



FEMA

December 11, 2014

Mr. Marc Dapas  
Regional Administrator  
U.S. NRC, Region IV  
1600 East Lamar Boulevard  
Arlington, TX 76011-4511

Dear Mr. Dapas:

Enclosed is a copy of the radiological emergency preparedness final report for the Arkansas Nuclear One (ANO) Designated Care Center, school and Medical Services drills evaluated on October 27-28, 2014. FEMA Region VI staff evaluated the Clarksville and Hector Designated Care Centers, Dover School District, Pope Emergency Medical Services, St. Mary's Station and St. Mary's Medical Center located in Pope and Johnson Counties, Arkansas. There were no Deficiencies, six Areas Requiring Corrective Action (ARCA), and one Plan Issue identified during the drills. The six ARCAs and two previous Plan Issues were corrected during the drills.

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

A copy of this report was mailed to the NRC Headquarters Document Control Desk and a copy was transmitted electronically to [RIV\\_FEMADistribution@nrc.gov](mailto:RIV_FEMADistribution@nrc.gov) as specified in the FEMA REP Program Manual dated June 2013. Should you have questions, please contact Lisa Hammond, RAC Chair at (940) 898-5199, or Elsa Lopez, Senior Site Specialist for Arkansas Nuclear One, at (940) 898-5308.

Sincerely,

A handwritten signature in black ink, appearing to read "L. Hammond", written over a faint circular stamp.

Lisa Hammond  
RAC Chair

Enclosure

cc: DHS/FEMA Headquarters – Vanessa Quinn, Jesse King  
ADH – Bernard Bevill  
ADEM – David Maxwell  
ANO – Richard E. Harris

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Arkansas Nuclear One

# After Action Report/ Improvement Plan

Drill Date - October 27, 2014

Radiological Emergency Preparedness (REP) Program



**FEMA**

*Published*

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# Arkansas Nuclear One After Action Report/Improvement Plan

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## EXECUTIVE SUMMARY

On October 27-28, 2014, out-of-sequence designated care center, school, hospital and ambulance drills were conducted in Pope and Johnson Counties, Arkansas for the Clarksville Care Center, Hector Care Center, Dover School District, Pope County Emergency Medical Services (EMS) and St. Mary's Station and St. Mary's Medical Center. Personnel from the U.S. Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA) Region VI, evaluated all activities. The drills are conducted to assess the level of preparedness of local responders to react to a simulated radiological emergency at Arkansas Nuclear One (ANO). The previous drills at Clarksville and Hector Care Centers on 10/20/2008, Dover School District on 9/22/2010, St. Mary's Medical Center on 4/11/2012, and Pope County EMS St. Mary's Station on 5/16/2013.

Personnel from the Clarksville Care Center, Hector Care Center, Dover School District, Pope County Emergency Medical Services (EMS), St. Mary's Station and St. Mary's Medical Center participated in the drills. Evaluation Areas demonstrated included: Equipment and Supplies to Support Operations, Implementation of Emergency Worker Exposure Control, and Support Operations/Facilities Transportation and Treatment of Contaminated Injured Individuals. Cooperation and teamwork of all participants was evident during these drills, and DHS/FEMA wishes to acknowledge these efforts.

This report contains the final 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 Deficiencies, six Area Requiring Corrective Action (ARCA), and one Plan Issue identified during the drills. The six ARCAs and two previous Plan Issues were corrected during the drills.

## **SECTION 1: EXERCISE OVERVIEW**

### **1.1 Exercise Details**

**Exercise Name**

Arkansas Nuclear One

**Type of Exercise**

Drill

**Exercise Date**

October 27, 2014

**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

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### **1.3 Participating Organizations**

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

State Jurisdictions

Arkansas Department of Health

Risk Jurisdictions

Johnson County Office of Emergency Management

Pope County Office of Emergency Management

Support Jurisdictions

Appleton Township Fire Department

Arkansas Constable

Hector Fire Department

Johnson County Rural Fire Department District #1

Johnson County Rural Fire Department District #2

Johnson County Rural Fire Department District #3

Johnson County Rural Fire Department District #7

Johnson County Rural Fire Department District #8

Johnson County Sheriff

Martin Township Fire Department



Private Organizations

American Red Cross

Clarksville School District

Hector School District

Pope County Emergency Medical Services, St. Mary's Station

St. Mary's Medical Center

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

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

The DHS/FEMA Region VI Office evaluated the drills on October 27-28, 2014 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 Arkansas Nuclear One (ANO). 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 Arkansas Nuclear One (ANO) requiring the designated care center surveying, decontamination and registration; transportation of school students; transportation, treatment and decontamination of a radiologically contaminated injured individual. The drill scenario provided for the evaluation of the Clarksville Designated Care Center, Hector Designated Care Center, Dover School District, St. Mary's Medical Center and Pope County Emergency Medical Services (EMS) - St. Mary's Station.

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

### **3.1 Drill Evaluation and Results**

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities, which participated in the October 27-28, 2014 designated care centers, school, ambulance and medical drills to test the offsite emergency response capabilities of local governments and support medical centers for Arkansas Nuclear One (ANO).

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in exercise evaluation area criteria contained in the Federal Register, Vol. 67, No. 80, "FEMA - Radiological Emergency Preparedness: Exercise Evaluation Methodology" (April 25, 2002) and the REP Program Manual. Detailed information on the exercise evaluation area criteria and the extent-of-play agreement used in this exercise 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(s), presents the status of all exercise evaluation area criteria from the REP Program Manual that were scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Exercise evaluation area criteria are listed by number and the demonstration status of those evaluation area criteria is indicated by the use of the following letters:

M - Met (No Deficiency or Areas Requiring Corrective Actions [ARCAs] assessed and no unresolved ARCAs from prior exercises)

D - Deficiency assessed

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

N - Not Demonstrated

P - Plan Issue

**Table 3.1 - Summary of Drill Evaluation**

DATE: 2014-10-27 SITE: Arkansas Nuclear One, AR  M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		Dover SD	Clarksville DCC	Hector DCC	Pope Co. EMS (SMS)	St. Marys MC
<b>Emergency Operations Management</b>						
Mobilization	1a1					
Facilities	1b1		M	M		
Direction and Control	1c1					
Communications Equipment	1d1					
Equipment and Supplies	1e1		M	M	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	M	M	M
KI Public/Institutionalized	3b1					
PAD Imp. Disabled/Functional Needs	3c1					
PAD Imp. Schools	3c2	P				
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		M	M		
EW Monitoring & Decon	6b1					
Congregate Care	6c1		M	M		
Contaminated Injured Transport & Care	6d1				M	M

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## 3.3 Criteria Evaluation Summaries

### 3.3.1 Risk Jurisdictions

#### 3.3.1.1 Dover School District

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

- a. MET: 3.a.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: 3.c.2.

ISSUE NO.: 01-14-3c2-P-04

CRITERION: OROs/school officials implement protective actions for schools.

CONDITION: Dover School District schools do not have plans/procedures for student evacuations during a radiological incident at Arkansas Nuclear One.

POSSIBLE CAUSE: Schools have historically relied on primarily two Transportation Department staff member's knowledge and experience in transporting and evacuating students as needed.

REFERENCE: NUREG-0654/FEMA-REP-1, J.10.d

EFFECT: If the designated staff members are not available when an incident occurs at ANO, it could delay the evacuation of the students potentially placing them in danger. Also, delays may alarm the parents who could be waiting to meet their children at the designated care center.

RECOMMENDATION: State and Counties should coordinate and develop Emergency Plans and Procedures for schools in the emergency planning zone.

- e. NOT DEMONSTRATED: None

- 
- f. PRIOR ISSUES - RESOLVED: None
  - g. PRIOR ISSUES - UNRESOLVED: None

### 3.3.1.2 Clarksville Designated Care Center

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

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

ISSUE NO.: 01-14-3a1-A-06

**CRITERION:** 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. Appropriate record-keeping of the administration of KI for emergency workers is maintained.

**CONDITION:** The area dosimetry kits issued to the team leader at each station only contained one simulated Landauer thermoluminescent dosimeter (TLD), instead of a TLD for each emergency worker (EW). Each EW must be issued a permanent dosimeter per procedure and REP guidance.

**POSSIBLE CAUSE:** It was stated by the Clarksville Designated Care Center (DCC) Radiological Officer (RO) that each EW would be issued a dosimetry kit during an actual incident, but that only team leaders would be issued a dosimetry kit for area dosimetry for drill purposes. Dosimetry kits were pre-assembled with only one simulated TLD included. While there were additional simulated TLDs available, those were not issued. While area dosimetry is a proper method, it was not included in the extent of play agreement for the drill or agreed upon between the controller and evaluator prior to the drill.

**REFERENCE:** NUREG-0654/FEMA-REP-1, K.3.a

**EFFECT:** Without each EW being issued a permanent dosimeter, there would be no legal record of possible radiological exposure to the EW during an actual event.

**CORRECTIVE ACTION DEMONSTRATED:** A timeout was called by the controller and a training discussion between the controller and the Clarksville DCC RO was conducted. After discussions, it was agreed by the controller and evaluator to simulate that each worker was issued a TLD and operations at the Clarksville DCC continued.

- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

### **3.3.1.3 Hector Designated Care Center**

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

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

**ISSUE NO.:** 01-14-3a1-A-05

**CRITERION:** 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. Appropriate record-keeping of the administration of KI for emergency workers is maintained.

**CONDITION:** An emergency worker briefing was not performed by the Radiological Officer prior to starting operations in the Hector Designated Care Center.

**POSSIBLE CAUSE:** Hector Designated Care Center staff may be unfamiliar with procedures.

**REFERENCE:** NUREG-0654/FEMA-REP-1, K.3.a, b; K.4

EFFECT: Without the briefing by the Radiological Officer, EWs at the care center may not understand proper dosimetry use and monitoring, decontamination action levels, and exposure limits.

CORRECTIVE ACTION DEMONSTRATED: A timeout was called by the controller and a training discussion between the controller and the Hector Designated Care Center Radiological Officer was conducted. A re-demonstration of the EW briefing was performed correctly by the Radiological Officer.

- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

#### **3.3.1.4 Pope County EMS-St. Mary's Station**

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: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: 6.d.1.

ISSUE NO.: 01-13-6d1-P-01

ISSUE: Emergency Worker was chewing gum during a simulated response to a possibly injured contaminated individual.

CORRECTIVE ACTION DEMONSTRATED: ADH revised training to include provisions recommended (no eating, drinking, smoking, or chewing gum) for emergency workers and the Pope County Ambulance Service demonstrated their understanding and importance of the training. During the October 2014 drill there were was not eating, drinking, smoking or chewing gum observed.



g. PRIOR ISSUES - UNRESOLVED: None

### 3.3.2 Support Jurisdictions

#### 3.3.2.1 Saint Mary's 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.: 01-14-6d1-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:** When the patient was transferred from the ambulance stretcher to the decontamination table on the hospital stretcher, the patient was placed with his head on the drain end of the decontamination table.

**POSSIBLE CAUSE:** Hospital staff did not orient the patient correctly when transferring from the ambulance stretcher to the decontamination table.

**REFERENCE:** NUREG-0654/FEMA-REP-1, K.5.b

**EFFECT:** When decontaminating the patient, the decontamination table would need to be tilted for the contaminated water to flow down to the drain at the end of the table. Due to the patient's head being placed at the drain end, contaminated water could contaminate the patient's head and upper body.

**CORRECTIVE ACTION DEMONSTRATED:** A timeout was called by the controller and a training discussion between the controller and hospital staff was conducted. It was agreed by the controller and evaluator that the patient was simulated to have been re-oriented on the decontamination table and the drill continue.

ISSUE NO.: 01-14-6d1-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:** At 1006, a fourth decontamination of the patient was performed. The patient was re-surveyed and a meter reading of 250 counts per minute (CPM) was found on the wound area. There was some confusion between the Radiation Emergency Area (REA) staff if the decontamination level was 200 cpm or 300 cpm. An unnecessary fifth decontamination of the patient was performed. The patient was re-surveyed and found to still be at 250 cpm. At one point, a REA staff member asked the Arkansas Nuclear One (ANO) Health Physicist (HP) as to what was the decontamination action level and the ANO HP stated that they look for an "undetectable" level. This led to further confusion in the REA.

**POSSIBLE CAUSE:** Hospital staff may be unfamiliar with procedures.

**REFERENCE:** NUREG-0654/FEMA-REP-1, K.5.a, b; L.1

**EFFECT:** Hospital staff not knowing the action level for decontamination could lead to the patient not being properly decontaminated and being released with contamination still present.

**CORRECTIVE ACTION DEMONSTRATED:** A timeout was called by the controller and a training discussion between the controller and hospital staff was conducted. A re-demonstration of patient decontamination and surveying was performed correctly.

ISSUE NO.: 01-14-6d1-A-03

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

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

CONDITION: Upon Radiation Emergency Area (REA) exit by REA staff, a full survey of REA staff was not performed during the personal protective equipment (PPE) doffing process.

POSSIBLE CAUSE: Hospital staff may be unfamiliar with procedures.

REFERENCE: NUREG-0654/FEMA-REP-1, K.5.a, b; L.1

EFFECT: Without a full survey of REA staff upon exit of the REA, contamination could be spread outside of the hot zone area within the REA.

CORRECTIVE ACTION DEMONSTRATED: A timeout was called by the controller and a training discussion between the controller and hospital staff was conducted. A re-demonstration of REA staff exit procedures and a full body survey of the REA staff was performed correctly.

- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: 1.e.1.

ISSUE NO.: 01-12-1e1-P-02

ISSUE: Plans refer to procedures for operating survey meters with a "Hot dog" probe instead of a pancake probe.

Plans state that CDV 865's would be issued to personnel as part of Dosimetry Kit. Operating practices have been revised to discontinue the issuance of CDV 865's.

CORRECTIVE ACTION DEMONSTRATED: St. Mary's Medical Center Plans/Procedures were corrected in June 2012 to reflect the change in equipment used during the drill, DSM-500 survey meters (calibrated 02/27/2014) with HP-265

pancake probes.

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 Arkansas 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 Arkansas site-specific to Arkansas Nuclear One will remain in effect.

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## APPENDIX A: IMPROVEMENT PLAN

<b>Issue Number: 01-14-3c2-P-04</b>		<b>Criterion: 3c2</b>	
ISSUE: Dover School District schools do not have plans/procedures for student evacuations during a radiological incident at Arkansas Nuclear One.			
RECOMMENDATION: State and Counties should coordinate and develop Emergency Plans and Procedures for schools in the emergency planning zone.			
CORRECTIVE ACTION DESCRIPTION:			
CAPABILITY:		PRIMARY RESPONSIBLE AGENCY:	
CAPABILITY ELEMENT:		START DATE:	
AGENCY POC:		ESTIMATED COMPLETION DATE:	

## APPENDIX B: DRILL EVALUATORS AND TEAM LEADERS

DATE: 2014-10-27, SITE: Arkansas Nuclear One, AR

LOCATION	EVALUATOR	AGENCY
Dover School District	*Elsa Lopez	FEMA RVI
Clarksville Designated Care Center	*Scott Flowerday Chad Johnston Elsa Lopez Timothy Pflieger	FEMA RVI FEMA RVI FEMA RVI FEMA RVI
Hector Designated Care Center	Scott Flowerday Chad Johnston Elsa Lopez *Timothy Pflieger	FEMA RVI FEMA RVI FEMA RVI FEMA RVI
Pope County EMS-St. Mary's Station	*Elsa Lopez	FEMA RVI
Saint Mary's Medical Center	Scott Flowerday *Chad Johnston Timothy Pflieger	FEMA RVI FEMA RVI FEMA RVI
*Team Leader		

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## APPENDIX C: ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
ADH	Arkansas Department of Health
ANO	Arkansas Nuclear One
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
DCC	Designated Care Center
DRD	Direct Reading Dosimeter
EAD	Electronic Alarming Dosimeter
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
EOC	Emergency Operations Center
EPD	Electronic Personnel Dosimeter
EW	Emergency Worker
FEMA	Federal Emergency Management Agency
HP	Health Physicist
KI	Potassium Iodide
NP&RP	Nuclear Planning and Response Program
OEM	Office of Emergency Management
PAD	Protective Action Decision
PPE	Personal Protective Equipment
REA	Radiation Emergency Area
RO	Radiological Officer
RSO	Radiation Safety Officer
TLD	Thermoluminescent Dosimeter



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## APPENDIX D: EXERCISE PLAN

As submitted by the state.

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**Arkansas Nuclear One 2014 Reception Center (RC), MS-1 and School Out of Sequence Drills  
October 27 and 28, 2014  
Extent-of-Play (EOP) Agreement**

**Between  
The Arkansas Department of Health, representing the Off-Site Response Organizations, and FEMA  
Region VI**

**EVALUATION AREA 1**

**Emergency Operations Management**

**Sub-element 1.b- Facilities**

**INTENT**

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

***Criterion 1.b.1: Facilities are sufficient to support the emergency response. (NUREG-0654/FEMA-REP-1, H.3; G.3.a; J.10.h; J.12; K.5.b)***

**Locations:** Clarksville RC, Clarksville; Hector RC, Hector

**EOP:** This will start the 8-year cycle requirement.  
**ARCA:** None

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**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:** Clarksville RC, Clarksville; Hector RC, Hector; St Mary's Hospital, Russellville; Pope County EMS, Russellville.

**EOP:**

- 1. It is Arkansas policy to issue KI only to Emergency Workers (EW) and institutionalized individuals. KI is not issued to the general public.**
- 2. Meters or DRDs that have "bar code" labels can have their calibration and quarterly operational check dates verified with the master database maintained by the NP&RP HP. Operational checks will be performed before use, using range of reading stickers on the meters.**
- 3. The quantities of Dosimetry and the quantities and expiration of KI will be confirmed by evaluators at locations identified in plans.**

**ARCA:** None

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## EVALUATION AREA 3

### Protective Action Implementation

#### Sub-element 3.a – Implementation of Emergency Worker Exposure 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 achievable|| 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:** Clarksville RC, Clarksville; Hector RC, Hector; St Mary’s Hospital, Russellville; Pope County EMS, Russellville; Dover School District.

- 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 State of Arkansas may not consider the termination of Emergency Worker exposure control to be at the end of the “plume phase”.**
  - 3. 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. Forms will be available for evaluator review.**
  - 4. It is Arkansas policy to issue KI only to Emergency Workers (EW) and institutionalized individuals. County EWs who decline to take KI are not identified in advance. If they decline to take KI at their duty stations, they will not be placed in positions that would expose them to radiation. KI is not issued to the general public**

**ARCA:** None

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**Criterion 3.c.2: OROs/School officials implement protective actions for schools. (NUREG-0654/FEMA-REP-1, J.10.c, d, e, g)**

**Location:** Dover School District.

- EOP:**
1. The EA will be demonstrated at the Dover High School.
  2. This EA will be demonstrated out-of-sequence on October 28, 2014 at about 1400 hours. At the appropriate time, the controller will give the school administrator the appropriate information as it applies to the school.
  3. The driver will be briefed by the administrator and will receive maps and directions. He will not drive to the RC. The administrator and driver will be available for interview.
  4. Communications between the school and bus will be verified by a radio check.
  5. 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.
  6. No private schools or licensed daycare centers have requested participation in the REP program.

**ARCA:** None

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## EVALUATION AREA 6

### Support Operation/Facilities

#### Sub-element 6.a – Monitoring and Decontamination of Evacuees and Emergency Workers and Registration of Evacuees

#### INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement radiological monitoring and decontamination of evacuees, while minimizing contamination of the facility. OROs must also have the capability to identify and register evacuees at reception centers

***Criterion 6.a.1: The reception center facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees. (NUREG-0654/FEMA-REP-1, A.3; C.4; J.10.h; J.12)***

**Locations:** Hector RC, Hector; Clarksville RC, Clarksville

- EOP:**
- 1. One portal monitor and one side of decon will be set up. A minimum of 6 people and 2 vehicles will go through the reception and monitoring procedures. One person and one vehicle will visit the decon facility. Decon will be simulated, but explained.**
  - 2. Alternate locations for vehicle Decon may be required because of school activities. Interior of vehicles will not be monitored or decontaminated.**
  - 3. This EA will be demonstrated out-of-sequence on October 27 at Hector and on October 28 at Clarksville at approximately 1800.**
  - 4. Sealed lockers will not be opened unless necessary.**
  - 5. Personnel supporting the RC out of sequence activities will be alerted and notified at approximately 1800 hours. The controllers will call the County Warning Points to start the notification.**
  - 6. 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.**
  - 7. IAW plans, ADH staff will be available at centers to provide technical assistance.**
  - 8. Personnel who are not contaminated will be allowed into the registration area without documentation that their vehicles are free from contamination. Vehicles of contaminated registrants will be identified with "possible interior contamination" and will be impounded until they are monitored and decontaminated. Interior monitoring and decontamination will not be demonstrated.**

9. **Twenty percent of the expected population at Hector is 1902. In order to monitor this number in 12 hours; 158 people per hour must be monitored. Since, 1 person can be monitored every 20 seconds using the portal monitors, 180 persons can be monitored per hour. That would require one portal monitor. Since only 1/3 of the required needed to monitor 20 percent is required for demonstration, only one monitor will be set up. The minimum of 6 people will be monitored.**
10. **Twenty percent of the expected population at Clarksville is 433. In order to monitor this number in 12 hours; 36 people per hour must be monitored. Since, 1 person can be monitored every 20 seconds using the portal monitors, 180 persons can be monitored per hour. That would require one portal monitor. Since only 1/3 of the required needed to monitor 20 percent is required for demonstration, only one monitor will be set up. The minimum of 6 people will be monitored.**

ARCA: None

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**Sub-element 6.c - Temporary Care of Evacuees**

**INTENT**

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires OROs to have the capability to establish relocation centers in host/support jurisdictions. The American Red Cross normally provides congregate care in support of OROs under existing letters of agreement.

***Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross planning guidelines. Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities. (NUREG-0654/FEMA-REP-1, J.10.h, J.12)***

Locations: Hector RC, Hector; Clarksville RC, Clarksville

- EOP:
1. **The RC shelter manager or designee will be interviewed about RC activities.**
  2. **An American Red Cross representative will be interviewed (location and time TBD) about Mass Shelters and the American Red Cross plan for converting Care Centers to Mass Shelters.**

ARCA: None

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**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.98

**Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654/FEMA-REP-1, F.2; H.10; K.5.a, b; L.1, 4)**

**Locations:** Pope County EMS, Russellville

- EOP:**
- 1. The EMS will pick up the patient at an Entergy facility. Prior to transfer of patient to the hospital, the EMS will demonstrate monitoring the patient. After patient transfer, the EMS will demonstrate vehicle monitoring. The ambulance will not be draped.**
  - 2. This EA will be demonstrated out-of-sequence on or about 0830 on Tuesday, October 28, 2014.**
  - 3. Any real emergency will take precedence.**
  - 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.**

**ARCA:** None

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**Locations:** St Mary's Regional Medical Center, Russellville.

- EOP:**
- 1. This EA will be demonstrated out-of-sequence on or about 0830 a.m. on Tuesday, October 28, 2014.**
  - 2. Any real emergency will take precedence.**
  - 3. Procedures at the hospital do not require draping of halls and entrances.**
  - 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.**

**ARCA:** None

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