.
6. All radio and telephone communications will begin and end with **THIS IS A DRILL.**
7. All signs and postings at the hospital should be marked either **FOR TRAINING USE ONLY** or **DRILL IN PROGRESS.**

4.0 Extent of Play

These guidelines define the extent of play required to meet an objective and identify planned simulations.

Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations. (NUREG-0654, H., J.10.a.b.e.f.j.k., 11, K.3.a.)

No exceptions are requested.

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.)

No exceptions are requested.

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.)

The Texas EMS ambulance and the Radiation Protection Technicians from CPNPP will pre-stage at the Texas EMS ambulance bay in Granbury, Texas.

All decontamination will be demonstrated to the extent necessary to satisfy evaluator concerns. All medical procedures will be simulated except for decontamination of wounds and or abrasions.

All contamination levels will be via controller inject. Free play of this activity is not permitted.

5.0 Participants

This drill will require the participation of the following agencies:

**Lake Granbury Medical Center Emergency Room Staff
Lake Granbury Medical Center Support Staff as needed
Texas EMS Ambulance Personnel
Two (2) Radiation Protection Technicians from CPNPP**

6.0 Controller and Role Players

A minimum of four (4) controllers will be required for this drill.

One (1) role player victim will be required for this drill

7.0 Initial Conditions

During routine daily operations at CPNPP an I&C technician contacted a defective electrical connection and was knocked unconscious when he fell backwards as a result of the electrical shock. The CPNPP medical response personnel determine that the victim should be transported to the hospital. The CPNPP ambulance is not available due to a dead battery. The Texas EMS personnel will respond to CPNPP for patient pickup, as the Somervell County Volunteer Fire, Rescue and EMS ambulances have been dispatched to a multiple vehicle accident in southern Somervell County. The CPNPP medical responders prepare the victim for transport and meet the arriving ambulance at the Alternate Access Point (AAP), the ambulance crew picks up the victim who is prepared for transport by the CPNPP medical responders. The victim is conscious and complaining of pain and a lack of mobility in his right arm as well as suffering bruises to his back.

8.0 Narrative Summary

Upon arrival at the AAP the Texas EMS crew accepts the patient from the CPNPP medical responders. The patient is then transported to Lake Granbury Medical Center (LGMC). The ambulance communicates patient data and the fact that the patient is

possibly radiologically contaminated.

LGMC is contacted and activates their Radiation Emergency Area (REA). According to CPNPP procedure and LGMC procedures, a Radiation Protection Technician was dispatched to the hospital ahead of the ambulance and another will accompany the patient in the ambulance.

9.0 Time Line

0930 Drill begins (Notification to LGMC received from CPNPP)

1000 RP Tech arrives at LGMC

1015 Ambulance arrives at LGMC

1115 Drill terminates

1145 Critique

1200 Activities Concluded

10.0 Facility Addresses

Lake Granbury Medical Center
1310 Paluxy Road (Highway 51 South)
Granbury, TX 76048

Texas Emergency Medical Services (Texas EMS)
2200 Commercial Lane
Granbury, TX 76048

MEDICAL INFORMATION FOR CONTROLLERS

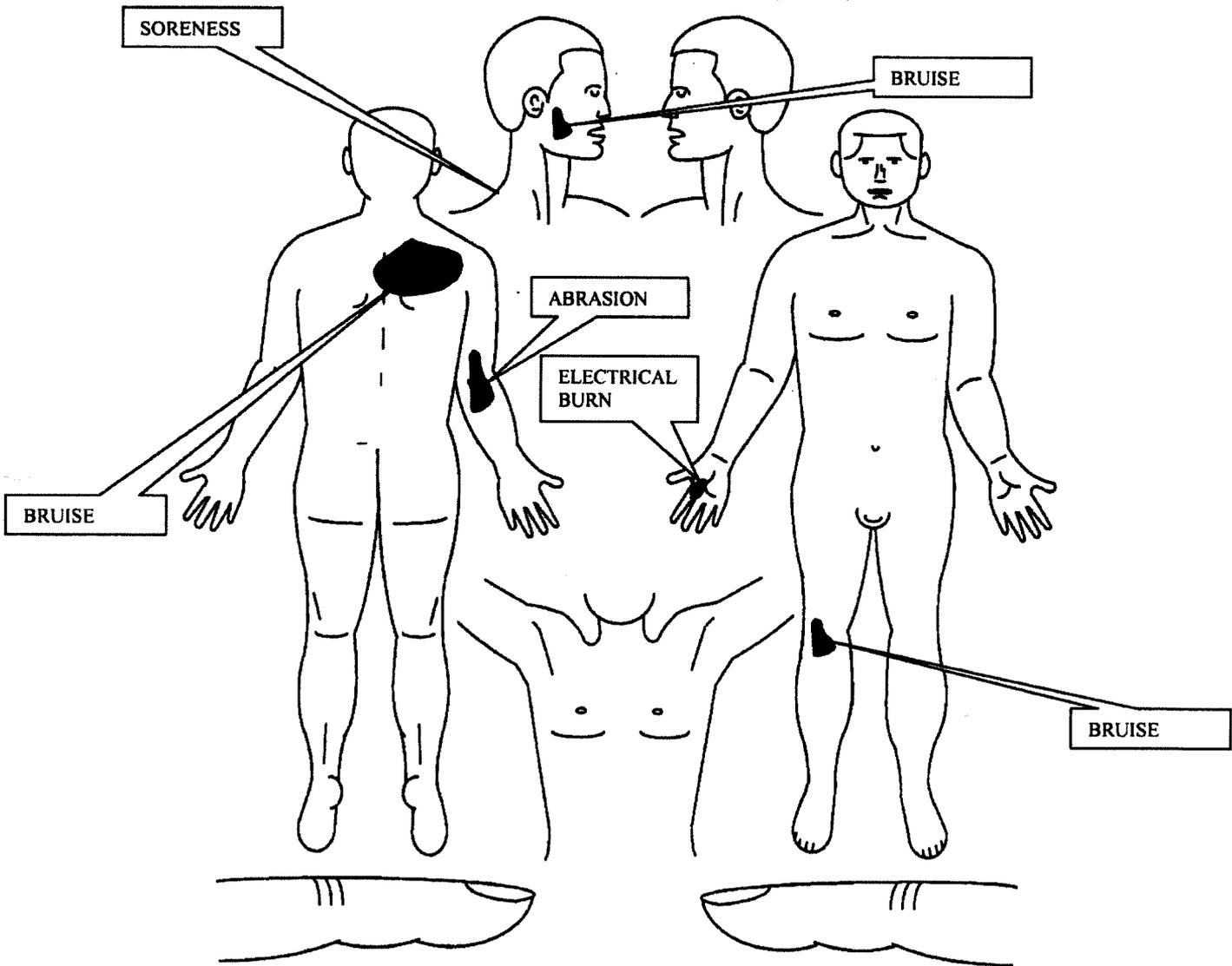
	INITIAL	ENROUTE	HOSPITAL
Blood Pressure	150/90	140/88	136/86
Respiration	35	31	25
Pulse	130	115	95
Breathing	Rapid, shallow	Rapid	Rapid
Skin Condition	Cold, clammy	Cold, clammy	Clammy
Consciousness	Alert, lucid	Alert, lucid	Alert, lucid
Pupils	Equal, reactive	Equal, reactive	Equal, reactive
Significant injury	Electrical burn to right thumb and forefinger with strained right shoulder.		

INJURY MAP FOR MEDICAL CONTROLLERS

ATTACHMENT 4a - ANATOMICAL RT

PATIENT'S NAME: _____ SURVEY DATE/TIME: _____

Directions: Record indicated levels of contamination in counts per minute (CPM) on the patient map.



TYPE OF INSTRUMENT USED: _____ (MODEL AND NUMBER)

DISTANCE SKIN TO PROBE: _____ INCHES

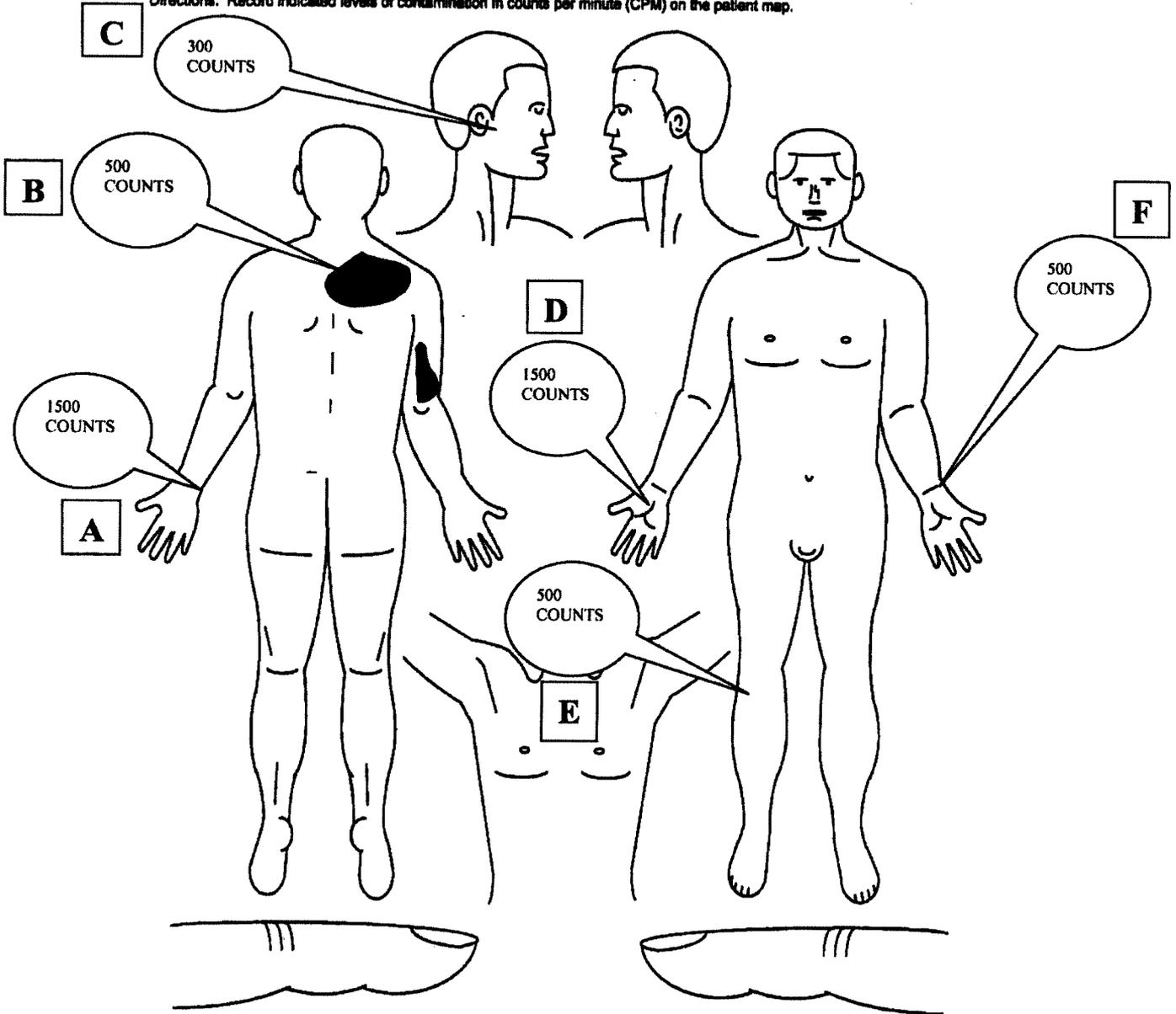
Revision
06/07/2000

CONTAMINATION MAP AND INFORMATION FOR CONTROLLERS

ATTACHMENT 4a - ANATOMICAL CHART

PATIENT'S NAME: _____ SURVEY DATE/TIME: _____

Directions: Record indicated levels of contamination in counts per minute (CPM) on the patient map.



TYPE OF INSTRUMENT USED: _____

(MODEL AND NUMBER)

DISTANCE SKIN TO PROBE: _____ INCHES

CONTAMINATION MAP AND INFORMATION FOR CONTROLLERS

INSTRUCTIONS TO CONTROLLERS FOR PROVIDING DECONTAMINATION LEVELS

- A.** Allow the decontamination on the back of the left wrist to be completed as follows:
 - 1. After one attempt, 500 cpm remains
 - 2. After two attempts, the reading should be background.

- B.** Allow the decontamination of the back (shoulder) to be completed in one effort.

- C.** Allow the decontamination of the right face cheek in one effort.

- D.** Allow decontamination of the right inner wrist to be completed as follows:
 - 1. After one attempt, 750 cpm remains.
 - 2. After two attempts, 400 cpm remains.
 - 3. After three attempts, the reading should be background

- E.** Allow the decontamination of the right knee to be completed in one effort.

- F.** Allow decontamination of the left inner wrist to be completed in one effort.

MS-1 Hospital Drill September 14, 2010

MESSAGE 1

TIME: 0930

FROM: CPNPP Control Room

TO: Lake Granbury Medical Center Emergency Room (817-279-8027 – Primary, 817-408-3050
– Backup)

TEXT:

THIS IS A DRILL!

THIS IS THE COMANCHE PEAK NUCLEAR POWER PLANT CONTROL ROOM. A POSSIBLE CONTAMINATED INJURED PATIENT IS BEING TRANSPORTED TO YOUR FACILITY BY TEXAS EMS.

THE PATIENT IS LIKELY, REPEAT, LIKELY RADIOLOGICALLY CONTAMINATED. PLEASE ACTIVATE YOUR RADIATION EMERGENCY AREA FOR RECEIPT OF THE PATIENT.

MY CALL BACK NUMBER IS 682-936-9100.

THE AMBULANCE WILL CONTACT YOUR FACILITY WHEN EN-ROUTE. A RADIOLOGICAL PROTECTION TECHNICIAN IS EN-ROUTE TO THE HOSPITAL TO ASSIST YOU WITH PREPARATION FOR RECEIPT OF THE PATIENT. ANOTHER IS ACCOMPANYING THE PATIENT.

PLEASE GIVE ME YOUR NAME FOR THE LOG.

THANK YOU.

THIS IS A DRILL.

MS-1 Hospital Drill September 14, 2010

MESSAGE 2

TIME: 0955

FROM: TEXAS EMS AMBULANCE

TO: LAKE GRANBURY MEDICAL CENTER EMERGENCY ROOM

TEXT:

THIS IS A DRILL!

THIS IS TEXAS EMS EN-ROUTE WITH A MALE PATIENT APPROXIMATELY 35 YEARS OF AGE WITH A STRAINED RIGHT SHOULDER, BRUISES AND ABRASIONS. THIS PATIENT IS ALSO RADIOLOGICALLY CONTAMINATED.

PATIENT VITAL SIGNS ARE AS FOLLOWS:

BP = 140/88

RESPIRATION = 31

PULSE = 115

CONSCIOUS / REACTIVE

OUR ETA IS 20 MINUTES.

THIS IS A DRILL!

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