Arkansas Nuclear One
After Action Report

Medical Services and Dover Independent School District Drills – November 8-9, 2022

Radiological Emergency Preparedness (REP) Program

FEMA

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ANO/After Action Report

Published

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EXECUTIVE SUMMARY

On November 8-9, 2022, Medical Services and Dover School District drills were conducted for St Mary's Regional Medical Center, Pope County Emergency Medical Services (EMS) Main Station, Dover Independent School District (DISD) located in Pope County, and University of Arkansas Medical Sciences (UAMS) Medical Center in Little Rock, Arkansas. The U.S. Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA) Regions 6 personnel evaluated the drills. The purpose was to assess the level of preparedness of local responders to react to a simulated radiological emergency at Arkansas Nuclear One (ANO). The previous medical drills for these locations were conducted in 2019 and 2021. The previous Dover Independent School District drill was conducted in 2014.

The University of Arkansas Medical Sciences Medical Center drill was postponed due to the COVID-19 ongoing pandemic response. Personnel from the St. Mary's Regional Medical Center, Pope County EMS, DISD, and UAMS participated in the drills. Evaluation Areas demonstrated included: Equipment and Supplies to Support Operations, Protective Action Implementation, Support Operations/Facilities Transportation and Treatment of Contaminated Injured Individuals. Cooperation and teamwork of the participants was evident during the drills, and DHS/FEMA wishes to acknowledge these efforts.

This report contains the final written evaluation of the out-of-sequence drills. The participants demonstrated knowledge of their emergency response plans and procedures and they adequately implemented them. There were no Level 1 Findings. There were two Level 2 Findings that were identified and corrected during the drill. No Plan Issues were identified.

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name
Arkansas Nuclear One

Type of Exercise
Medical Services and Independent School District Drills

Exercise Date
November 8-9, 2022

Program
Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA) Radiological Emergency Preparedness Program

Scenario Type
Medical Services/EMS/Independent School District Drill

1.2 Exercise Planning Team Leadership

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1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the Arkansas Nuclear One drill:

State Organizations

Arkansas Department of Health, Nuclear Planning & Response Program

Risk Organizations

Dover Independent School District
Pope County Emergency Medical Services, Main Station
St. Mary's Regional Medical Center

Private Organizations

University of Arkansas Medical Sciences Medical Center

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

The DHS/FEMA Region 6 Office evaluated the Medical Services and Independent School District Drills on November 8-9, 2022, to assess the capabilities of local emergency preparedness and implementation of their Radiological Emergency Response Plans and Procedures to protect the public health and safety during a radiological emergency involving Arkansas Nuclear One. The purpose of this report is to present the results and findings on the performance of the offsite response organization during a simulated radiological emergency.

2.2 Exercise Objectives, Capabilities and Activities

Exercise objectives and identified Capabilities/REP Criteria selected to be demonstrated are discussed in the Exercise Plan (EXPLAN), Appendix C.

2.3 Scenario Summary

The Arkansas Nuclear One (ANO) Medical and School scenario was developed to evaluate the response of offsite drill participants to an incident at ANO requiring the transportation, treatment, and decontamination of a radiologically contaminated injured individual and evacuation of special populations. The onsite ANO Drill scenario provided for an evaluation of the Medical Centers, Emergency Medical Services, and the Dover Independent School District.

SECTION 3: ANALYSIS OF CAPABILITIES

3.1 Exercise Evaluation and Results

Contained in this section are the results and findings of the evaluation of functional entities who participated in the November 8-9, 2022, drills for Arkansas Nuclear One.

The functional entities were evaluated on the basis of the demonstration of criteria delineated in the exercise/drill evaluation areas as outlined in the REP Program Manual, dated January 2016. Detailed information on the drill evaluation area criteria and the ANO Drill scenario used in this demonstration are found in Exercise Plan (EXPLAN), Appendix C of this report.

3.2 Summary Results of Exercise Evaluation

The matrix presented in Table 3.1, on the following page, presents the status of all exercise/drill evaluation area criteria from the REP Program Manual that were scheduled for demonstration during the drill by all participants and functional entities. Exercise evaluation area criteria are listed by number and the demonstration status of those evaluation areas are indicated by the use of the following nomenclature:

M - Met (No Findings assessed and no unresolved Findings from prior exercises)

1 - Level 1 Finding Assessed

2 - Level 2 Finding Assessed or previous unresolved Findings

P - Plan Issue

N - Not Demonstrated

Tables 3.1 - Summary of Exercise Evaluation

Table 3.1a – Exercise Evaluation

Date: November 8-9, 2022 Site: Arkansas Nuclear One			
Location	Criteria Title	Criteria	Results
Pope County EMS, Main Station	Contaminated Injured Transport & Care	6d1	M
Pope County EMS, Main Station	EW Exposure Control Implementation	3a1	M
Pope County EMS, Main Station	Equipment and Supplies	1e1	M
St. Mary's Regional Medical Center	Contaminated Injured Transport & Care	6d1	M
St. Mary's Regional Medical Center	EW Exposure Control Implementation	3a1	M
St. Mary's Regional Medical Center	Equipment and Supplies	1e1	M
UAMS	Contaminated Injured Transport & Care	6d1	M
UAMS	EW Exposure Control Implementation	3a1	M
UAMS	Equipment and Supplies	1e1	M
Dover Independent School District	EW Exposure Control Implementation	3a1	M
Dover Independent School District	School Officials Implement Precautionary/Protective Actions for Schools	3c2	M

3.3 Criteria Evaluation Summaries

3.3.1 Risk Organizations

3.3.1.1 Pope County EMS – Main Station

Criterion: 1e1
Criterion: 3a1
Criterion: 6d1
In summary, the status of DHS/FEMA criteria for the Risk jurisdiction is as follows:

a. MET: 1e1, 3a1, and 6d1

b. LEVEL 1 FINDINGS: NONE

c. LEVEL 2 FINDINGS: NONE

d. NOT DEMONSTRATED: None

e. PLAN ISSUES: NONE

f. PRIOR ISSUES – RESOLVED: NONE

g. PRIOR ISSUES – UNRESOLVED: NONE

3.3.1.2 St. Mary's Regional Medical Center

Criterion: 1e1
Criterion: 3a1
Criterion: 6d1

In summary, the status of DHS/FEMA criteria for the Risk jurisdiction is as follows:

a. MET: 1e1, 3a1, and 6d1

b. LEVEL 1 FINDINGS: NONE

c. LEVEL 2 FINDINGS: NONE

d. PLAN ISSUES: NONEone

e. NOT DEMONSTRATED: None

f. PRIOR ISSUES – RESOLVED: NONE

g. PRIOR ISSUES – UNRESOLVED: NONE

3.3.1.3 Dover Independent School District

Criterion: 3a1
Criterion: 3c2

In summary, the status of DHS/FEMA criteria for the Risk jurisdiction is as follows:

a. MET: 3a1 and 3c2

b. LEVEL 1 FINDINGS: NONE

c. LEVEL 2 FINDINGS: NONE

d. PLAN ISSUES: NONE

e. NOT DEMONSTRATED: None

f. PRIOR ISSUES – RESOLVED: NONE

g. PRIOR ISSUES – UNRESOLVED: NONE

3.3.2 Private Organizations

3.3.2.2 University of Arkansas Medical Sciences Medical Center

Criterion: 1e1
Criterion: 3s1
Criterion: 6d1

In summary, the status of DHS/FEMA criteria for the Risk jurisdiction is as follows:

MET: 1e1, 3a1, and 6d1

LEVEL 1 FINDINGS: None

LEVEL 2 FINDINGS: **ISSUE NO.: 01-22-6d1-L2-01**

Criterion:
Transportation and Treatment of Contaminated Injured Individuals

Condition:
The Decon Room Radiological Technician (RT) began surveying the patient from the head down to the torso and right shoulder down toward the right wrist when the meter alarmed at 25,000 cpm (via inject). The RT and nurses (RN) decided to begin decontaminating the patient before completing the whole-body survey. The RNs proceeded the simulated wash down decontamination. An RN assisted in holding the patient's injured contaminated arm to the side while the other RN completed the washdown (simulated) using a hose with a sprayer nozzle. During the patient decontamination process, the RT had not completed the whole-body survey or surveyed the RNs' hands and the RNs had not conducted glove changes.

Possible Cause:
Staff limited training and the hospital Code Curie Checklists were not used or followed.

Reference:
NUREG-0654/FEMAREP-1 (K.5.a, b; L.1, 4); and University of Arkansas Medical Sciences Code Curie Checklist.

Effect:
By not conducting a whole-body survey of the patient, the Radiological Technician may have missed contamination on other areas of the patient's body that could've potentially spread to other areas or hospital staff.

By the nurses' not changing their gloves and the Radiological Technician not surveying their hands after assisting the patient with the initial decontamination attempt, they could've re-contaminated the patient or spread it onto themselves or uncontaminated areas in the Decontamination Room.

Corrective Action Demonstrated:
The Controller called a timeout, he conducted training, covered the importance of completing a whole-body survey, and proper glove changes to minimize cross-contamination. Drill play was restarted, and the nurses conducted adequate glove changes and the Radiological Technician completed the patient whole-body survey.

ISSUE NO.: 01-22-6d1-L2-02

Criterion:
Transportation and Treatment of Contaminated Injured Individuals

Condition:
While the Radiological Technician was surveying the patient's back, she called out a couple of readings, for the recorder, of 470 counts per minute which were above the contamination threshold of 300 counts per minute.

Possible Cause:
The Radiological Technician had difficultly reading the survey meter, poor lighting or a glare on the survey meter.

Reference:
NUREG-0654/FEMAREP-1 (K.5.a, b; L.1, 4); and University of Arkansas Medical Sciences Code Curie Checklist.

Effect:
The hospital staff could've conducted unnecessary decontamination of the patient potentially delaying medical treatment. By providing readings above the contamination threshold of 300 counts per minute, could've caused confusion for the recorder and the medical staff in the Buffer Zone.

Corrective Action Demonstrated:
The Controller called a timeout, and he conducted training on the proper method of reading the survey meter by calling out the readings to include the decimal point. Drill play was restarted, and the Radiological Technician (RT) continued the survey and called out actual (real time) reading of 47.0 counts per minute. The RT demonstrated proper technique reading the survey meter and no further contamination, via controller inject, was detected.

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 drills, the offsite radiological emergency response plans and preparedness for the State of Arkansas and the affected local jurisdiction are deemed adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of the public in the event of a radiological emergency. Therefore, 44 CFR Part 350 approval of the offsite radiological emergency response plans and preparedness for the State of Arkansas site-specific to Arkansas Nuclear One will remain in effect.

APPENDIX A: EXERCISE EVALUATORS AND TEAM LEADERS

DATE: 11/8-9/2022

SITE: Arkansas Nuclear One

LOCATION	TEAM LEADER	EVALUATOR	AGENCY
Pope County EMS	Brad DeKorte	Brad DeKorte	DHS-FEMA Region 6
St. Mary's Regional Medical Center	Elsa Lopez	Elsa Lopez	
		Melisa Ogrodnik	
Dover School District	Brad DeKorte	Elsa Lopez	DHS-FEMA Region 6
		Melisa Ogrodnik	
		Brad DeKorte	
University of Arkansas Medical Sciences Medical Center	Elsa Lopez	Elsa Lopez	DHS-FEMA Region 6
		Melisa Ogrodnik	
		Brad DeKorte	

APPENDIX B: ACRONYMS AND ABBREVIATIONS

Acronym	Description
ADH	Arkansas Department of Health
ANO	Arkansas Nuclear One
BZ	Buffer Zone
CN	Charge Nurse
CPM	Counts per Minute
DHS/FEMA	Department of Homeland Security/Federal Emergency Management Agency
DISD	Dover Independent School District
DR	Decontamination Room
ED	Emergency Department
EIB	Emergency Information Booklet
EMS	Emergency Medical Services
EPD	Electronic Personal Dosimeter
ETA	Estimated Time of Arrival
EW	Emergency Worker
KI	Potassium Iodide
PAD	Protective Action Decision
PPE	Personal Protective Equipment
REA	Radiological Emergency Area
RN	Registered Nurse
RO	Radiological Officer
RT	Radiological Technician
RSO	Radiation Safety Officer
SMRMC	St. Mary's Regional Medical Center
TOCD	Technical Operations Control Director
TLD	Thermoluminescent Dosimeter
UAMS	University of Arkansas Medical Sciences
WDR	Washdown Room

APPENDIX C: EXERCISE PLAN

Medical Services Drill (MSD)
November 8 & 9, 2022
And
Dover District and School Transportation Interview
Extent-of-Play (EOP) Agreement
Between
The Arkansas Department of Health, representing the Off-Site Response Organizations, and FEMA Region VI

Stipulations and Special Considerations:

Due to postponement of previous MS Exercises due to COVID-19, both the primary and back-up medical facilities will be demonstrated according to the following schedule:

November 8, 2022	St. Mary's Hospital Russellville Pope County EMS-Main Station (Ambulance)
November 8, 2022	Dover School District
November 9, 2022	University of Arkansas For Medical Science (UAMS) Little Rock

An actual person will be used to "simulate" an injured patient. Medical staff will be prepared to demonstrate various capabilities such as radiation monitoring, dosimetry, and decontamination procedures.

Inventories of equipment will be supplied, and will include appropriate calibration, range of reading, and operational check dates.

"Correction on the Spot" will be employed at all locations to demonstrate the ability to implement plans and procedure, and to re-enforce training.

The simulated accident patient will be enroute, crossing through the plume path, to pick child from school, therefore, ANO personnel will not play in the exercise.

Patient transport to UAMS will be simulated.

EVALUATION AREA 1

Emergency Operations Management

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

INTENT

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) have emergency equipment and supplies adequate to support the emergency response.

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

Locations: **St. Mary's Hospital; Pope County EMS, Russellville, Arkansas**
UAMS Little Rock,

EOP:

1. It is Arkansas policy to issue KI only to Emergency Workers (EW) in the 10-mile EPZ and institutionalized individuals. KI is not issued to the general public.

2. Meters have calibration labels affixed. Operational checks will be performed before use, using range of reading labels on the meters. DRDs have "bar code" labels. Calibration dates of the DRDs and quarterly operational check dates of the meters and DRDs can be verified with the master database maintained by the NP&RP HP.

3. The quantities of Dosimetry and the quantities and expiration of KI will be confirmed by evaluators at locations identified in plans.

4. Meters that do not have "bar code" labels will have appropriate calibration labels attached

5. Correction-on-the-spot will be considered at these locations at the discretion of and concurrence between the evaluator and the controller. Caution should be exercised to ensure that exercise play is not interrupted.

No open items are identified.

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EVALUATION AREA 3

Protective Action Implementation

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to provide for the following: distribution, use, collection, and processing of direct-reading dosimetry and permanent record dosimetry; reading of direct-reading dosimetry by emergency workers at appropriate frequencies; maintaining a radiation dose record for each emergency worker; establishing a decision chain or authorization procedure for emergency workers to incur radiation exposures in excess of the PAGs, and the capability to provide KI for emergency workers, always applying the —as low as is reasonably achievablell principle as appropriate.

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, J.10.e; K.3.a, b; K.4)

Locations: **St. Mary's Hospital; Pope County EMS, Russellville, Arkansas; UAMS Little Rock. Dover School District, Dover, Arkansas Via interview, November 8, 2022.**

Organizations will demonstrate the availability of emergency equipment and supplies (1e1) at all locations. Inventory listings will be made available.

Organizations will demonstrate Emergency Worker Exposure Control (3a1) by utilizing proper dosimetry and procedures.
EOP:

1. Correction-on-the-spot will be considered at these locations at the discretion of and concurrence between the evaluator and the controller. Caution should be exercised to ensure that exercise play is not interrupted.

2. The listing of EWs who have ingested KI would be developed after the exposure forms are turned in. Because of the length of this exercise, this requirement will not be demonstrated. Each EW who simulates taking KI will have a form documenting when it was taken. These forms would be the basis for developing this list. KI is supplied to this location. Forms will be available for evaluator review. Use of KI will be simulated.

3. Dosimetry and KI will be issued IAW plans.

4. The RO or designee will demonstrate the EW briefing, record keeping, and procedures for issuing and returning dosimetry and KI. The use of KI will be simulated at St. Mary's, and will not be demonstrated at UAMS.

Findings: None

Sub-element 3.c – Implementation of Precautionary and/or Protective Actions for Persons with Disabilities and Access/Functional Needs

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement precautionary and/or protective action decisions, including evacuation and/or sheltering, for all persons with disabilities and access/functional needs. The focus is on those persons with disabilities and access/ functional needs that are (or potentially will be) affected by a radiological release from an NPP.

Criterion 3.c.2: OROs/School officials implement precautionary and/or protective actions for schools. (NUREG-0654/FEMA-REP-I, J.10.c, d, e, g)

Locations: Dover Independent School District

EOP:

1. It is Arkansas policy to issue KI only to Emergency Workers (EW) in the 10-mile EPZ and institutionalized individuals. KI is not issued to the general public.

2. DRDs have “bar code” labels. Calibration dates of the DRDs and quarterly operational check dates of the meters and DRDs can be verified with the master database maintained by the NP&RP HP.

3. The quantities of Dosimetry and the quantities and expiration of KI will be confirmed by evaluators at locations identified in plans.

4. Correction-on-the-spot will be considered at these locations at the discretion of and concurrence between the evaluator and the controller. Caution should be exercised to ensure that exercise play is not interrupted.

No open items are identified.

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EVALUATION AREA 6

Support Operations and Facilities

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

INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to transport contaminated injured individuals to medical facilities with the capability to provide medical services.

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)

Location: **Pope County EMS, St. Mary's Hospital, Russellville November 8, 2022**

UAMS Little Rock, November 9, 2022

EOP:

1. Demonstrated out-of-sequence.
   Patient will not be transported to Little Rock.

2. *Any real emergency will take precedence.*

3. Procedures at the hospital do not require draping of
   halls and entrances outside of decontamination facilities.

4, Correction-on-the-spot will be considered at this location at the discretion of and concurrence between the evaluator and the controller. Caution should be exercised to ensure that exercise play is not interrupted.

Arkansas Nuclear One

2022 Medical Services Drill

Scenario

November 8, 2022

Pope County EMS

Stipulations:

An accident with possible radiation contamination is reported by the Sheriff's Office. For exercise purposes, the patient will be transported from the accident scene by the Pope County Ambulance Service.

Since two separate hospitals will demonstrate the ability to receive and treat injured a radiologically contaminated patient, the Pope County Ambulance service will only demonstrate transportation and patient "handoff" at St. Mary's Hospital. The simulated patient will then be presented at the ambulance entrance of UAMS Hospital in Little Rock, presenting with the same injury and contamination levels.

EVENT:

At approximately 9 a.m. Pope County 911 receives a call regarding a car accident involving an injured person, who is likely contaminated with radiation.

The patient (a parent) was enroute, crossing through the plume path, to pick up their child at school. Pope Co. EMS received a call from the Sheriff's Office.

A determination is made to transport the patient (parent) to the hospital. Pope County 911 is updated on the situation and notifies St. Mary's Hospital and communicates with the Pope County Ambulance Service.

Ambulance personnel determine that the patient cut himself on the shattered car door window debris and gashed their right wrist. Bleeding was controlled by a pressure bandage applied to the injury location.

Ambulance personnel surveyed the patient and obtained initial radiation readings at the wound area are noted to be 25,000 cpm.

The following medical conditions are presented.

- Patient is suffering from an open wound to the right wrist, to which a pressure bandage had been applied, to control bleeding.
- The patient is simi-alert and says they are “lightheaded” and suffering from pain due to the accident.
- The following vital signs are noted:
    - BP is 180/95
    - Pulse is rapid
    - Respiration is rapid and shallow
    - The wound site is contaminated with a reading of 25,000 cpm

The following patient information is available on request:

- Lung sounds are clear
- Movement is noted in upper extremities
- The Patient has treated hypertension
- Patient has no known allergies

Arkansas Nuclear One

2022 Medical Services Drill

November 8, 2022

Scenario: St. Mary's:

Stipulations:

An accident with confirmed radiation contamination is reported. For exercise purposes, the patient will be transported from the accident scene by the Pope County Ambulance Service.

EVENT:

At approximately 9 a.m. Pope County 911 receives a call regarding a parent enroute to pick up a child from school and gets into a car accident. The parent is likely contaminated with radiation.

The patient may have had potential radiation on clothing, (EMS Personnel will demonstrate surveying the outer clothing layers to get to the wound area). Pope Co EMS stopped the bleeding and transported the patient immediately to the hospital.

Initial radiation readings at the wound area are noted to be 25,000 cpm.

Upon arrival at St. Mary's Hospital, the following patient information is provided to St. Mary's personnel:

- Patient is suffering from an open wound to the right wrist to which a pressure bandage had been applied, controlling bleeding.
- The patient is alert and denies loss of consciousness but reports to being in a great deal of pain and is requesting pain medication. The patient has no memory of the accident and says he/she was "lightheaded" earlier.

- There is bleeding around the wound site, which is being controlled with a pressure bandage.

- The following vital signs are noted:
  - BP is 170/85
  - Pulse is rapid
  - Respiration is rapid and shallow
  - The wound site is contaminated with a reading of 25,000 cpm

The following patient information is available on request:

- Lung sounds are clear
- Movement is noted in upper extremities
- Medical history is positive for earlier syncope episodes
- Patient has no known allergies

The initial radiological survey of the patient reveals a reading of 25,000 CPM at the wound site.

Radiation readings following each decontamination step are noted in the chart below:

Initial Reading prior to Decontamination	25,000 CMP
Reading Following Decontamination Step #1	15,000 CPM
Reading Following Decontamination Step #2	10,000 CPM
Reading Following Decontamination Step #3	5,000 CPM
Reading Following Decontamination Step #4	1,000 CPM
Reading Following Decontamination Step #5	Below 300 CPM

Arkansas Nuclear One

2022 Medical Services Drill

November 9, 2022

Scenario: UAMS;

Stipulations:

An accident with confirmed radiation contamination is reported. For exercise purposes, the patient will be transported from the accident scene by the Pope County Ambulance Service. Pope County EMS will only demonstrate capabilities during the St. Mary's Hospital evaluation. Pope County EMS is not required to demonstrate capabilities during the UAMS evaluated drill.

EVENT:

At approximately 9 a.m. Pope County 911 receives a call regarding a parent enroute to pick up a child from school and gets into a car accident. The parent is likely contaminated with radiation.

The patient (child's parent) may have had potential radiation on clothing, (EMS Personnel will demonstrate surveying the outer clothing layers to get to the wound area). Pope Co EMS stopped the bleeding and transported the patient immediately to the hospital.

Hospital personnel confirm radiation readings at the wound area are noted to be 25,000 cpm.

Upon arrival at UAMS, the following patient information is provided to St. Mary's personnel:

- Patient is suffering from an open wound to the right wrist, to which a pressure bandage had been applied, controlling bleeding.

- The patient is alert and denies loss of consciousness but reports to being in a great deal of pain and is requesting pain medication. The patient has no memory of the accident and says he/she was “lightheaded” earlier.
- There is bleeding around the wound site, which is being controlled with a pressure bandage.
- The following vital signs are noted:
    - BP is 170/85
    - Pulse is rapid
    - Respiration is rapid and shallow
    - The wound site is contaminated with a reading of 25,000 cpm

The following patient information is available on request:

- Lung sounds are clear
- Movement is noted in upper extremities
- Medical history is positive for earlier syncope episodes
- Patient has no known allergies

Radiation readings following each decontamination step are noted in the chart below:

Initial Reading prior to Decontamination	25,000 CMP
Reading Following Decontamination Step #1	15,000 CPM
Reading Following Decontamination Step #2	10,000 CPM
Reading Following Decontamination Step #3	5,000 CPM
Reading Following Decontamination Step #4	1,000 CPM
Reading Following Decontamination Step #5	Below 300 CPM

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