



# Arkansas Nuclear One

## After Action Report/ Improvement Plan Exercise Date – August 9, 2022

Radiological Emergency Preparedness (REP) Program



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## Arkansas Nuclear One

# After Action Report/Improvement Plan

Executive Summary	6
Section 1: Exercise Overview	7
1.1 Exercise Details	7
1.2 Exercise Planning Team Leadership	7
1.3 Participating Organizations	9
Section 2: Exercise Design Summary	11
2.1 Exercise Purpose and Design	11
2.2 Exercise Objectives, Capabilities and Activities	11
2.3 Scenario Summary	11
Section 3: Analysis of Capabilities	12
3.1 Exercise Evaluation and Results	12
3.2 Summary Results of Exercise Evaluation	12
3.3 Criteria Evaluation Summaries	15
3.3.1 Arkansas Jurisdictions	15
3.3.1.1 Arkansas State Emergency Operations Center	15
3.3.1.2 Arkansas Department of Health, Little Rock Emergency Communications Center	15
3.3.1.3 Arkansas Department of Health State Emergency Operations Facility	16
3.3.1.4 Arkansas Field Radiological Monitoring Team One	16
3.3.1.5 Arkansas Field Radiological Monitoring Team Two	17
3.3.1.6 Joint Information Center	17
3.3.2 Risk Jurisdictions	20
3.3.2.1 Johnson County Emergency Operations Center and	20

Traffic/Access Control Point	
3.3.2.2 Logan County Emergency Operations Center and Traffic/Access Control Point	21
3.3.2.3 Pope County Emergency Operations Center and Traffic/Access Control Point	22
3.3.2.4 Yell County Emergency Operations Center and Traffic/Access Control Point	23
3.3.2.5 ADH Emergency News Center/SEOF	24
3.3.2.6 Clarksville Reception Center	29
3.3.2.7 Hector Reception Center	32
3.3.3 Private Organizations	34
3.3.3.1 ENS Radio Station KXRJ	34
3.3.4 Federal Jurisdictions	35
3.3.1.1 National Oceanic and Atmospheric Agency Little Rock	35
Section 4: Conclusion	36
Appendix A: Improvement Plan	37
Appendix B: Exercise Timeline	42
Appendix C: Exercise Evaluators and Team Leaders	43
Appendix D: Acronyms and Abbreviations	44
Appendix E: Exercise Plan	47

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# EXECUTIVE SUMMARY

On August 9, 2022, a biennial Radiological Emergency Preparedness (REP) exercise consisting of the Plume Exposure Pathway, 10-mile Emergency Planning Zone (EPZ) was conducted around the Arkansas Nuclear One (ANO), located near Russellville, Pope County, Arkansas. The U.S. Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA) Regions 6, 7, and Headquarters, and ICF Contract personnel evaluated the exercise. The purpose was to assess the level of preparedness of state and local responders to respond to a simulated radiological emergency at ANO. This exercise was held in accordance with DHS/FEMA policies and guidance concerning the implementation of state and local Radiological Emergency Preparedness (REP) plans and procedures.

The previous exercise at this site was a Plume Exercise conducted on March 23-24, 2021. The first qualifying emergency preparedness exercise was conducted on October 1, 1980. There have been twenty-six evaluated exercises, including the exercise on August 9, 2022, plus numerous drills conducted since 1980.

DHS/FEMA Region 6 wishes to acknowledge the efforts of the many individuals in the State of Arkansas, Johnson, Logan, Pope, and Yell Counties, and Federal organizations, and surrounding jurisdictions who participated in this exercise. Protecting the public health and safety is the fulltime job of some of the exercise participants and an additional assigned responsibility for others. Still, they have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork of all the participants was evident during this exercise.

This report contains the final written evaluation of the biennial exercise. The state and local organizations, except where noted in this report, demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were two open 2021 Exercise L2 Findings, 01-21-5b1-L2-01 and 01-21-5b1-L2-02, that were resolved, and one remains open. During the 2022 Exercise, there were no Level 1 Findings identified. There were four Level 2 Findings identified during the exercise of which two were corrected, see Appendix A, Improvement Plan for details. There were three Plan Issues identified.

# SECTION 1: EXERCISE OVERVIEW

## 1.1 Exercise Details

**Exercise Name**

Arkansas Nuclear One

**Type of Exercise**

Plume

**Exercise Date**

August 9, 2022

**Program**

Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

**Scenario Type**

Radiological Emergency

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## 1.3 Participating Organizations

**Agencies and organizations of the following jurisdictions participated in the exercise:**

### State Jurisdictions

Arkansas Department of Emergency Management

Arkansas Department of Health

Arkansas Department of Health, Emergency Communications Center

Arkansas Department of Transportation

### Federal Jurisdictions

National Oceanic and Atmospheric Administration

U.S. Nuclear Regulatory Commission

### Risk Jurisdictions

Appleton Constable

Appleton Volunteer Fire Department

Clarksville Fire Department

Clarksville Police Department

Clarksville School District

City of Danville

Coal Hill Fire Department

Dardanelle Mayor

Dardanelle Police Department

Hector Constable

Hector Police Department

Hector School District

Hector Volunteer Fire Department

Johnson County Ambulance Service

Johnson County Clerk's Office

Johnson County Health Unit

Johnson County Judge

Johnson County Office of Emergency Management

Johnson County Sheriff's Office

Johnson RFD #1  
Johnson RFD #2  
Johnson RFD #3  
Johnson RFD #6  
Logan County Judge  
Logan County Office of Emergency Management  
Logan County Sheriff's Office  
Martin Township Volunteer Fire Department  
Pinnacle Emergency Medical Services  
Pope County 911  
Pope County Ambulance Service  
Pope County Office of Emergency Management  
Pope County Emergency Medical Services  
Pope County Health Department  
Pope County Judge  
Pope County Sheriff  
Russellville Fire Rescue  
Russellville Mayor  
Russellville Police  
Yell County Office of Emergency Management  
Yell County Fire Control  
Yell County Judge  
Yell County Sheriff's Office

Private Organizations

American Red Cross, Northwest Arkansas Chapter  
Arkansas Nuclear One  
Entergy Corporation  
KXRJ EAS Radio Station

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

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

The Department of Homeland Security/Federal Emergency Management Agency Region 6 Office evaluated the exercise on August 9, 2022, 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 represent the results and findings on the performance of the offsite response organizations during a simulated radiological emergency.

### **2.2 Exercise Objectives, Capabilities and Activities**

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

### **2.3 Scenario Summary**

The exercise scenario was developed to evaluate the response of exercise participants to an incident requiring evacuation of the public from the 10-mile Emergency Planning Zone surrounding Arkansas Nuclear One (ANO). The exercise scenario provided for the evaluation of the Arkansas Division of Emergency Management (ADEM), Arkansas Department of Health (ADH), Johnson, Logan, Pope, and Yell Counties, and Local Emergency Services to manage emergency operations, provide and implement protective action decisions, provide field measurement and analysis, and alert and notify the public.

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

### **3.1 Exercise 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 Arkansas Nuclear One (ANO) exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile Emergency Planning Zone (EPZ) surrounding ANO.

Each jurisdiction and functional entity were evaluated on the basis of its demonstration of criteria delineated in the exercise evaluation areas as outlined in the 2016 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 E of this report.

### **3.2 Summary Results of Exercise 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 or numbers:

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

**1** - Level 1 Finding assessed

**2** - Level 2 Finding assessed or previous unresolved Level 2 Finding(s)

**P** - Plan Issue

**N** - Not Demonstrated

Table 3.1 - Summary of Exercise Evaluation (Page 1 of 2)

Date: 2022-08-09 SITE: Arkansas Nuclear One, AR M: Met, 1: Level 1 Finding, 2: Level 2 Finding, P: Plan Issue, and N: Not Demonstrated		State EOC	ADH ECC	ADH/SEOF	AR FRMT 1	AR FRMT 2	ADH SEOF/ENC	JIC Morrilton	Johnson County	Logan County
Emergency Operations Management										
Mobilization	1a1	M	M	M				M	M	M
Facilities	1b1			M					M	M
Direction and Control	1c1	M		M					M	M
Communications Equipment	1d1	M	M	M	M	M		M	M	M
Equipment and Supplies	1e1	M		M	M	M		M	M	M
Protective Action Decision Making										
EW Exp. Control Decisions	2a1			M					M	M
PARs	2b1			M						
PADs	2b2								M	M
PADs for Disabled/Functional Needs	2c1								M	M
Ingestion PADs	2d1			M						
RRR Decisions	2e1			M						
Protective Action Implementation										
EW Exp. Control Implementation	3a1			M	M	M			M	M
KI Public/Institutionalized	3b1								M	M
PAD Imp. Disabled/Functional Needs	3c1								M	M
PAD Imp. Schools	3c2									
TACP Establishment	3d1								M	M
Impediments to Evacuation	3d2								M	M
Implementation of Ingestion PADs	3e1									
Ingestion Strategies and Information	3e2									
Imp. of RRR Decisions	3f1									
Field Measurement and Analysis										
RESERVED	4a1									
Field Team Management	4a2			M						
Field Team Operations	4a3				M	M				
Field Team Sampling	4b1				M	M				
Laboratory Operations	4c1									
Emergency Notification and Public Info										
Initial Alert & Notification	5a1						L2			
Backup Alert & Notification	5a3									
Exception Area Alerting	5a4									
Subsequent Public Information – Plume Day (1.2 & Plan Issue)	5b1						L2-P	M		
Subsequent Public Information – Ingestion Day	5b1									
Support Operations/Facilities										
Reception Center Operations	6a1									
EW Monitoring & Decon	6b1									
Congregate Care	6c1									
Contaminated Injured Transport & Care	6d1									

Table 3.1 - Summary of Exercise Evaluation (Page 2 of 2)

<p>DATE: 2022-08-09  SITE: Arkansas Nuclear One, AR  M: Met, 1: Level 1 Finding, 2: Level 2 Finding, P:  Plan Issue, and N: Not Demonstrated</p>		Pope County	Yell County	KXRJ EAS Station	Clarksville RC	Hector RC.	NOAA
Emergency Operations Management							
Mobilization	1a1	M	M				
Facilities	1b1	M	M		M	M	
Direction and Control	1c1	M	M				
Communications Equipment	1d1	M	M				
Equipment and Supplies	1e1	M	M		M	M	
Protective Action Decision Making							
EW Exp. Control Decisions	2a1	M	M				
PARs	2b1						
PADs	2b2	M	M				
PADs for Disabled/Functional Needs	2c1	M	M				
Ingestion PADs	2d1						
RRR Decisions	2e1						
Protective Action Implementation							
EW Exp. Control Implementation	3a1	M	M		M	M	
KI Public/Institutionalized	3b1	M	M				
PAD Imp. Disabled/Functional Needs	3c1	M	M				
PAD Imp. Schools	3c2						
TACP Establishment	3d1	M	M				
Impediments to Evacuation	3d2	M	M				
Implementation of Ingestion PADs	3e1						
Ingestion Strategies and Information	3e2						
Imp. of RRR Decisions	3f1						
Field Measurement and Analysis							
RESERVED	4a1						
Field Team Management	4a2						
Field Team Operations	4a3						
Field Team Sampling	4b1						
Laboratory Operations	4c1						
Emergency Notification and Public Info							
Initial Alert & Notification	5a1			M			M
Backup Alert & Notification	5a3						
Exception Area Alerting	5a4						
Subsequent Public Information	5b1						
Support Operations/Facilities							
Reception Center Operations	6a1				P	P	
EW Monitoring & Decontamination	6b1						
Congregate Care	6c1				M	M	
Contaminated Injured Transport & Care	6d1						

### **3.3 Criteria Evaluation Summaries**

#### **3.3.1 Arkansas State Jurisdictions**

##### **3.3.1.1 Arkansas State Emergency Operations Center**

**Criterion 1.a.1:**

**Criterion 1.d.1:**

**Criterion 1.e.1:**

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

- a. MET: 1.a.1, 1.c.1, 1.d.1 and 1.e.1.
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

##### **3.3.1.2 Arkansas Department of Health, Little Rock Emergency Communications Center**

**Criterion 1.a.1:**

**Criterion 1.d.1:**

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

- a) MET: 1.a.1 and 1.d.1.
- b) LEVEL 1 FINDING: None
- c) LEVEL 2 FINDING: None
- d) PLAN ISSUES: None
- e) NOT DEMONSTRATED: None
- f) PRIOR ISSUES - RESOLVED: None
- g) PRIOR ISSUES - UNRESOLVED: None

#### **3.3.1.4 Arkansas Department of Health State Emergency Operations Facility at ANO**

**Criterion 1.a.1:**

**Criterion 1.c.1:**

**Criterion 1.d.1:**

**Criterion 1.e.1:**

**Criterion 2.a.1:**

**Criterion 2.b.1:**

**Criterion 3.a.1:**

**Criterion 4.a.2:**

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

- a. MET: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.d.1, 3.a.1, and 4.a.2.
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

#### **3.3.1.5 Arkansas Field Radiological Monitoring Team One**

**Criterion 1.d.1:**

**Criterion 1.e.1:**

**Criterion 3.a.1:**

**Criterion 4.a.3:**



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

- a. MET: 1.d.1, 1.e.1, 3.a.1, and 4.a.3.
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES RESOLVED: None
- g. PRIOR ISSUES UNRESOLVED: None

#### **3.3.1.6 Arkansas Field Radiological Monitoring Team Two**

**Criterion 1.d.1:**

**Criterion 1.e.1:**

**Criterion 3.a.1:**

**Criterion 4.a.3:**

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

- a. MET: 1.d.1, 1.e.1, 3.a.1, and 4.a.3.
- b. Level 1 Finding: None
- c. Level 2 Finding: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

#### **3.3.1.7 Joint Information Center, Morrilton**

**Criterion 1.a.1:**

**Criterion 1.d.1:**

**Criterion 1.e.1:**

### **Criterion 5.b.1:**

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

- a. MET: 1.a.1, 1.d.1, 1.e.1, and 5.b.1.
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. **PRIOR ISSUES - RESOLVED: Level 2 Finding 91-21-5b1-L2-01**

#### **Condition:**

There was a delay in receiving the limited number of Media Releases by the Public Information Officers (PIOs) at the new Joint Information Center (JIC) located in Morrilton, Arkansas. Media Releases were approved at the Alternate State Emergency Operations Facility (SEOF) in Little Rock, AR and then sent via email to the PIOs from different locations as described: Media Releases #01 thru #05 were sent from Radiation Control, Arkansas Department of Health (ADH), Little Rock, AR; and Media Release #06 was sent from the Emergency News Center (ENC), Nuclear Planning & Radiological Preparedness (NP&RP), Russellville, AR.

The JIC PIOs confirmed receiving only Media Release #01(Unusual Event) and #04 (School Evacuations) through post-exercise interviews and fact-finding efforts.

The following media releases were processed and not received at the JIC during the exercise:

Media Release #02 Alert, Emergency Operations Centers activated, approved 0932

Media Release #03 Livestock Agricultural Advisory for stored feed and water, approved at 1003

Media Release #05 GE, Traffic Accident, approved at 1123

Media Release #06 GE, Road Detour, approved at 1147

Media Release #07 GE Evacuation Zones was finalized and not approved due to Exercise Termination.

Details for this issue were obtained and verified through post exercise meetings, discussions, and fact-finding efforts in coordination with representatives from

Arkansas Department of Health SEOF, NP&RP, JIC participants, FEMA Evaluator, and documentation.

**Possible Cause:**

The JIC computers are accessed through the College network and an extended delay in logging in occurred.

Firewall limitations was also stated as a possible cause but not verified.

A weak wireless internet network signal when using the laptops was identified by the participants as a possible cause.

A single method of transmission for messages (email) was identified and used. Alternate methods in the plans and procedures were not identified and utilized. The failure of the email method was not easily identified during the exercise due to the lack of a verification process but was evident during collection of supporting documentation and post exercise interviews.

The message approval and distribution process flow were untimely and caused delays in receipt of approved Media Releases at the JIC.

The ADH ER-06.2 procedure “AJIC Information Flow” and “News Releases, News Conferences, and News Briefings” provides information that may be outdated or not used during the exercise. ER-06 procedures do not have a verification process to verify receipt of message traffic at the JIC.

There was only one Media Briefing conducted during the exercise at 1054. Additional Media Briefings were not conducted to provide additional and current information due to exercise termination.

A controller was not available for the JIC, and this caused a lack of coordination for exercise conduct, coordination, and exercise termination.

**Reference:**

- NUREG 0654, E5 & 7, G3.a, G.4.a.
- ADH ER-06.2, Public Information Team Procedures.
- ADH ER-06.3 Alternate Joint Information Center.
- ADH ER-06.0, Radiological Response Team Training.
- Arkansas Comprehensive Emergency Management Plan (ARCEMP), Annex V, Chapter 6, Public Education & Information.

**Effect:**

Resident and transient individuals evacuating could have been delayed due to the accidents and detours potentially causing a risk of exposure to radiation.

Supplemental agricultural information was not provided for the members of the public.

Current situational awareness regarding Emergency Classification Level of General Emergency and Protective Action Decisions that were implemented were provided by Emergency Alert System messages in conjunction with siren soundings.

Counties identified county specific notification systems that were utilized to provide emergency information to individuals. However, supplemental information contained in Media Releases, which was the responsibility of the State according to the plans and procedures, was not fully received at the JIC to be distributed to the media and public.

**Recommendation:**

Review and update procedures (ADH ER-06 Series) for the new Joint Information Center in Morrilton, Arkansas to include streamlining the approval and distribution process, validation of delivery and receipt, and training for Public Information Team and JIC staff.

**3.3.2 Risk Jurisdictions****3.3.2.1 Johnson County Emergency Operations Center and Traffic/Access Control Point**

**Criterion 1.a.1:**

**Criterion 1.c.1:**

**Criterion 1.d.1:**

**Criterion 1.e.1:**

**Criterion 2.a.1:**

**Criterion 2.b.2:**

**Criterion 2.c.1:**

**Criterion 3.a.1:**

**Criterion 3.b.1:**

**Criterion 3.c.1:**

**Criterion 3.d.1:**

**Criterion 3.d.2:**

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

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, and 3.d.2.
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

#### **3.3.2.2 Logan County Emergency Operations Center and Traffic/Access Control Point**

**Criterion 1.a.1:**

**Criterion 1.c.1:**

**Criterion 1.d.1:**

**Criterion 1.e.1:**

**Criterion 2.a.1:**

**Criterion 2.b.2:**

**Criterion 2.c.1:**

**Criterion 3.a.1:**

**Criterion 3.b.1:**

**Criterion 3.c.1:**

**Criterion 3.d.1:**

**Criterion 3.d.2:**

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

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, and 3.d.2.
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

### **3.3.2.3 Pope County Emergency Operations Center and Traffic/Access Control Point**

**Criterion 1.a.1:**

**Criterion 1.c.1:**

**Criterion 1.d.1:**

**Criterion 1.e.1:**

**Criterion 2.a.1:**

**Criterion 2.b.2**

**Criterion 2.c.1:**

**Criterion 3.a.1:**

**Criterion 3.b.1:**

**Criterion 3.c.1:**

**Criterion 3.d.1:**

**Criterion 3.d.2:**

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

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, and 3.d.2.
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

#### **3.3.2.4 Yell County Emergency Operations Center and Traffic/Access Control Point**

**Criterion 1.a.1:**

**Criterion 1.c.1:**

**Criterion 1.d.1:**

**Criterion 1.e.1:**

**Criterion 2.a.1:**

**Criterion 2.b.2:**

**Criterion 2.c.1:**

**Criterion 3.a.1:**

**Criterion 3.b.1:**

**Criterion 3.c.1:**

**Criterion 3.d.1:**

**Criterion 3.d.2:**

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

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, and 3.d.2.
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - None
- g. PRIOR ISSUES - UNRESOLVED: None

**3.3.2.5 Arkansas Department of Health, Emergency News Center/SEOF**

**Criterion 5.a.1:**

**Criterion 5.b.1:**

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

- a. MET: None
- b. LEVEL 1 FINDING: None
- c. **LEVEL 2 FINDING: 01-22-5a1-L2-01**

**Condition:**

The SEOF staff used an SEOF Operations Checklist “PAA” (PAA#4 for evacuations and sheltering) which included a step for activation of the Emergency Warning System (EWS) with Siren activation and EAS broadcast times. The following line item was for notifying the County EOCs of EWS activation and content of NOAA and EAS messages. The step to notify the Counties was skipped. The Counties did not participate in the EWS and EAS message broadcast process nor did they receive a copy of the EAS message.



**Possible Cause:**

The SEOF Operations Checklist “PAA” is not referenced in the Plans/Procedures and SEOF staff may not be fully trained on completing the checklist.

Reference:

NUREG-0654/FEMA-REP-1, E.5, 7

Annex V, Ver. 08/2021, Ch. 4 and ER 02.1 Protective Action Methodology

**Effect:**

County Judges develop and implement Protective Action Decisions based on PAAs. If the EAS message differs from the PAA, potentially this may put members of the public/transients in danger of radiological exposure.

**Recommendation:**

Update Plans/Procedures and conduct training for ADH staff

**Level 2 Finding: 01-22-5b1-L2-02****Condition:**

SEOF/ENC: Protective Action Advisory #4 for the ECL SAE, Evacuations, and Stay Indoors was signed by the TOCD at 1113. Media Release #4, SAE and State/Locals recommend evacuations was initiated at 1143 and presented to the public and media during a Press Conference at 1250. MR #4 was forwarded to the JIC State PIO at 1205. A gap of 1 hour and 37 minutes lapsed was determined to not be in a timely manner.

One other Press Conference was conducted at 1032. ANO briefed the SAE declaration & no release in progress. ADH briefed the Alert, no release in progress, County Emergency Operations had been activated, public review the EIB.

Pertinent media briefings and distribution of media releases as the incident warranted for the General Emergency (release in progress) and Evacuations were not conducted.

**Possible Cause:**

The TOCD/LGL requested Press Conference be held up until MR #5, Traffic Alert, could be included in the Press Conference. No procedures for Media Release process.

**Reference:**

NUREG-0654/FEMA-REP, G.3.a

**Effect:**

Delay in presenting subsequent dissemination on emergency information/instructions to the public and media may lead to members of the public or transients traversing through contaminated areas.

**Recommendation:**

Developing a Media Release process as an attachment to the ER 06.2 PIT Procedures and conducting training for the ADH SEOF, PIT, JIC staff, and ADEM PIO who was an active support member at the JIC.

**d. PLAN ISSUES: 01-22-5b1-P-03****Condition:**

The Arkansas Nuclear One (ANO) Emergency Instruction Brochure (EIB) does not provide the physical address of the reception centers.

The ANO EIB identifies the Clarksville Reception Center (RC) location as the High School. A new High School has been built and the old physical location is now the Middle School.

**Possible Cause:**

The address may have been overlooked or left off for formatting of the publication.

**Reference:**

NUREG-0654/FEMA-REP-1, E.5, 7; G.3.a, G.4.a, c  
Arkansas Nuclear One Emergency Instruction Brochure

**Effect:**

Transient populations not familiar with the physical locations of the reception centers could possibly not be processed for monitoring, decontamination, or registration.

**Recommendation:**

Update the ANO EIB to include reception center physical addresses and the current name of the Clarksville Middle School Reception Center.

e. NOT DEMONSTRATED: None

**f. PRIOR ISSUES - RESOLVED: Level 2 Finding 01-21-5b1-L2-02**

**Condition:**

Media Release (#06) was generated and approved by Arkansas Department of Health (ADH), Little Rock, AR. The ADH Emergency News Center emailed Media Release #6 to the Joint Information Center (JIC) in Morrilton, AR. However, the JIC did not receive Media Release #06. Only one method (email) of distribution was utilized and demonstrated.

The JIC PIOs confirmed receiving only Media Release #01(Unusual Event) and #04 (School Evacuations) through post-exercise interviews and fact-finding efforts.

Details for this issue were obtained and verified through post exercise meetings, discussions, and fact-finding efforts in coordination with representatives from Arkansas Department of Health SEOF, NP&RP, JIC participants, FEMA Evaluator, and documentation.

**Possible Cause:**

Consistent message traffic was not established. There are multiple locations involved in the approval and distribution process that possibly caused confusion and delays.

A single method of transmission for messages (email) was identified and used. Alternate methods in the plans and procedures were not identified and utilized. The failure of the email method was not easily identified during the exercise due to the lack of a verification process but was evident during collection of supporting documentation and post exercise interviews.

A verification process for transmission and receipt was not used.

The ADH ER-06.2 procedure “AJIC Information Flow” and “News Releases, News Conferences, and News Briefings” provides information that may be outdated or not used during the exercise. ER-06 procedures do not have a verification process to verify receipt of message traffic at the JIC.

Through interview, an ENC staff member identified other back-up methods of transmission that were available and referenced in the plans and procedures.

**Reference:**

- NUREG 0654, E5 & 7, G3.a, G.4.a.
- ADH ER-06.2, Public Information Team Procedures.

- ADH ER-06.3 Alternate Joint Information Center.
- ADH ER-06.0, Radiological Response Team Training.
- Arkansas Comprehensive Emergency Management Plan (ARCEMP), Annex V, Chapter 6, Public Education & Information.

**Effect:**

Resident and transient individuals evacuating could have been delayed due to the accidents and detours potentially causing a risk of exposure to radiation.

Current situational awareness regarding Emergency Classification Level of General Emergency and Protective Action Decisions that were implemented were provided by Emergency Alert System messages in conjunction with siren soundings.

Counties identified county specific notification systems that were utilized to provide emergency information to individuals. However, supplemental information contained in Media Release #6, which is the responsibility of the State according to the plans and procedures, was not received at the JIC to be distributed to the media and public.

**Recommendation:**

Review and update the back-up communication methods for delivery of message traffic.

Review and update procedures (ADH ER-06 Series) for the new Joint Information Center in Morrilton, AR to include streamlining the approval and distribution process, validation of delivery and receipt, and training for Public Information Team and JIC staff.

g. **PRIOR ISSUES - UNRESOLVED: 01-21-5b1-L2-03**

**Condition:**

Dissemination or discussion of the Ingestion Exposure Pathway Zone (IPZ) ADH Agricultural Pamphlet to the predetermined individuals and businesses was not demonstrated. The pamphlet was not provided for use by farmers and home gardeners located in the IPZ.

It was stated that the Agricultural Pamphlet was available, but no further actions were taken. The distribution, contents, responsible party, and the process of dissemination was not provided.

**Possible Cause:**

Arkansas Department of Health (ADH) plans and procedures provide limited details on IPZ information, distribution, and availability.

ADH relied on the Arkansas Department of Agriculture (ADA) to provide information to the public in the ADA Press Release. The ADA Press Release only provided information on the Quarantine Zone. The additional supplemental protective actions information regarding protecting water supplies, feed, return, re-entry, and relocation was not provided.

**Reference:**

- NUREG 0654, G1.d
- Arkansas Comprehensive Emergency Management Plan (ARCEMP), Annex V, Chapter 6.

**Effect:**

ADH relied on the Arkansas Department of Agriculture (ADA) to provide information to the public in the ADA Press Release. The ADA Press Release only provided information on the Quarantine Zone. The additional supplemental protective actions information regarding protecting water supplies, feed, return, re-entry, and relocation was not provided.

Farmers or home gardeners in the ingestion pathway may have distributed or consumed potentially contaminated food products.

**Recommendation:**

Review and update plans and procedures to include the ADH Agricultural Pamphlet availability and distribution.

**3.3.2.6 Clarksville Reception Center****Criterion 1.b.1:****Criterion 1.e.1:****Criterion 3.a.1:****Criterion 6.a.1:**

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, and 6.c.1
- b. LEVEL 1 FINDING: None
- c. **LEVEL 2 FINDING: 01-22-6a1-L2-04**

**Condition:**

A female evacuee, carrying a shoulder purse, was escorted to the Decontamination Station where she was monitored and asked to proceed to the shower area. The EWs did not have the evacuee remove her purse, nor did they complete a “Personal Property Inventory Receipt Form” or explained the process for decontaminating personal items.

The EW assisting with showering did not ask her to remove the purse before entering the shower. The evacuee exited the shower, and the EW was ready to release her to the Registration Area while still carrying the shoulder purse.

**Possible Cause:**

The emergency workers may not have had training. Procedures were available and were not being used.

**Reference:**

NUREG-0654/FEMA-REP-1, A.3; C.4; J.10.h: J.12

Johnson County Radiological Emergency Response Plan (RERP), Chapter 7, Rev. 6-09/2021

**Effect:**

The evacuee potentially could’ve cross contaminated others in the Registration area.

**Corrective Action Demonstrated:**

A Controller was called into the Decontamination Station and a time out was called. The Controller conducted a brief training for the EWs explaining the importance of removing personal items. The Controller called time in and the EWs obtained a copy of the Personal Property Inventory Receipt Form (Figure 7.7), reviewed the Procedure and adequately demonstrated the process and completed the form.

A separate checklist instead of a binder with Procedures may help the EWs during this process.

d. **PLAN ISSUES: 01-22-6a1-P-05**

**Condition:**

The section in the Clarksville Reception Center Procedure for personnel monitoring did not have any provisions for non-ambulatory evacuees to be monitored that may not be able to pass through the portal monitor. A wheelchair may not fit through the portal monitor and other access functional needs such as crutches, or elderly in a scooter may arrive.

The procedure did not have provisions for service animals or pets and how they would be processed for monitoring and decontamination. There is a brief section that refers to the Arkansas State capabilities, but no information on how to request those capabilities.

The procedure did not have provisions for closing the loop on an individual that may be contaminated but arrived in a “clean” vehicle. The procedure does not provide for identifying the vehicle the individual arrived in order to be processed for additional monitoring of the interior and moving from the “clean” parking to the contaminated parking or marked as potentially contaminated interior. This was demonstrated with a vehicle identification card that was provided at the personnel monitoring station; however, it is not included in the plans and procedures.

The Johnson County Radiological Emergency Response Plan, Chapter 7 provides the Clarksville Reception Center location as the High School. A new High School has been built and the old physical location is now the Middle School.

**Possible Cause:**

Plans and procedures have not been reviewed or updated since the last demonstration. Procedures have not been updated since the new High School was built.

**Reference:**

NUREG-0654/FEMA-REP-1, A.3; C.4; J.10.h: J.12

Johnson County Radiological Emergency Response Plan (RERP), Chapter 7, Rev. 6-09/2021

**Effect:**

Evacuees, service animals, and pets may not be properly monitored and decontaminated. Emergency workers who may not know the process do not have a procedure for reference.

**Recommendation:**

Update the Johnson County RERP, Chapter 7 to provide provisions to address the “Condition” findings.

- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

**3.3.2.7 Hector Reception Center**

**Criterion 1.b.1:**

**Criterion 1.e.1:**

**Criterion 3.a.1:**

**Criterion 6.a.1:**

**Criterion 6.c.1:**

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

- a MET: 1.b.1, 1.e.1, and 6.c.1.
- b LEVEL 1 FINDING: None
- c **LEVEL 2 FINDING: 01-22-3a1-L2-06**

**Condition:**

The Reception Center Radiological Officer (RO) conducted a radiological briefing for the emergency workers with minimal information prior to deploying them to their stations. Information not provided included but was not limited to turnback values, exposure limits, and potassium iodide.

**Possible Cause:**

The Radiological Officer did not follow the Radiological Briefing sheet and assumed the EWs would refer to a “Radiation Card” they’re issued with the dosimetry packet.

**Reference**

NUREG-0654/FEMA-REP-1, K.3.a, b; Pope County Radiological Emergency Response Plan (RERP), Chapter 7, Rev. 6-09/2021



**Effect**

Potentially EWs may have been exposed to radiation above the exposure limits and not removed themselves from the area or reported their readings.

**Corrective Action Demonstrated:**

The Controller was called into the main area where the briefing was conducted, and a time out was called. The Controller conducted remedial training for the Radiological Officer explaining the importance of covering all points in the Radiological Briefing sheet. The controller called time in and the RO demonstrated adequately the capability to conduct a thorough Radiological Briefing.

**d. PLAN ISSUES: 01-22-6a1-P-07****Condition:**

- The section in the procedure for personnel monitoring did not have any provisions for non-ambulatory evacuees to be monitored that may not be able to pass through the portal monitor. A wheelchair may not fit through the portal monitor and other access functional needs such as crutches, or elderly in a scooter may arrive.
- The procedure did not have provisions for service animals or pets and how they would be processed for monitoring and decontamination. There is a brief section that refers to the Arkansas State capabilities, but no information on how to request those capabilities.
- The procedure did not have provisions for closing the loop on an individual that may be contaminated but arrived in a “clean” vehicle. The procedure does not provide for identifying the vehicle the individual arrived in order to be processed for additional monitoring of the interior and moving from the “clean” parking to the contaminated parking or marked as potentially contaminated interior. This was demonstrated with a vehicle identification card that was provided at the personnel monitoring station; however, it is not included in the plans and procedures.

**Possible Cause:**

Plans and procedures have not been reviewed or updated since the last demonstration

**Reference**

NUREG-0654/FEMA-REP-1, J.10.h: J.12

Pope County Radiological Emergency Response Plan (RERP), Chapter 7, Rev. 6-09/2021

**Effect**

Evacuees, service animals, and pets may not be properly monitored and decontaminated.

**Recommendation**

- Update the Pope County RERP, Chapter 7 to provide provisions for monitoring and decontamination of non-ambulatory evacuees, service animals and pets.
- Update the Pope County REPP, Chapter 7 to provide the process of contaminated evacuees that arrive in “clean” vehicles for additional interior surveying.

- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

**3.3.3 Private Organizations****3.3.3.1 ENS Radio Station KXRJ****Criterion 5.a.1:**

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

- a) MET: 5.a.1
- b) LEVEL 1 FINDING: None
- c) LEVEL 2 FINDING: None
- d) PLAN ISSUES: None
- e) NOT DEMONSTRATED: None
- f) PRIOR ISSUES - RESOLVED: None
- g) PRIOR ISSUES - UNRESOLVED: None

## **Federal Jurisdictions**

### **3.3.4.1 NOAA North Little Rock**

#### **Criterion 5.a.1:**

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, and 6.c.1.
- b) LEVEL 1 FINDING: None
- c) LEVEL 2 FINDING: 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 exercise, 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.

## APPENDIX A: IMPROVEMENT PLAN

<b>ISSUE NUMBER: 01-22-5a1-L2-01</b>	
Criterion: 5a1	
<p><b>CONDITION:</b> The SEOF staff used an SEOF Operations Checklist “PAA” (PAA#4 for evacuations and sheltering) which included a step for activation of the Emergency Warning System (EWS) with Siren activation (1125) and EAS broadcast (1135) times. The following line item was for notifying the County EOCs of EWS activation and content of NOAA and EAS messages. The step to notify the Counties was skipped. The Counties did not participate in the EWS and EAS message broadcast process nor did they receive a copy of the EAS message.</p>	
<p><b>POSSIBLE CAUSE:</b> The SEOF Operations Checklist “PAA” is not referenced in the Plans/Procedures and SEOF staff may not be fully trained on completing the checklist.</p>	
<p><b>EFFECT:</b> County Judges develop and implement Protective Action Decisions based on PAAs if the EAS message differs from the PAA, potentially this may put members of the public/transients in danger of radiological exposure.</p>	
<p><b>RECOMMENDATION:</b> Update ER-06.2 PIT Public Information Team Procedure, Rev. 8/2021 and conduct training for ADH staff prior to the next scheduled evaluated exercise demonstration at the SEOF/ENC OPS location.</p>	
	PRIMARY RESPONSIBLE AGENCY: ADH
	START DATE: 4 <sup>th</sup> Qtr CY2022
AGENCY POC: Chris Meyer, ADH	ESTIMATED COMPLETION DATE: Next biennial evaluated exercise

<b>ISSUE NUMBER: 01-22-5b1-L2-02</b>	
Criterion: 5b1	
<p><b>CONDITION:</b> SEOF/ENC: Protective Action Advisory #4 for the ECL SAE, Evacuations, and Stay Indoors was signed by the TOCD at 1113. Media Release #4, SAE and State/Locals recommend evacuations was initiated at 1143 and presented to the public and media during a Press Conference at 1250. MR #4 was forwarded to the JIC State PIO at 1205. A gap of 1 hour and 37 minutes lapsed which was determined not to be in a timely manner.</p> <p>Only one other Press Conference was conducted at 1032. ANO briefed the SAE declaration &amp; no release in progress. ADH briefed the Alert, no release in progress, County Emergency Operations had been activated, public review the EIB.</p>	

Pertinent media briefings and distribution of media releases as the incident warranted for the General Emergency (release in progress) and Evacuations were delayed.	
<b>POSSIBLE CAUSE:</b> The TOCD/LGL requested Press Conference be held up until MR #5, Traffic Alert could be included in the Press Conference. No procedure for Media Release timeliness.	
<b>EFFECT:</b> Delay in presenting the subsequent emergency information/instructions to the public and media may lead to members of the public or transients traversing through contaminated areas.	
<b>RECOMMENDATION:</b> Develop or expand to include a Media Release timeliness process to the ER 06.2 PIT Procedure, conduct training for the ADH SEOF, PIT, JIC staff, and ADEM PIO (who was an active support member at the JIC), prior to the next scheduled evaluated exercise for the SEOF/ENC OPS and JIC locations.	
	PRIMARY RESPONSIBLE AGENCY: ADH
	START DATE: 4 <sup>th</sup> Qtr CY2022
AGENCY POC: Chris Meyer, ADH	ESTIMATED COMPLETION DATE: Next biennial evaluated exercise

<b>ISSUE NUMBER: 01-22-5b1-P-03</b>	
Criterion: 5b1	
<b>CONDITION:</b> The Arkansas Nuclear One (ANO) Emergency Instruction Brochure (EIB) does not provide the physical address of the reception centers.  The ANO EIB identifies the Clarksville Reception Center (RC) location as the High School. A new High School has been built and the old physical location is now the Middle School.	
<b>POSSIBLE CAUSE:</b> The address may have been overlooked or left off for formatting of the publication.	
<b>EFFECT:</b> Transient populations not familiar with the physical locations of the reception centers could possibly not be process for monitoring, decontamination, or registration.	
<b>RECOMMENDATION:</b> Update the ANO EIB to include reception center physical addresses and the current name of the Clarksville Middle School Reception Center.	
	PRIMARY RESPONSIBLE AGENCY: ADH
	START DATE: 4 <sup>th</sup> Qtr CY2022
AGENCY POC: Chris Meyer, ADH	ESTIMATED COMPLETION DATE: At the next Annual Letter of Certification submission.

**ISSUE NUMBER: 01-22-6a1-P-05**

Criterion: 6a1

**CONDITION:** The section in the Clarksville RC Procedure for personnel monitoring did not have any provisions for non-ambulatory evacuees to be monitored that may not be able to pass through the portal monitor. A wheelchair may not fit through the portal monitor and other access functional needs such as crutches, or elderly in a scooter may arrive.

The procedure did not have provisions for service animals or pets and how they would be processed for monitoring and decontamination. There is a brief section that refers to the Arkansas State capabilities, but no information on how to request those capabilities.

The procedure did not have provisions for closing the loop on an individual that may be contaminated but arrived in a “clean” vehicle. The procedure does not provide for identifying the vehicle the individual arrived in order to be processed for additional monitoring of the interior and moving from the “clean” parking to the contaminated parking or marked as potentially contaminated interior. This was demonstrated with a vehicle identification card that was provided at the personnel monitoring station; however, it is not included in the plans and procedures.

The Johnson County Radiological Emergency Response Plan, Chapter 7 provides the Clarksville Reception Center location as the High School. A new High School has been built and the old physical location is now the Middle School.

**POSSIBLE CAUSE:** The Plans and/or Procedures may not have been reviewed or updated since the last demonstration. Procedures had not been updated to reflect the new High School designation as the reception center.

**EFFECT:** Evacuees, service animals, and pets may not be properly monitored and decontaminated. Emergency workers who may not know the process do not have a procedure for reference.

**RECOMMENDATION:** Update the Johnson County RERP, Chapter 7 to provide provisions to address the “Condition” findings.

	PRIMARY RESPONSIBLE AGENCY: ADH
	START DATE: 4 <sup>th</sup> Qtr CY2022
AGENCY POC: Chris Meyer, ADH	ESTIMATED COMPLETION DATE: At the next Annual Letter of Certification submission.

<b>ISSUE NUMBER: 01-22-6a1-P-07</b>	
Criterion: 6a1	
<p><b>CONDITION:</b> The section in the Hector RC Procedure for personnel monitoring did not have any provisions for non-ambulatory evacuees to be monitored that may not be able to pass through the portal monitor. A wheelchair may not fit through the portal monitor and other access functional needs such as crutches, or elderly in a scooter may arrive.</p> <p>The procedure did not have provisions for service animals or pets and how they would be processed for monitoring and decontamination. There is a brief section that refers to the Arkansas State capabilities, but no information on how to request those capabilities.</p> <p>The procedure did not have provisions for closing the loop on an individual that may be contaminated but arrived in a “clean” vehicle. The procedure does not provide for identifying the vehicle the individual arrived in order to be processed for additional monitoring of the interior and moving from the “clean” parking to the contaminated parking or marked as potentially contaminated interior. This was demonstrated with a vehicle identification card that was provided at the personnel monitoring station; however, it is not included in the plans and procedures.</p>	
<p><b>POSSIBLE CAUSE:</b> The Plans and/or Procedures may not have been reviewed or updated since the last demonstration.</p>	
<p><b>EFFECT:</b> Evacuees, service animals, and pets may not be properly monitored and decontaminated.</p>	
<p><b>RECOMMENDATION:</b> Update the Pope County RERP, Chapter 7 to provide provisions for monitoring and decontamination of non-ambulatory evacuees, service animals and pets.</p> <p>Update the Pope County REPP, Chapter 7 to provide the process of contaminated evacuees that arrive in “clean” vehicles for additional interior vehicle surveying.</p>	
	PRIMARY RESPONSIBLE AGENCY: ADH
	START DATE: 4 <sup>th</sup> Qtr CY2022
AGENCY POC: Chris Meyer, ADH	ESTIMATED COMPLETION DATE: At the next Annual Letter of Certification submission.



ISSUE NUMBER: <b>01-21-5b1-L2-03 (UNRESOLVED - from 2021 IPX)</b>	
Criterion: 5b1	
<p>CONDITION: Dissemination or discussion of the Ingestion Exposure Pathway (IPZ) ADH Agricultural Pamphlet to the predetermined individuals and businesses was not demonstrated. The pamphlet was not provided for use by farmers and home gardeners located in the IPZ.</p> <p>It was stated that the Agricultural Pamphlet was available, but no further actions were taken. The distribution, contents, responsible party, and the process of dissemination was not provided.</p>	
RECOMMENDATION: Review and update plans and procedures to include the ADH Agricultural Pamphlet availability and distribution.	
CORRECTIVE ACTION DESCRIPTION: ADH will work with ADH/SEOF staff to update the ARCEMP, Annex V, Ch. 6 procedures to include AG Pamphlet availability and distribution process.	
	PRIMARY RESPONSIBLE AGENCY: ADH
	START DATE: May 1, 2021
AGENCY POC: Chris Meyer, ADH	ESTIMATED COMPLETION DATE: TBD

# APPENDIX B: EXERCISE TIMELINE

Table 1 - Exercise Timeline DATE: 2022-08-09,  
SITE: Arkansas Nuclear One, AR

Emergency Classification Level or Event	Time Declared by Utility	Time That Notification Was Received or Action Was Taken								
		ADEM, Little Rock	KXRJ EAS Station	ADH/ENC @ EOF Russellville	POPE CO EOC	JOHNSON CO EOC	LOGAN CO EOC	YELL CO EOC	NEW JIC Morrilton	
Unusual Event (UE)										
Alert	0819	0829		0832	0829	0830	0833	0829	0834	
Site Area Emergency (SAE)	0943	0947		0943	0947	0948	0948	0948	0951	
General Emergency (GE)	1110	1119		1110	1121	1118	1119	1119	1121	
Rad. Release Started	1058	1107		1100	1107	1107	1107	1107	1145	
Rad. Release Terminated										
Facility Declared Operational		0900		0921	0854	0850	0837	0844	0857	
Declaration of State of Emergency		1011			0924	1135		None		
Exercise Terminated		1252		1249	1250	1250	1250	1250	1300	
Early Precautionary Action Decisions:	Siren/Notification Type and Time:				0952 RC Activ.	0836 (Schools & RCs Activ.)	0929/RC Activ.	0955/Rivers & Parks 1127/Schools & Daycares		
PAA #1 RC Activation		0933		0928	0952	0836	0929	0955	0941	
PAA #2 Ag. Advisory		0952		0953	0958	0959	0953	0958	1002	
#3 _____										
#4 _____										
Protective Action Decisions (PADs):	Time of Siren Activation:			1128						
PAA #3: Anti C's & EW KI		1154		1104	1115	1114	1116	1123	1140	
PAA #4 - Evac: G, H, J, K, L, M, N, O, R, U Stay Indoors: I, P, Q, S, T; Shelter in Place: I		1144		1113	1120	1124	1121	1126	1140	
PAA#5 - KI Inst.				1130	1139	1143	1140	1140	1217	
EAS Messages and Times:	EAS Message Description:									
Purple Message S1, Gold Message 'E'	Shelter/Evac			1134						
#2 Msg #: _____ and Time:										
#3 Msg #: _____ and Time:										
#r Msg #: _____ and Time:										
KI Administration Decision				1104 EW 1130 Inst.	1115 EW 1139 Inst.	1114 EW 1143 Inst.	1116 EW 1140 Inst.	1123 EW 1140 Inst.	1140 EW 1217 Inst.	

Table presents the times at which key events and activities occurred during the ANO Plume Exercise held on August 09, 2022.

## APPENDIX C: EXERCISE EVALUATORS AND TEAM LEADERS

LOCATION	EVALUATOR	AGENCY
Arkansas State Emergency Operations Center	* PJ Nied	ICF
Arkansas Department of Health, Little Rock Emergency Communications Center (ECC)	*Rosemary Samsel	ICF
NOAA Little Rock	*Rosemary Samsel	ICF
Arkansas Department of Health at the State Emergency Operations Facility, Little Rock, AR	*Tim Pflieger Denny Wilford Ryan Alexander (OJT)	FEMA R6 ICF NRC R4
Arkansas Field Radiological Monitoring Team One	Tom Essig	ICF
Arkansas Field Radiological Monitoring Team Two	Carol Shepard	ICF
Arkansas Nuclear One Emergency News Center @ EOF	*Denny Wilford	ICF
Joint Information Center Morrilton	*Elsa Lopez Larry Broockerd Bonnie Sheffield	FEMA R6 FEMA HQ ICF
Johnson County Emergency Operations Center and Traffic/Access Control Point	*Linda Gee Meg Swearingen Don Carlton	FEMA R6 ICF ICF
Logan County Emergency Operations Center and Traffic/Access Control Point	*Brad DeKorte Melisa Ogrodnik Kevin Reed	FEMA R6 FEMA R6 ICF
Pope County Emergency Operations Center and Traffic/Access Control Point	*Heather Wilson Thomas Hegele Greg Voss	FEMA R7 ICF FEMA R7
Yell County Emergency Operations Center and Traffic/Access Control Point	*Darren Bates Misty Chance Andy Chancellor	FEMA HQ FEMA R6 FEMA R7
ENS Radio Station KXRJ	*Elsa Lopez	FEMA R6
Clarksville Reception Center, Clarksville, AR	*Elsa Lopez Brad DeKorte Ken Evans	FEMA R6 FEMA R6 ICF
Hector Reception Center, Hector, AR	*Brad DeKorte Elsa Lopez Ken Evans	FEMA R6 FEMA R6 ICF
* Team Leader		

## APPENDIX D: Acronyms & Abbreviations

Acronym	Meaning
ADA	Arkansas Department of Agriculture
ADEM	Arkansas Division of Emergency Management
ADH	Arkansas Department of Health
AHD	Arkansas Health Department
ANO	Arkansas Nuclear One
ARC	American Red Cross
ARCC	Arkansas Response Coordination Center
ARCEMP	Arkansas Comprehensive Emergency Management Plan
AWIN	Arkansas Wireless Information Network
CDT	Central Daylight Time
CoC	Chain of Custody
DHS/FEMA	Department of Homeland Security/Federal Emergency Management Agency
DEF/VS	Dedicated Emergency Facsimile/Voice System
DRD	Direct Reading Dosimeter
EAD	Electronic Alarming Dosimeter
EAL	Emergency Action Levels
EAS	Emergency Alert System
ECC	Emergency Communications Center
ECL	Emergency Classification Level
EIB	Emergency Information Bulletin
EMC	Emergency Management Coordinator
ECN	Emergency Classification Notification
EMD	Emergency Management Director
EMS	Emergency Medical Services
ENC	Emergency News Center
EOC	Emergency Operations Center
EOP	Extent of Play
EOF	Emergency Operations Facility
EPA	Environmental Protection Agency
EPD	Electronic Personal Dosimeter
EPZ	Emergency Planning Zone
EW	Emergency Worker
EWS	Emergency Warning System
FM	Facilities Manager

Acronym	Meaning
FMT	Field Monitoring Team
FTC	Field Team Control
GE	General Emergency
GIS	Geographic Information System
IPZ	Ingestion Pathway Zone
JIC	Joint Information Center
KI	Potassium Iodide
LGL	Local Government Liaison
NAWAS	National Warning System
NERN	Nuclear Emergency Radio Network
NP&RP	Nuclear Planning and Response Program
NRC	Nuclear Regulatory Commission
OEM	Office of Emergency Management
ORO	Offsite Response Organization
OSLD	Optically Stimulated Luminescent Dosimeter
PAA	Protective Action Advisory
PAD	Protective Action Recommendation
PAG	Protective Action Guidelines
PAR	Protective Action Recommendation
PDAFN	Persons with Disabilities and Access/Functional Needs
PIO	Public Information Officer
PIT	Public Information Team
PPE	Personal Protective Equipment
PRD	Permanent Record Dosimeter
RACES	Radio Amateur Civil Emergency Services
RASCAL	Radiological Assessment Systems for Consequence Analysis
RC	Reception Center
REP	Representative
RERP	Radiological Emergency Response Plan
RO	Radiological Officer
RRTL	Radiological Response Team Leader
SAC	Staging Area Coordinator
SAE	Site Area Emergency
SEOC	State Emergency Operation Center
SEOF	State Emergency Operations Facility
TACP	Traffic and Access Control Point

Acronym	Meaning
FMT	Field Monitoring Team
FTC	Field Team Control
GE	General Emergency
GIS	Geographic Information System
IPZ	Ingestion Pathway Zone
JIC	Joint Information Center
KI	Potassium Iodide
LGL	Local Government Liaison
NAWAS	National Warning System
NERN	Nuclear Emergency Radio Network
TEDE	Total Effective Dose Equivalent
TLD	Thermoluminescent Dosimeter
TOCD	Technical Operations Control Director
URI	Unified RASCAL Interface
VHF	Very High Frequency

## **APPENDIX E: EXERCISE PLAN**



**Arkansas Extent of Play Agreement Draft**

This document constitutes the Extent of Play Agreement Between the State of Arkansas and the Federal Emergency Management Agency, Region 6 regarding the conduct of an evaluated exercise involving Arkansas Nuclear One on August 9, 2022, with out-of-sequence events at time a to be determined.

### Summary and Special Conditions

Due to the COVID-19 Pandemic, the State of Arkansas has implemented temporary, emergency measures to protect the health and safety of possible evacuees at Reception Centers. These measures include history and temperature screening and the identification of separate facilities for those exposed to COVID-19 and/or who may have been in self-quarantine at the time of an evacuation. These are non-RERP related in nature and will not be demonstrated in the out-of-sequence exercise or subject to evaluation.

As is always the case, exercise play will not interfere with an actual emergency. This includes locations and personnel, such as the state county emergency operations centers, reception centers, law enforcement, fire department, public health, school, and other emergency personnel.

### Exercise Injects:

In order to ensure that certain exercise objectives are met, the state controller at various locations may provide written problem injects to spur recognition, identification and resolutions. Injects that are vital to exercise play will be identified as "Primary" Injects.

Some Injects are provided exclusively for training purpose for various staff members. The injects will be identified as "Training Injects" and are not subject to FEMA evaluation.



### **Exercise Overview:**

The Full Participation Exercise in support of Arkansas Nuclear One (ANO) will be a one-day exercise occurring on Tuesday, August 9, 2022.

### **Special Considerations and Simulations:**

Department of Health personnel will pre-deploy at the appropriate locations prior to the start of exercise.

Due to safety concerns, Field Team and other workers will NOT wear anti-C clothing. One Field team member will be available to demonstrate the process.

No Actual evacuations will occur.

All contamination will be simulated. Any simulated contamination will be demonstrated via controller inject.

No demonstrations will be conducted regarding the monitoring, housing, feeding or decontamination of companion animals (pets).

Potassium Iodine (KI) tablets will NOT be ingested by any personnel. The availability and use of KI will be demonstrated by interview.

No traffic Control Points will be established. The process will be demonstrated by interview.

No actual environmental samples will be transported. Procedures may be demonstrated by interview.

Activation of the Alert and Notification System will be simulated.

No actual News Releases or emergency messages will be made to the public. For exercise demonstration, News Releases will be developed, but distribution will be simulated.

ALL notifications, News Releases, or other transmitted messages will include the notation, "THIS IS A DRILL".

Proprietary, personal or any information subject to privacy laws or HIPPA regulations will not be released to anyone other than official personnel with a valid need to know. Evaluators will not have access to this information, a player may summarize in broad terms, the contents of things such as "Special Needs" file and/or agricultural product files that contain personal information.

**"Correction on the Spot"** will be utilized at all locations.

Any last-minute changes to the Extent of Play will be sent to FEMA Region 6 for approval.

## EXERCISE ELEMENTS:

### EVALUATION AREA 1

Emergency Operations Management Sub-element I.a-Mobilization INTENT

This sub-element is derived from NUREG-0654-FEMA-REP-1, which requires that OROs have the capability to alert, notify, and mobilize emergency personnel, and activate and staff emergency facilities.

**Criterion 1.a.1: OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0645 / FEMA-REP-1, A.1.a,e; A.3,4; C.1,4,6; D.4; E.1,2; H.3,4)**

Locations: State EOC ADEM, Camp Robinson; ADH Emergency Communication Center (ECC), Little Rock; ADH State Emergency Operations Facility (SEOF), Russellville; Pope County EOC, Russellville; Johnson County EOC, Clarksville; Logan County EOC, Paris; Yell County EOC, Danville; ADH/Public Information Team (PIT), Russellville; Joint Information Center (JIC), Morrilton

EOP: 1. ANO will notify the ADH ECC per established procedures. The ECC will follow the instructions of the RSDO and/or the TOCD.

No shift change will be performed. A list of second shift Key Personnel will be available for review. A shift change briefing will either be demonstrated by the OROs or the evaluator will interview the ORO to determine the content of the briefing.

Protocols for requesting Federal Support will be demonstrated through interview at the ADH SEOF.

Level 2 Findings: NONE

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#### 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, H3; G.3.a: J.10.h; J.12; K5.b)*

Locations: Pope County EOC, Russellville; Johnson County EOC, Clarksville; Logan County EOC, Paris; Yell County EOC, Danville; Joint Information Center, Morrilton; ECC, Little Rock; SEOF, Russellville; ADEM, Camp Robinson

Level 2 Findings: None

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**Sub-element 1.c .1- Direction and Control INTENT**

**This sub-element is derived from NUREG-0654, which provides that Off-site Response Organizations (ORO) have the capability to control their overall response to an emergency.**

Locations: State EOC ADEM, Camp Robinson; ADH ASEO, Little Rock; Pope County EOC, Russellville; Johnson County EOC, Clarksville; Logan County EOC, Paris; Yell County EOC, Danville

L2 Findings: None

**Sub-element 1.d. - Communications Equipment INTENT**

**This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs establish and operate reliable primary and backup communication systems to ensure communications with key emergency personnel at locations such as contiguous governments within the EPZ, Federal emergency response organizations, the licensee and its facilities, EOCs, Incident Command Posts, and FMTs.**

*Criterion 1.d.1: At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654/FEMA-REP-1, F.1, 2)*

Locations: State EOC ADEM, Camp Robinson; ADH ECC, Little Rock; Joint Information Center, Morrilton; Pope County EOC, Russellville; Johnson County EOC, Clarksville; Logan County EOC, Paris; Yell County EOC, Danville; State FRMT 1; State FRMT 2.

EOP: Each location will demonstrate the use of one primary and one backup communications system and be prepared to discuss backup alternate communication systems. Each location will identify a communications system that is independent of the commercial telephone system.

Level 2 Finding: 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; 1.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b)*

Locations: State EOC ADEM, Camp Robinson; ADH ECC, Little Rock; ADH SEOF, JIC, Morrilton; Pope County EOC, Russellville; Johnson County EOC, Clarksville; Logan County EOC, Paris; Yell County EOC, Danville; State FRMT 1;; State FRMT 2.

- EOP:
1. ADH Russellville will be evaluated at the SEOF.
  2. ADH Little Rock will only be evaluated at the ECC.
  3. Survey Instruments and Dosimeters 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 of meters will be performed before use, using range of readings stickers on the survey meters.
  4. The quantities of Dosimetry and the quantities and expiration of KI will be Demonstrated by interview and documentation.
  5. The availability of TACP equipment will be described through interview at the Counties.
  6. It is Arkansas policy to issue KI only to Emergency Workers (EWs) and institutional individuals and their caretakers. KI is NOT issued to the general public.
  7. 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.

Level 2 Findings: None

## EVALUATION AREA 2

### Protective Action Decision-Making

#### Sub-element 2.a - Emergency Worker Exposure Control INTENT

**This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to assess and control the radiation exposure received by emergency workers and have a decision chain in place, as specified in the ORO's plans/procedures, to authorize emergency worker exposure limits to be exceeded for specific missions.**

*Criterion 2.a.1: OROs use a decision-making process, considering relevant factors and appropriate coordination, to ensure that an exposure control system, including the use of KI, is in place for emergency workers, including provisions to authorize radiation exposure in excess of administrative limits or protective action guides. (NUREG-0654/FEMA-REP-1, C.6; J.10. e, f; K.4)*

Locations: ADH SEOF, Russellville; Pope County EOC, Russellville; Johnson County EOC, Clarksville; Logan County EOC, Paris; Yell County EOC, Danville.

EOP:

1. State will Demonstrate exposure control at SEOF, FRMT1 and FRMT2.
2. State FRMTs will use gloves as necessary. Access to "anti-C's" will be demonstrated; however, they will not be worn. After the termination of the exercise, FMRT members will be prepared to demonstrate the donning and removal of "anti-C's". Respiratory protection will NOT be used.
3. At the County EOCs, the RO will demonstrate the EW briefing, record keeping, and procedures for issuing and returning dosimetry and KI.
4. If the plume does not require a KI decision, the County EOCs can satisfy this EA by interview.
5. It is Arkansas policy to issue KI only to Emergency Workers (EWs) and institutionalized individuals. EWs who decline to take KI may not be identified in advance. If they decline to take KI while at their duty stations, they will not be placed in positions where they would be expose to radiation.
6. The State of Arkansas may not consider the termination of Emergency Worker exposure control to be at the end of the "plume phase".

Level 2 Findings: None

**Sub-element 2.b. - Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency.**

**INTENT**

**This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to independently project integrated dose from projected or actual dose rates and compare these estimates to the PAGs. OROs must have the capability to choose, among a range of protective actions, those most appropriate in a given emergency. OROs base these choices on PAGs from their plans/procedures or EPA's Manual of Protective Action Guides and Protective Actions for Nuclear Incidents and other criteria, such as plant conditions, licensee PARs, coordination of PADs with other political jurisdictions (e.g., other affected OROs and incident command), availability of in-place shelter, weather conditions, and situations, to include HAB incidents, the threat posed by the specific hostile action, the affiliated response, and the effect of an evacuation on the threat response effort, that create higher than normal risk from general population evacuation.**

*Criterion 2.b.1: Appropriate protective action recommendations (PARs) are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions. (NUREG-0645/FEMA-REP-1, I.10 and Supplement 3)*

Locations: ADH SEOF, Russellville

**EOP:**

1. Dose Projections will be made per procedures using RASCAL.

RASCAL will be the primary model used to make projections based on "plant conditions".

2. Protective Action Advisories issued by the State may differ from the ANO

Protective Action Recommendations and may not reflect the logic identified in NUREG-0654/FEMA-REP-1, Revision 1, Supplement 3, Guidance for Protective Action Strategies (October 2011)

Level 2 Findings: None

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*Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654/FEMA-REP-1,A.3; C.4, 6; D.4; J.9; J.10.f, m)*

Locations: Pope County EOC, Russellville; Johnson County EOC, Clarksville; Logan County EOC, Paris; Yell County, EOC, Danville.

- EOP:
1. It is Arkansas policy to issue KI only to Emergency Workers (EWs) and institutionalized and their caretakers only.
  2. The State issues Protective Action Advisories (PAAs) and ANO issues Protective Action Recommendations (PARs). A PAA and/or PAR becomes a PAD when all County Judges concur.
  3. If the plume does not require a KI decision, the county EOCs can satisfy this element by interview.

Level 2 Findings: None

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#### **Sub-element 2.c - PAD Consideration for the Protection of 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 determine PADs, including evacuation, sheltering, and use of KI, if applicable, for groups of persons with disabilities and access/functional needs (e.g., hospitals, nursing homes, correctional facilities, schools, licensed daycare centers, mobility-impaired individuals, and transportation-dependent individuals). The focus is on those groups of persons with disabilities and access/functional needs that are, or potentially will be, affected by a radiological release from an NPP.**

***Criterion 2.c.1: Protective action decisions are made, as appropriate, for groups of persons with disabilities and access/functional needs. (NUREG-0654/FEMA-REP-1,D.4; J.9; J.10.d, e)***

Locations: Pope County EOC, Russellville; Johnson County EOC, Clarksville; Logan County EOC, Paris; Yell County EOC, Danville.

- EOP:
1. Lists and procedures will be demonstrated for supporting "groups of persons with disabilities and access/functional needs". These lists will be reviewed by evaluators but will not be given to evaluators because of HIPAA requirements. Actions will be simulated.

2. County EOC's will demonstrate by interview, the ability to notify all public-school systems/districts during the drill IAW with their procedures, if the systems/districts are in session.
3. If school systems/districts are not in session, the EOCs will provide evaluators the contact information for the schools and will satisfy this criterion via interview.

Level 2 Findings: 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: SEOF, Russellville; State Field Radiological Monitoring Teams (FRMT) 1 and (FRMT) 2 Russellville; Pope County EOC, Russellville; Johnson County EOC, Clarksville; Logan County EOC, Paris; Yell County EOC, Danville; Hector, Reception Center; Clarksville Reception Center.

EOP:

1. Exposure control and monitoring at the EOF will be under the control of ANO at the EOF.
2. Dosimetry will be available to deploying personnel when appropriate.



EOP:

3. State FRMTs will use gloves as necessary. Access to "anti-C's" will be demonstrated; however, they will not be worn. After the termination of the exercise FMRT members will be prepared to demonstrate the donning and removal of "anti-C's". Respiratory protection will NOT be used.
4. County ROs will demonstrate the EW briefing, record keeping, and procedures for issuing and returning dosimetry and KI.
5. It is Arkansas policy to issue KI only to Emergency Workers (EW) and Institutionalized individuals. KI is not issued to the general public.
6. If the scenario does not require a KI decision, OROs can satisfy this EA by
7. interview.
8. The State of Arkansas may not consider the termination of Emergency Worker exposure control to be at the end of the "plume phase".
9. 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. EWs who decline to take KI may not be identified in advance. Those that decline to take KI while on duty will not be assigned to an area where radiation might be present.

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.

Level 2 Findings:   None

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### **Sub-element 3.b Implementation of KI Decision for institutional individuals and the General Public**

#### **INTENT**

**This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to provide KI for institutionalized individuals, and, if in the plans/procedures, to the general public for whom immediate evacuation may not be feasible, very difficult, or significantly delayed. While it is necessary for OROs to have the capability to provide KI to institutionalized individuals, providing KI to the general public is an ORO option and must be reflected as such in ORO plans/procedures. Provisions must include the availability of adequate quantities, storage, and means of distributing KI.**

*Criterion 3.b.1: K1 and appropriate instructions are available if a decision to recommend use of K1 is made. Appropriate record-keeping of the administration of K1 for institutionalized individuals and the general public is maintained. (NUREG-0654/FEMA-REP-1, J.10.e, f)*

Locations: Pope County EOC, Russellville; Logan County EOC, Paris; Yell County EOC, Danville; Johnson County EOC, Clarksville

EOP:

1. It is Arkansas policy to issue K1 only to Emergency Workers (EWs) institutionalized individuals and their caretakers. K1 is not issued to the general public.
2. If the scenario does not require a K1 decision, the County EOCs can satisfy this by interview.
3. Use of K1 by EWs will be simulated.

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.

Level 2 Findings: None

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### **Sub-element 3.c - Implementation of 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 PADs, 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.1: Protective action decisions are implemented for persons with disabilities and access/ functional needs other than schools within areas subject to protective actions. (NUREG-0654/FEMA-REP-1, J.10.c, d, e, g)

Locations: Pope County EOC, Russellville; Johnson County EOC, Clarksville; Logan County EOC, Paris; Yell County EOC, Danville.

- EOP:
1. Lists and procedures will be demonstrated for supporting "groups of persons with disabilities and access/functional needs", if required by the scenario. Actions will be simulated. Special Needs information may include protected health information and may not be displayed.
  2. If contacting a transportation provider is not demonstrated, a controller inject will be provided. Only one provider will be actually contacted at each EOC.

Level 2 Findings: 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)***

**Locations: Dover School District**

EOP:

1. This EA will be demonstrated out-of-sequence by interview at a date to be determined. At the appropriate time, the controller will give the school administrator the appropriate information as it applies to the school.
2. The bus driver will not drive to the Reception Center.
3. The Superintendent or Transportation Officer and driver will be available for interview.
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.
5. No private schools or licensed daycare centers have requested participation in the REP program

Level 2 Findings: None

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**Sub-element 3.d. - Implementation of Traffic and Access Control INTENT**

**This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to implement protective action plans/procedures, including relocation and restriction of**

access to evacuated/ sheltered areas. This Sub-element focuses on selecting, establishing, and staffing of traffic and access control points, and removal of impediments to the flow of evacuation traffic.

***Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654/FEMA-REP-1, A.3; C.1,4; J.10.g, j)***

Locations: Pope County EOC, Russellville; Logan County EOC, Paris; Yell County EOC, Danville; Johnson County EOC, Clarksville.

EOP 1. The RO will issue Dosimetry, KI and brief the law enforcement officer assigned to the T/ACP as appropriate. The officer will not drive to the location. The officer will demonstrate by interview T/ACP location, monitoring, and EW exposure control procedures.

2. 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.

Level 2 Findings: None

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***Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654/FEMA-REP-1, J.10.k)***

Locations: Pope County EOC, Russellville; Logan County EOC, Paris; Yell County EOC, Danville; Johnson County EOC, Clarksville; PIT, Russellville.

EOP:

1. The EOC representative will talk through the procedures that demonstrate the capability to identify and take appropriate actions concerning impediments to evacuation.
2. An inject message may be inserted after the evacuation is underway. The injected message will require the re-routing of traffic.
3. If a GE has not been declared and evacuations have not been ordered, this inject will be inserted out of sequence.
4. All EOCs will discuss how this road closing information and re-routing information will get to the public. One County EOC will contact the SEOF with the re-routing information. The LGL will prepare a Public Notification Message and provide the re-routing information to the PIT. The LGL

will not transmit the PNM, but will explain the distribution. The PIT will prepare a News Release and will provide the Release to the JIC for briefing to the media. The other Counties will simulate providing the information to the LGL.

5. Actual dispatch of resources will not take place.

Level 2 Findings: None

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#### **E. Sub-element 3.f. Implementation of Relocation, Reentry and Return Decisions.**

***Criterion 3.f.1: Decisions regarding controlled reentry, relocation and return of individuals during the post-plume phase are coordinated with appropriate organizations and implemented. (NUREG-0654/FEMA-REP-1-E.7; J.10.j; J.12; K.5.b; M.1, 3)***

Locations: SEOF, Russellville; ADEM, Camp Robinson; Pope County EOC, Russellville; Logan County EOC, Paris; Yell County EOC, Danville; Johnson County EOC, Clarksville

EOP 1. No areas outside the 10-mile IPZ will be considered.

2. This element will be determined by the progression of scenario play.

Level 2 Findings: None

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### **EVALUATION AREA 4**

#### **Field Measurement and Analysis**

##### **Sub-element 4.a - Plume Phase Field Measurements and Analyses INTENT**

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to deploy FMTs with the equipment, methods, and expertise necessary to determine the location of airborne radiation and particulate deposition on the ground from an airborne plume. In addition, NUREG-0654/FEMA-REP-1 indicates that OROs must have the capability to use FMTs within the plume exposure pathway EPZ to detect airborne radioiodine in the presence of noble gases and radioactive particulate material in the airborne plume. In an incident at an NPP, the possible release of radioactive material may pose a risk to the nearby population and environment. Although incident assessment methods are available to project the extent and magnitude of a release, these

methods are subject to large uncertainties. During an incident, it is important to collect field radiological data to help characterize any radiological release. Adequate equipment and procedures are essential to such field measurement efforts.

4.a.2: Field teams (2 or more) are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654/FEMA-REP-1, C.1; H.12; I. 7, 8, 11; J.10.a)

Locations: SEOF, Russellville

- EOP:
1. State FRMTs will follow the ALARA Policy of the Arkansas Department of Health. Teams will not routinely traverse a plume. State Teams will define the edge of the plume. Air samples will be taken in areas reading near 20 mR/hr or as directed.
  2. Air samples will not be transported. The team member will discuss the process for transferring samples.
  3. 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.

Level 2 Findings: None

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**Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654/FEMA-REP-1, C.1; H.12: 1.8, 9; J.10.a)**

Locations: State FRMT 1, Russellville; State FRMT 2, Russellville

- EOP:
1. State FRMTs will follow the ALARA Policy of the Arkansas Department of Health. Teams will not routinely traverse a plume. State Teams will define the edge of the plume. Air samples will be taken in areas reading near 20 mR/hr or as directed.
  2. Air samples will not be transported. This process may be demonstrated by interview.

3. Air samplers will not be purged.
4. FRMTs may be asked to describe all procedures not demonstrated.
5. Charcoal canisters will be used instead of Silver Zeolite. Silver Zeolite canisters will be available for evaluator review.
6. Sealed kits do not have to be inventoried. However, FRMTs can inventory them if they want.
7. Two teams will be deployed to the field.
8. State FRMTs will use gloves as necessary. Access to "anti-C's" will be demonstrated; however, they will not be worn. Respiratory protection will NOT be used.
9. 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.

Level 2 Findings: None

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#### **Sub-element 4.b Post Plume Phase Field Measurements and Sampling**

***Criterion 4.b.1: The field teams (2 or more) demonstrates the capability to make appropriate measurements and to collect appropriate samples (e.g. food crops, milk, water, vegetation and soil) to support adequate assessments and protective action decision making. (NUREG-0654/FEMA-REP-1, C.1.8, J.11)***

Locations: State RMFT 1, State RFMT 2.

- EOP:
1. Charcoal cartridges will be used instead of silver zeolite.
  2. Samples will not be transported. This process may be demonstrated by interview.
  3. 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.

Level 2 Findings: None

## EVALUATION AREA 5

### Emergency Notification and Public Information

#### Sub-element 5.a - Activation of the Prompt Alert and Notification System INTENT

This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to provide prompt instructions to the public within the plume exposure pathway EPZ. Specific provisions addressed in this Sub-element are derived from the Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants. FEMA-REP-10 (November 1985).

*Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by current REP guidance. (NUREG-0654/FEMA-REP-1, E.5, 6, 7)*

Locations: SEOF, Russellville; Station KXRJ, Russellville; National Weather Service, North Little Rock.

1. Alerting is accomplished by the activation of the siren system and the tone on the

EOP:

1. NOAA radio. The notification will be demonstrated by the simulated broadcast of the message on NOAA radio and simulated, remote takeover of KXRJ's transmitter and the re-broadcast of the NOAA message.
2. The activation of the siren system will be demonstrated at the SEOF.
  - a. Emergency Messages will be completed by the Local Government Liaison and Provided for broadcast.
3. When the first PAD is issued requiring activation of the ANS:
  - a. The activation of the siren system will be demonstrated at the SEOF (simulated).
  - b. Emergency messages will be completed by the LGL and provided to NOAA for broadcast.
4. No sirens will be sounded, and local radio messages and NOAA Messages will NOT BE BROADCAST. While siren activation will be simulated, the procedures will be demonstrated up to the point of actual activation. In Arkansas, the County Judge is the decision maker for protective actions. The TOCD only recommends actions. Since the State does the "alert and **notification**",



the State must wait until the final Judge makes a decision to agree with the recommendation before the "alert and notification" begins.

5. Local radio message simulation will be demonstrated at radio station KXRJ in Russellville. A site visit may be made to check equipment. The remote takeover of the KXRJ will be simulated at the SEOF.
6. NOAA message simulation will be demonstrated at the National Weather Service Forecast Office, North Little Rock. Any real emergency will take precedence. Procedures to broadcast the message will be demonstrated virtually as they would in an actual emergency up to the point of transmission. Broadcast of the message(s) or test messages is not required.
7. Route Alerting is not a Primary ANS method and will not be demonstrated in the Exercise.

Level 2 Findings: None

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#### **Sub-element 5.b- Emergency Information and Instructions for the Public and the Media.**

***Criterion 5.b.1: OROs provide accurate emergency information and instructions for the public and the media in a timely manner. (NUREG-0654/FEMA-REP-1, E.5, 7; G.3.a, G.4.a, c)***

#### **INTENT**

**This Sub-element is derived from NUREG-0654/FEMA-REP-1, which requires that OROs have the capability to disseminate appropriate emergency information and instructions, including any recommended protective actions, to the public. In addition, NUREG-0654/FEMA-REP-1 requires OROs to ensure that the capability exists for providing information to the media. This includes the availability of a physical location for use by the media during an emergency. NUREG-0654/FEMA-REP-1 also provides that a system must be available for dealing with rumors. This system is hereafter known as the public inquiry hotline.**

Locations: ADH/ Emergency News Center, Russellville; Joint Information Center, Morrilton.

- EOP:
1. Media kits will be provided by Entergy at the JIC.
  2. Rumor Control activity is staffed by ANO employees IAW Entergy plans and procedures.

3. County personnel will not be at the JIC.
4. State News Release will be developed by the Public Information Team at the SEOF and transmitted to the JIC Team. No actual News Releases will be actually disseminated.

Level 2 Findings: Issue Number: 01-21-5b1-L2-01 Issue Number: 01-21-5b1-L2-02 Issue Number: 01-21-5b1-L2-03

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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 provides that Off-site Response Organizations (ORO) have the capability to implement radiological monitoring and decontamination of evacuees, while minimizing contamination of the facility. ORO's must also have the capability to identify and register evacuees at the 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 Reception Center (RC); Date to be Determined; Clarksville RC; Date to be Determined.

1. One portal monitor and one decon area will 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. (Dates to be Determined)
4. Sealed lockers will not be opened unless necessary.
5. Twenty percent of the expected population at the Hector RC is 1,902. In order to monitor this number in 12 hours, 159 people per hour must be monitored. Twenty percent of the expected population at the Clarksville RC is 433. In order to monitor this number in 12 hours, 36 people per hour must be monitored.

6. Alternate locations for vehicle Decon may be required because of school activities. Interior of vehicles will not be monitored or decontaminated.
7. This EA will be demonstrated out-of-sequence. (Dates to be Determined)
8. Sealed lockers will not be opened unless necessary.
9. Twenty percent of the expected population at the Hector RC is 1,902. In order to monitor this number in 12 hours, 159 people per hour must be monitored. Twenty percent of the expected population at the Clarksville RC 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 1 portal monitor, since only 1/3 of the required needed to monitor 20 percent is require for demonstration only one monitor will be set up. The minimum of 6 people will be monitored.

10. Personnel supporting the RC will be alerted and notified at approximately (to be determined). The controllers will call the County Warning Points to start the notification.
11. 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.
12. IAW plans, ADH staff will be available at centers to provide technical assistance.
13. 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.

Level 2 Findings:     None

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

##### **INTENT**

**This sub-element is derived from from NUREG-0654/FEMA-REP-1, which requires OROs to have the capability to establish relocation centers in host area/support jurisdictions. The American Red Cross (ARC) 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 R.C.; Clarksville R.C.

EOP:

1. The RC shelter manager or designee will be interview 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.
3. Food Services Staff and nurses maybe interviewed.

Level 2 Findings: None

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