



Arkansas Nuclear One

After Action Report/ Improvement Plan Exercise Date – March 23-24, 2021

Radiological Emergency Preparedness (REP) Program



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Arkansas Nuclear One

After Action Report/Improvement Plan

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EXECUTIVE SUMMARY

On March 23-24, 2021 a biennial Radiological Emergency Preparedness (REP) virtual exercise consisting of both the Plume Exposure Pathway, 10-mile Emergency Planning Zone (EPZ) and 50-mile Ingestion Pathway Emergency Planning Zone (IPZ) 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 1, 3, 6, 7, 9 and Headquarters, and ICF Contract personnel evaluated the exercise. Region 6 staff evaluated (virtual) fifty Out-of-Sequence (OOS) criteria, pre and post-exercise, in support of the State of Arkansas health and safety guidance during the COVID-19 global public health emergency. 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 July 17, 2018. The first qualifying emergency preparedness exercise was conducted on October 1, 1980. There have been twenty-five evaluated exercises, including the exercise on March 23-24, 2021 plus numerous drills conducted since 1980.

DHS/FEMA Region 6 wishes to acknowledge the efforts of the many individuals in the State of Arkansas, Pope, Yell, Logan, Johnson, Perry, and Conway 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 no Level 1 Finding or Plan Issues identified. There were three Level 2 Findings identified during the exercise which were not corrected, see Appendix A, Improvement Plan.

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name

Arkansas Nuclear One

Type of Exercise

Ingestion

Exercise Date

March 23-24, 2021

Program

Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type

Radiological Emergency

1.2 Exercise Planning Team Leadership

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1.3 Participating Organizations

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

State Jurisdictions

- Arkansas Department of Agriculture
- Arkansas Department of Emergency Management
- Arkansas Department of Health
- Arkansas Department of Health, Emergency Communications Center
- Arkansas Department of Health Water Division
- Arkansas Department of Public Health Laboratory

Risk Jurisdictions

- Crow Mountain Fire Department
- Dardanelle School District
- Johnson County Judge
- Johnson County Office of Emergency Management
- Johnson County Sheriff's Office
- Logan County Office of Emergency Management
- Logan County Sheriff's Office
- Logan County 911
- Nuclear Planning & Response Program
- Pope County 911
- Pope County Emergency Medical Services
- Pope County Health Department
- Pope County Judge
- Pope County Office of Emergency Management
- Pope County Sheriff's Office
- Rural Fire Services
- Russellville School District
- Russellville Mayor
- Russellville Police Department
- Yell County Judge
- Yell County Office of Emergency Management

Support Jurisdictions

Conway County

Perry County

Private Organizations

Arkansas Nuclear One

Entergy Corporation Inc.

KXRJ Emergency News Center (ENS) Radio Station

Federal Jurisdictions

U.S. Department of Energy (DOE)

DOE Radiological Assistance Program (RAP) Region 2

Federal Radiological Monitoring and Assessment Center

U.S. Department of Agriculture

U.S. Environmental Protection Agency

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 March 23-24, 2021 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 and 50-mile Ingestion Pathway Emergency Planning Zone surrounding Arkansas Nuclear One (ANO). The exercise scenario provided for the evaluation of the Arkansas Department of Emergency Management (ADEM), Arkansas Department of Health (ADH), Johnson, Logan, Pope, Yell, Perry and Conway Counties, and Local Emergency Services to manage emergency operations, provide and implement protective action decisions, provide field measurement and analysis, alert and notify the public, and implement re-entry/return/relocation/re-occupancy capabilities.

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) and 50-mile Ingestion EPZ surrounding ANO.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in the exercise evaluation areas as outlined in the REP Program Manual, dated January 2016. 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: 2021-03-23/24 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/SEOFLTR	AR FRMT 1	AR FRMT 2	ADH ENC	JIC Morrilton	Johnson County	Logan County	
Emergency Operations Management											
Mobilization	1a1	M	M	M				M	M	M	
Facilities	1b1			M				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					M	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	M		M							
Ingestion Strategies and Information	3e2	M		M							
Imp. of RRR Decisions	3f1	M		M					M	M	
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						M				
Backup Alert & Notification	5a3										
Exception Area Alerting	5a4										
Subsequent Public Information – Plume Day	5b1					2	2				
Subsequent Public Information – Ingestion Day	5b1					2					
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)

DATE: 2021-03-23/24 SITE: Arkansas Nuclear One, AR M: Met, 1: Level 1 Finding, 2: Level 2 Finding, P: Plan Issue, and N: Not Demonstrated			Pope County	Yell County	KXRJ EAS Station	ADH Laboratory	Dardanelle Sch.	Russellville Sch.
Emergency Operations Management								
Mobilization	1a1	M	M					
Facilities	1b1	M	M					
Direction and Control	1c1	M	M					
Communications Equipment	1d1	M	M					
Equipment and Supplies	1e1	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	M	M					
Protective Action Implementation								
EW Exp. Control Implementation	3a1	M	M		M			
KI Public/Institutionalized	3b1	M	M					
PAD Imp. Disabled/Functional Needs	3c1	M	M					
PAD Imp. Schools	3c2						M	M
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	M	M					
Field Measurement and Analysis								
RESERVED	4a1							
Field Team Management	4a2							
Field Team Operations	4a3							
Field Team Sampling	4b1							
Laboratory Operations	4c1				M			
Emergency Notification and Public Info								
Initial Alert & Notification	5a1			M				
Backup Alert & Notification	5a3	M						
Exception Area Alerting	5a4							
Subsequent Public Information	5b1							
Support Operations/Facilities								
Reception Center Operations	6a1							
EW Monitoring & Decontamination	6b1							
Congregate Care	6c1							
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

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, 3.e.1, 3.e.2, and 3.f.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

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

3.3.1.3 Arkansas Department of Health Alternate State Emergency Operations Facility in Little Rock

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, 2.e.1, 3.a.1, 3.e.1., 3.e.2, 3.f.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

3.3.1.4 Arkansas Field Radiological Monitoring Team One

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

3.3.1.5 Arkansas Field Radiological Monitoring Team Two

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, 4.a.3, and 4.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 - UNRESOLVED: None

3.3.1.6 Joint Information Center, Morrilton

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

- a. MET: 1.a.1, 1.b.1, 1.d.1, and 1.e.1.
- b. LEVEL 1 FINDING: None
- c. **LEVEL 2 FINDING: 01-21-5b1-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.

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

3.3.1.7 Arkansas Department of Public Health Laboratory

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

- a. MET: 1.e.1, 3.a.1, and 4.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

3.3.2 Risk Jurisdictions

3.3.2.1 Johnson County Emergency Operations Center and Traffic/Access Control Point

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.2, 2.c.1, 2.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2, and 3.f.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

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

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.2, 2.c.1, 2.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2, and 3.f.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

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

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.2, 2.c.1, 2.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2, 3.f.1., and 5.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

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

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.2, 2.c.1, 2.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2, and 3.f.1.
- 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, Russellville

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: 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.

LEVEL 2 FINDING: 01-21-5b1-L2-03

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.

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, 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.

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

- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.6 Dardanelle School District

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

- a. MET: 3.c.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

3.3.2.7 Russellville School District

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

- h. MET: 3.c.2.
- i. LEVEL 1 FINDING: None
- j. LEVEL 2 FINDING: None
- k. PLAN ISSUES: None
- l. NOT DEMONSTRATED: None
- m. PRIOR ISSUES - RESOLVED: None
- n. PRIOR ISSUES - UNRESOLVED: None

3.3.3 Private Organizations

3.3.3.1 ENS Radio Station KXRJ

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

- o. MET: 5.a.1.
- p. LEVEL 1 FINDING: None
- q. LEVEL 2 FINDING: None
- r. PLAN ISSUES: None
- s. NOT DEMONSTRATED: None
- t. PRIOR ISSUES - RESOLVED: None
- u. 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

ISSUE NUMBER: 01-21-5b1-L2-01	
Criterion: 5b1	
<p>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.</p> <p>The JIC PIOs confirmed receiving only Media Release #01(Unusual Event) and #04 (School Evacuations) through post-exercise interviews and fact-finding efforts.</p> <p>The following media releases were processed and not received at the JIC during the exercise:</p> <p>Media Release #02 Alert, Emergency Operations Centers activated, approved 0932</p> <p>Media Release #03 Livestock Agricultural Advisory for stored feed and water, approved at 1003</p> <p>Media Release #05 GE, Traffic Accident, approved at 1123</p> <p>Media Release #06 GE, Road Detour, approved at 1147</p> <p>Media Release #07 GE Evacuation Zones was finalized and not approved due to Exercise Termination.</p> <p>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.</p>	
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.	
CORRECTIVE ACTION DESCRIPTION: ADH will work with the JIC personnel to update the JIC's procedures (ADH ER-06 Series & ARCEMP Annex V, Ch. 6) to include streamlining the approval and distribution process, validation of delivery and receipt. Training will also be conducted for the Public Information Team and JIC staff.	
	PRIMARY RESPONSIBLE AGENCY: ADH
	START DATE: March 30, 2021
AGENCY POC: Chris Meyer, ADH	ESTIMATED COMPLETION DATE: November 30, 2021

ISSUE NUMBER: 01-21-5b1-L2-02

Criterion: 5b1

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.

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.

CORRECTIVE ACTION DESCRIPTION: ADH will work with ANO, and JIC personnel to update the JIC's procedures as applicable (ADH ER-06 Series & ARCEMP Annex V, Ch 6) to include back-up methods of communications for message distribution. Training will also be conducted for the Public Information Team and JIC staff.

	PRIMARY RESPONSIBLE AGENCY: ADH
	START DATE: March 30, 2021
AGENCY POC: Chris Meyer, ADH	ESTIMATED COMPLETION DATE: November 30, 2021

ISSUE NUMBER: 01-21-5b1-L2-03	
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: November 30, 2021

APPENDIX B: EXERCISE TIMELINE

Table 1 - Exercise Timeline DATE: 2021-03-23,
SITE: Arkansas Nuclear One, AR

Timeline Date & Site: ANO - Mar. 23, 2021											
Emergency Classification Level or Event	Time Declared by Utility	Time That Notification Was Received or Action Was Taken									
		ADEM, Little Rock	ADH/SEOF-Alt, Little Rock	KXRJ EAS Station	ADH/ENC Alt Russellville	POPE CO EOC	JOHNSON CO EOC	LOGAN CO EOC	YELL CO EOC	NEW JIC Morrilton	
Unusual Event (UE)	0749	0800	0810		0817	0801	0758	0758	0813	0759	
Alert	0821	0835	0846		0832	0833	0823	0839	0840	0838	
Site Area Emergency (SAE)	0926	0942	0943		0939	0939	0939	0948	0942	0939	
General Emergency (GE)	1022	1036	1042		1033	1036	1034	1028	1037	1034	
Rad. Release Started	1022	1036	0943		1001	1010	0901	1028	0840		
Rad. Release Terminated											
Facility Declared Operational		0920	0800		0700	0852	0830	0846	0857	0925	
Declaration of State of Emergency					0939	1116	1045	0846	1042		
Exercise Terminated		1230	1130		1205	1130		1134	1134		
Early Precautionary Action Decisions:	Siren/Notification Type and Time:										
Bus drivers placed on standby			0817		0825		0839		0833		
#1 PAA #1 Notification/Evac of schools			0854		0908	0939	0919	0924			
#2 PAA #2 Reception Center notifications								0924	0930		
#3 PAA #3 KI & Anti-C for Ews/0917					0929						
#4 PAA #4 Ag Advisory/Milk & Poultry/0926	0951/0953		0926		0930	0948	0944	0940	0947		
#5 FAA No Fly over County & RR traffic						1026					
#6											
Protective Action Decisions (PADs):	Time of Siren Activation:										
#1 PAA #5 Evac Zones G, H, I, J, K, N, R, S, T, & U; L & M, others stay at home. PAD decision @ 1004.	1027/1030		1004		1030	1015		1024	1025		
#2											
#3											
#4											
EAS Messages and Times:	EAS Message Description:										
#1 PAA #4 Animals on stored Feed/Water and					0953						
#2 PAA #5 Evac Zones G,H,I,J,K,N,O,R,S,T & U and All Others stay indoors.and Time:					1030						
#3 Msg #: _____ and Time:											
#r Msg #: _____ and Time:											
KI Administration Decision			0917		0917	0930	0931	0932	0931		

Table presents the times at which key events and activities occurred during the ANO Plume Exercise held on March 23, 2021.

APPENDIX C: EXERCISE EVALUATORS AND TEAM LEADERS

DATE: 2021-03-23/24, SITE: Arkansas Nuclear One, AR

LOCATION	EVALUATOR	AGENCY
Arkansas State Emergency Operations Center	Rebecca Thomson*	ICF
Arkansas Department of Health, Little Rock Emergency Communications Center (ECC)	Elsa Lopez*	FEMA R6
Arkansas Department of Health at the State Emergency Operations Facility, Little Rock, AR	Tim Pflieger* Jeff Clark	FEMA R6 FEMA R7
Arkansas Field Radiological Monitoring Team One	Nickolas Buls	FEMA R3
Arkansas Field Radiological Monitoring Team Two	Tim Pflieger* Brad DeKorte	FEMA R6 FEMA R6
Arkansas Nuclear One Emergency News Center (ENC) Russellville	Barbara Thomas* Bill McDougall	FEMA R1 ICF
Joint Information Center Morrilton (New Location)	Tom Hegele*	ICF
Johnson County Emergency Operations Center and Traffic/Access Control Point	John Rice* Gregory Voss Bill McDougall	FEMA R1 FEMA R7 ICF
Logan County Emergency Operations Center and Traffic/Access Control Point	Linda Gee* Matt Celia	FEMA R6 FEMA HQ
Pope County Emergency Operations Center and Traffic/Access Control Point	Brad DeKorte* Darren Bates Brian Ellis	FEMA R6 FEMA HQ FEMA R6
Yell County Emergency Operations Center and Traffic/Access Control Point	Alberto Sifuentes* Bruce Swiren Sam Williams	FEMA R9 ICF FEMA R6
ENS Radio Station KXRJ	Brad DeKorte*	FEMA R6
Out-of-Sequence – Various Locations (Pre/Post Exercise)	THD/REP Staff	FEMA R6
* Team Leader		

APPENDIX D: Acronyms & Abbreviations

Acronym	Meaning
ADEM	Arkansas Department of Emergency Management
ADH	Arkansas Department of Health
ANO	Arkansas Nuclear One
ARCC	Arkansas Response Coordination Center
AWIN	Arkansas Wireless Information Network
DCF	Dose Conversion Factor
DHS/FEMA	Department of Homeland Security/Federal Emergency Management Agency
DEF/VS	Dedicated Emergency Facsimile/Voice System
DRD	Direct Reading Dosimeter
EAL	Emergency Action Levels
EAS	Emergency Alert System
ECC	Emergency Communications Center
ECL	Emergency Classification Level
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
EPA	Environmental Protection Agency
EPD	Electronic Personal Dosimeter
EPZ	Emergency Planning Zone
ESF	Emergency Support Function
EW	Emergency Worker
FMT	Field Monitoring Team
FRMAC	Federal Radiological Monitoring and Assessment Center
FTC	Field Team Control
FTL	Field Team Lead
GE	General Emergency
HAM	Handheld Amateur Radios
HP	Health Physicist
KI	Potassium Iodide
LGL	Local Government Liaison
NOAA	National Oceanic and Atmospheric Administration
NERN	Nuclear Emergency Radio Network

Acronym	Meaning
NP&RP	Nuclear Planning and Response Program
OEM	Office of Emergency Management
ORO	Offsite Response Organization
OSL	Optically Stimulated Luminescent
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
RASCAL	Radiological Assessment Systems for Consequence Analysis
REP	Radiological Emergency Preparedness
RO	Radiological Officer
RRTL	Radiological Response Team Leader
SAE	Site Area Emergency
SEOC	State Emergency Operation Center
SEOF	State Emergency Operations Facility
TACP	Traffic and Access Control Point
TCP	Traffic Control Point
TEDE	Total Effective Dose Equivalent
TLD	Thermoluminescent Dosimeter
TOCD	Technical Operations Control Director
URI	Unified RASCAL Interface
USPS	United States Postal Service
VHF	Very High Frequency
WO	Watch Officer

APPENDIX E: EXERCISE PLAN



Arkansas Extent of Play Agreement, Revised.

Including Virtual and Out of Sequence Events

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 March 23 and 24, 2021.

Summary and Special Conditions

IMPORTANT NOTICE:

Since we cannot predict the status of the COVID-19 global pandemic at exercise time, the State is requesting the alternative measures for the evaluation of activities in confined space areas, including county EOCs, be considered. Options include virtual attendance or demonstration by interview.

Additionally, 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.

Due to the extenuating circumstances posed by the worldwide COVID-19 pandemic, social distancing, and other remedial practices, may inhibit the normal demonstration of certain exercise activities.

Additionally, given the uncertainty of the pandemic trajectory, the normal use of some facilities could be impacted. We will, at all times, follow the directives of the Governor of Arkansas and/or the Arkansas Secretary of Health in determining the appropriate course of action.

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.

Following the original submission of this agreement, the State elected to request a "virtual" exercise and evaluation. That request was granted, therefore, Addendum 1 to this document supersedes all demonstration timelines and methods otherwise established. This addendum is subject to additional changes and updated times and dates.

Exercise Overview:

The Full Participation Exercise in support of Arkansas Nuclear One (ANO) will be a two-day exercise spanning Tuesday March 23, 2021 and Wednesday March 24, 2021.

The Exercise, originally scheduled for September, 2020, was rescheduled through agreement with FEMA and the NRC, due to COVID-19.

As previously discussed, the State subsequently was given permission for a "Virtual" exercise due to continued uncertainty brought about by the continuing pandemic.

The organization of the exercise is as follows:

Tuesday	March 23	Part I	Plume Phase
Wednesday	March 24	Part II	Ingestion, Relocation, Reentry, Return

Due to the need for conducting much of the exercise evaluation virtually to avoid spread of COVID-19, we have identified exercise elements which will be demonstrated via other options, including out-of-sequence play to facilitate remote monitoring of activities or audio or video interview. (See Addendum 1)

Part I (Plume Phase):

The exercise will begin at approximately 7:00 a.m. (CST). At approximately 7:50 a.m., the utility will declare a Notification of Unusual Event. The emergency will progress to a General Emergency at approximately 10:25 a.m.

At approximately 12:30 p.m., Part I (Plume Phase) will end.

BREAK IN PLAY:

At the conclusion of the Plume Phase, play will halt for the day and the exercise clock will be reset to reflect the passage of time sufficient for initial environmental samples to have been collected and analyzed, giving direction to Part II of the exercise in addition to the FRMAC Advance Team Briefing.

Part II (Ingestion, Relocation, Reentry and Return):

Part II (Day 2) of the exercise will resume at 7:00 a.m. Wednesday, March 24, 2021. Deposition maps and other material developed by FRMAC will be in place for the start of Part II play and will serve as the basis for consideration of the completeness of protective actions taken during Part I. Actions to modify, relax, or enhance protective actions will be addressed during this phase.

Activities will be demonstrated at the Alternate State Emergency Operations Facility (ASEOF ADH UR), Arkansas Nuclear Planning (ANP Russellville), County Emergency Operation Centers in Conway, Johnson, Logan, Pope and Yell Counties and the Perry County IPZ Command Post (CP). Remote sights may be incorporated for conference call participation to comply with COVID-19 guidance, including the State EOC and the Arkansas Department of Agriculture (UR).

Field team and lab operations will be demonstrated out-of-sequence in virtual demonstration(s), as noted in the latest version of Addendum 1.

For Ingestion Pathway activities, all responsible state agencies and affected counties will participate on a conference call with the state Technical Operations Control Director (TOCO) at ADH/LR to assess the extent of radiological contamination and to formulate mitigation measures.

Special Considerations and Simulations:

Department of Health personnel will pre-deploy at the appropriate locations prior to the start of exercise Part 1 and Part 2.

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. Due to COVID-19 Guidance, no showering or other "close proximity" decontamination activities will be demonstrated. These may be demonstrated via interview.

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 virtually.

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

Activation of the Alert and Notification System will be simulated. Procedures may be demonstrated virtually.

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" files and/or agricultural product files that contain personal information.

Relocation may be demonstrated in an area within one of the risk counties which was not initially evacuated. No environmental samples will be transported to the lab. Procedures will be demonstrated by interview, out of sequence.

Activation of the Alert and Notification System will be simulated. Procedures will be demonstrated by interview.

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

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-0654 / 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 Communications center (ECC), Little Rock; ADH State Emergency Operations Facility (SEOF), Pope County EOC, Russellville; Johnson County EOC, Clarksville; Logan County EOC, Paris; Yell County EOC, Danville; ADH/ENC NP&RP, 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. (For Exercise P.2, ADH will notify affected non EPZ counties in accordance with plans.)
 2. The FRMTs pre-deployed to a site which will allow for virtual demonstration of activities. (out of sequence)
FRMTs will be directed from Field Team Control.
 3. ADH, Little Rock will staff at an alternate location in the ADH Central Office (SAEOF) and from the JIC (Morrilton), during Day-1.

4. 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.
5. Protocols for requesting Federal Support will be demonstrated through interview at the ADH ASEOF.
6. The following locations will pre-stage:
 - a. Radiological Response Teams.
 - b. JIC (Morrilton).
7. Mobilization will not be demonstrated for Exercise Part 2.

ARCA: NONE

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 (Emergency News Center) Morrilton (Demonstrated Out of Sequence)

ARCA: None

Sub-element 1.c - Direction and Control

INTENT
This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) have the capability to control their overall response to an emergency. Locations: State EOC ADEM, Camp Robinson; ADH ASEOF, Little Rock; Pope County EOC, Russellville; Johnson County EOC, Clarksville; Logan County EOC, Paris; Yell County EOC, Danville;

ARCA: 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. (County EOC's will demonstrate this element out of sequence, See Addendum 1)
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. (County EOC's will demonstrate this element out of sequence, See Addendum 1)
ARCA:	None

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 FRMT2..

- EOP:
1. ADH Russellville will be evaluated at the ANP Office.(Exercise Part 1)
 2. ADH Little Rock will only be evaluated at the ECC and the ASCOF.
 3. Meters or DRDs that have "bar code" labels can have their calibration and quarterly operational check dates verified with the master database maintained by the NP&RP HP. Operational checks of meters will be performed before use, using range of readings stickers on the 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' 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.

ARCA: 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 ASEOF, UR; Pope County EOC, Russellville; Johnson County EOC, Clarksville; Logan County EOC, Paris; Yell County EOC, Danville.

- EOP:
1. Exposure control and monitoring will be under the control of ANP.
 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 11 anti-C's¹¹. 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. (Out of Sequence)
 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 exposed to radiation.
 4. The State of Arkansas may not consider the termination of Emergency Worker exposure control to be at the end of the "plume phase".

ARCA: 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 onsite and offsite environmental conditions. (NUREG-0654/FEMA-REP-1, 1.10 and Supplement 3)

Locations: ADH ASEOF, UR.

EOP:

1. Dose Projections will be made per procedures using a combination of RASCAL and RDACS. RASCAL will be the primary model used to make projections based on "plant conditions". Once RDACS outputs are determined to adequately represent the plume, it will be used as the primary model.
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)*

ARCA: None

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 become 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.

ARCA: None

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:
- 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 the systems/districts are not in session, the EOCs will provide evaluators the contact information for the schools and will satisfy this criterion via interview.

ARCA: None

Sub-element 2.d. Radiological Assessment and Decision Making for the Ingestion Exposure Pathway (Exercise Part 2 only).

Criterion 2.d.1: Radiological consequences for ingestion pathway are assessed and appropriate action decisions are made based on the ORO's planning criteria.

(NUREG-0654/FEMA REP-1, A.3; C.1, 4; D.4; J.9, 11)

Locations: ASEOF, LR

1. No areas outside the 50-mile Ingestion Pathway Zone will be considered.
2. This activity will be conducted via an enhanced tabletop exercise through use of conference calls and/or virtual platform with the state and impacted counties.

EOP:

ARCA:None

Sub-element 2.e Radiological Assessment and Decision Making Concerning Post-Plume Phase Relocation, Reentry and Return (Exercise Part 2).

Criterion 2.e.1: Timely post-plume phase relocation, reentry, and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the ORO's plan and/or procedures. (NUREG06S4/FEMA-REP-1, L.1 O; J.9; K.3.a:M.1)

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

EOP:

1. OROs will not consider any areas outside the 50-mile Ingestion Pathway Zone.
2. This will be demonstrated during Exercise Part 2 and will include an exercise time jump.

ARCA:None

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 AL 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: ASEOF, UR; 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.

EOP

1. Exposure control and monitoring will be under the control of ANO at the EOF.
2. Dosimetry will be available to deploying personnel when appropriate.
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 FRMT 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. (Will be Demonstrated Out of Sequence)
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 interview.

The State of Arkansas may not consider the termination of Emergency Worker exposure control to be at the end of the “plume phase”.

The listing of EWs who 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.

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.

ARCA: None

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: KI and appropriate instructions are available if a decision to recommend use of KI is made. Appropriate record-keeping of the administration of KI 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 KI only to EWs and institutionalized individuals and their care takers. KI is not issued to the general public.

2. If the scenario does not require a KI decision, the County EOCs can satisfy this by interview.
3. Use of KI by EWs will be simulated.
4. Correction on the spot will be considered at these locations at the discretion of and concurrence between the evaluator and the controller. Caution should be exercised to ensure that exercise play is not.

2

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ARCA: None

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: EOP:

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.

ARCA: None

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

Location: Dardanelle School District; Russellville School District.

- EOP:
1. The EA will be demonstrated out-of-sequence on January 29, 2021. 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 via a virtual platform.
 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.

ARCA: None

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.

ARCA: None

Sub-element 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.

EOP: 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 ENC. The LGL will not transmit the PNM but will explain the distribution. The ENC 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.

ARCA: None

Sub-element 3.e. Implementation of Ingestion Pathway Decisions

Criterion 3.e.1: The ORO demonstrates the availability and appropriate use of adequate information regarding water, food, supplies, milk and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of protective actions. NUREG-0654/FEMA-REP-1, A.e; C., 4; J.11)

Locations: ASEOF, Little Rock; ADEM, Camp Robinson; Pope County EOC, Russellville; Logan County EOC, Paris; Yell County EOC, Danville; Johnson County EOC, Clarksville; Morrilton.

EOP This activity will be conducted via an enhanced tabletop exercise during ExercisePart 2 through use of conference calls with the state and impacted counties. OROs will not consider any area outside the 50-mile IPZ.

ARCA: None

EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION

Sub-element 3.e. – Implementation of Ingestion Pathway Decisions

Criterion 3.e.2: Appropriate measures, strategies, and pre-printed instructional material are developed for implementing protective action decisions for contaminated water, food products, milk, and agricultural production.

(NUREG-0654/ FEMA-REP-1, G.1, J.9, 11)

Locations: ASEOF, Little Rock; State EOC ADEM

Extent of Play: Criterion will be demonstrated on Day 2 of exercise, March 24, 2021.

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 insure that exercise play is not interrupted.

ARCA/Level 2 Finding: None

Sub-element 3.f. Implementtion 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: ASEOF, UR; ADEM, Camp Robinson; Pope County EOC, Russellville; Logan County EOC, Paris; Yell County EOC, Danville; Johnson County EOC, Clarksville; (Exercise Part 2 only).

EOP: No areas outside the 50-mile IPZ will be considered.

This will be conducted as an enhanced tabletop exercise during Exercise Part

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: ASEOF, LR

- EOP:
1. State FMTs will follow the ALARA Policy of the Arkansas Department of Health. Teams will not routinely traverse a plume. Air samples will be taken in areas reading near 20 mR/hr or as directed.
 2. Due to social distancing concerns, this will be demonstrated virtually.
 3. Air samples will not be transported. The team member will discuss the process for transferring samples.
 4. Correction on the spot will be considered at these locations at the discretion of and concurrence between the evaluator and the controller. Caution should be exercised to ensure that exercises play is not interrupted.

ARCA: None

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 (Virtual).
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.

ARCA:

None

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. (This will be demonstrated during Exercise Part 2)

- EOP:
1. Social Distancing concerns addressed above will be in place. Charcoal cartridges will be used instead of silver zeolite.
 2. Samples will not be transported. This process may be demonstrated by interview.₃
.
Sample locations may be simulated.
₄
Correction-on-the-spot will be considered at these locations at the discretion of and concurrence between the evaluator and the controller.
 5. Caution should be exercised to ensure that exercise play is not interrupted.

ARCA: None

Sub-element 4.c Laboratory Operations

Criterion 4.c.1: The laboratory is capable of performing required radiological analyses to support protective action decisions. (NUREG-0654/FEMA-REP-1, C.1.3; j.11)

Location ADH Public Health Lab, Little Rock.

EOP: This will be demonstrated out of sequence. (See Addendum 1).

1. Samples will not be transported; however, preparation of samples maybe demonstrated by interview.
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.

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: ANP, Russellville; Station KXRJ, Russellville.

- EOP:
1. The EAS is not used for ANO alert and notification. The alerting is accomplished by the activation of the siren system and the tone on the 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 ANP office.
 - a. Emergency Messages will be complete 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 ANP offices.
 - 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. *Siren activation will be simulated. However, 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 will be made to check equipment. The remote takeover of the KXRJ will be simulated at the ANP office.
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.

Route Alerting is not a Primary ANS method. Pope County will demonstrate the ability to perform Route Alerting.

ARCA: None

Sub-element 5.a Emergency Alert Notification

Criterion 5.a.3: Backup alert and notification of the public is completed within a reasonable time following the detection by the ORO of a failure of the primary alert and notification system. (NUREG-0654/FEMA-REP-1, E.6; Appendix 3.B.2.c)

Location: Pope County, Crow Mt. Fire Dept.

- EOP:
1. One route will be selected for a virtual demonstration, on a date to be determined, in coordination with FEMA. The alert and notification will be read but not broadcasted.
 2. Actual testing of the system and alert and notification activities will be conducted on March 23, 2021 on Day 1 portion of the exercise.

ARCA: None

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. The JIC will pre-stage at approximately 7:00 a.m.
 4. County representation at the JIC will be virtual. County personnel will not be at the JIC.
 5. State News Release will be written by the Public Information Team at the ANP office.

ARCA: None

Addendum 1 **Arkansas EOP**

The purpose of this addendum to the Arkansas EOP is to allow for the orderly demonstration of various exercise elements in a manner that will support a "virtual" demonstration to accommodate CODIV-19 restrictions.

This Addendum identifies elements of the exercise which will be performed "Out-of-Sequence" from the outlined exercise timeline. In addition, there is a listing of events which will be performed "In-Sequence".

Video and audio demonstration or demonstration by interview will be accomplished by a variety of remote methods, including Zoom video and audio conferencing, video streams and audio only conferences.

Further verification of capabilities may be conducted through documentation, including inventories, procedures, checklist, and call-down rosters.

As noted, in the following attachments, the exact dates and times for some activities are pending. These schedules will be negotiated with FEMA Region 6.

These Out-of-Sequence events include:

Pope County Route Alerting (Crow Mt. Fire Department)

*Individual Demonstrations include, Portal Frame operation, Vehicle Monitoring, Decontamination, and registration, Food and temporary housing, and facility management.

Addendum 1 - Attachment 1
Arkansas Nuclear One – Out-of-Sequence Assessments
Various Dates (Last Update: 05/06/2021)

Date	LOCATION	Virtual Meeting Info.	EVALUATION AREAS	Evaluator
1/25/2021	Logan County-1400/Completed Johnson Co. -1000/Completed	Zoom Zoom	3a1-RO Briefing 3a1-RO Briefing	R6 REP Staff
1/28/2021	Pope County-1300/Completed Yell County-1000/Completed	Zoom Zoom	3a1-RO Briefing 3a1-RO Briefing	R6 REP Staff
1/29/2021	Dardanelle School District-1000 Completed both Schools	Zoom	3c2-Trans & Superintendent	R6 REP Staff
1/29/2021	Russellville School District-1000	Zoom	3c2-Trans/Principal	
2/01/2021	KXRJ-10:00 am - Completed	Zoom	5a1	R6 REP Staff
2/08/2021 Completed	ADH Lab Tour-10:00 am	Zoom	Virtual Walk Through	M. Howe R6 REP Staff
4/26/2021 Completed	ADH Lab-0900	Zoom	1e1, 3a1, 4c1	M. Howe R6 REP Staff
2/24/2021 2/23/2021	Logan Co. EOC – 1000 Johnson Co. EOC – 1500 Completed both Counties	Zoom Zoom	1a1, 1b1, 1d1, 1e1 1a1, 1b1, 1d1, 1e1	R6 REP Staff
2/23/2021 2/23/2021	Pope Co. EOC - 1100 Yell Co. EOC – 1500 Completed both Counties	Zoom Zoom	1a1, 1b1, 1d1, 1e1 1a1, 1b1, 1d1, 1e1	R6 REP Staff
3/09/2021 Completed	ADEM SEOC	Zoom	1a1, 1d1, 1e1	R6 REP Staff
3/11/2021 Completed	Alt SEOF-ADH Little Rock-OOS	Zoom	1a1, 1b1, 1d1, 1e1	R6 REP Staff
5/6/2021	Pope Co.-Crow Mt. FD-1800	Zoom	5a3	R6 REP Staff
3/11/2021	ECC, Little Rock	Zoom	1a1, 1d1	R6 REP Staff
4/22/2021 Completed	FMT 1 – Field Team Assembly, Briefing, & Dispatch-0900	Zoom	1e1, 3a1, 4b1, 4a3 1d1	Nicholas Buls Elsa Lopez
4/22/2021 Completed	FMT 2 – Field Team Assembly, Briefing, & Dispatch-1300	Zoom	4b1, 4a3 1e1, 3a1 1d1	Tim Pflieger Nicholas Buls Brad DeKorte
4/22/2021 Completed	ADH ALT/SEOF LTR-0900	Zoom	3a1, 4a2	Tim Pflieger*

Arkansas Nuclear One Plume Day 1 – March 23, 2021
(Last Update: 03/19/2021)

ANO Plume Day 1 - March 23, 2021				
Date	LOCATION	Virtual Meeting Info.	EVALUATION AREAS	Evaluator
3/23/2021	Logan Co. EOC Tobi Miller - EM	Zoom	1c1, 2a1, 2b2 2c1, 3b1, 3c1, 3d1, 3d2	Linda Gee* Matt Celia
3/23/2021	Johnson Co. EOC John Johnston - EM	Zoom	1c1, 2a1, 2b2 2c1, 3b1, 3c1, 3d1, 3d2	John Rice* Gregory Voss
3/23/2021	Yell Co. EOC Jeff Gilkey - EM	Zoom	1c1, 2b2 2a1, 2c1, 3b1, 3c1 3d1, 3d2	Bruce Swiren Alberto Sifuentes* Sam Williams
3/23/2021	ADH/ENC NP&RP	Zoom	5b1 5a1	Barbara Thomas* Bill McDougall
3/23/2021	Alt SEOF-ADH Little Rock	Zoom	1c1, 3a1 2a1, 2b1, 4a2	Tim Pflieger* Jeff Clark
3/23/2021	ADEM SEOC	Zoom	1c1	Rebecca Thomson*
3/23/2021	JIC – Morrilton, New Location	Zoom	1a1, 1d1, 1e1, 5b1 (1b1 OOS Completed)	Tom Hegele*

Arkansas Nuclear One Ingestion Day 2 – March 24, 2021
(Last Update: 03/19/2021)

ANO Ingestion Day 2 - March 24, 2021			
Date	LOCATION	Virtual Meeting Info.	EVALUATION AREAS
3/24/2021	Alt SEOF-ADH Little Rock	Zoom/CC	3e1, 3e2, 3f1 2d1, 2e1
3/24/2021	ADH/ENC NP&RP	Zoom/CC	5b1 (News Releases)
3/24/2021	ADEM SEOC	Zoom/CC	3e1, 3e2, 3f1
3/24/2021	Pope Co. EOC	Zoom/CC	2e1, 3f1
3/24/2021	Logan Co. EOC	Zoom/CC	2e1, 3f1
3/24/2021	Johnson Co. EOC	Zoom/CC	2e1, 3f1
3/24/2021	Yell Co. EOC	Zoom/CC	2e1, 3f1
3/24/2021	Conway IPZ County	Zoom/CC	Coordination w/ADH for IPZ activities
3/24/2021	Perry IPZ County	Zoom/CC	Coordination w/ADH for IPZ activities
	FEMA Mtg Space Support	Zoom	
All IPZ Counties – IPZ/RPPA Training & Program Guidance delivered as per the REP Program Manual (2016) and R6 RAC Chair approval. ADH will provide letter and back-up documentation validating training was delivered.			

DETAILED SCENARIO

CONTROLLER
USE ONLY

March 23, 2021

21IPX
(Drill Confidential)

21IPX – (BLUE Team) March 23, 2021

21IPX Table of Contents

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4. Initial Conditions/Narrative Summary
5. Detailed Scenario/Simulated Activities *MSEL*
(Master Sequence of Events Log)
Termination Criteria
6. Exercise Messages (Mini-Scenarios)

Appendix A – Onsite SPINGS/RAD Data *

Appendix B – Offsite MAPS & Data *

Appendix C – Public Inquiry Messages *

*Some books may not contain this data

CONTROLLER/

EVALUATOR/

OBSERVER

GUIDELINES

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Controller/Evaluator Briefing

1.0 **CONTROLLER AND EVALUATOR BRIEFING**

2. **An essential component of a successful drill and exercise program is the selection and briefing of a controller/evaluator organization.** Personnel to serve in this organization shall be chosen based on their knowledge in specific areas. It is desirable to use ERO personnel as controllers and evaluators whenever possible.
3. Controller/evaluator personnel should be briefed on the guidelines prior to each drill.
4. For a DRILL, controllers can coach and guide as well as critique. However, activities for which PI credit will be taken CANNOT be guided or coached.
5. Quality Assurance personnel observing the drill are not required to complete the controller/evaluator briefing but should receive the observer guidelines.
6. The drill/exercise package provided to controllers contains information that may not pertain to their specific responsibility. Placing the controller's pertinent information in a specific area would reduce controller miscues. During the controller/evaluator brief, encourage controllers to become aware of information important to them and organize the manual to facilitate their drill evaluation needs.
7. PROVIDE a copy of the controller/evaluator guidelines to each individual assigned to the controller/evaluator organization. USE the "Controller Briefing Checklist" to document information discussed with the controllers and evaluators.
8. Evaluation is based on the drill-specific objectives and demonstration criteria, and also on station standards for areas such as radiation protection, industrial safety, configuration control, human performance practices, and problem identification and resolution.

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Controller/Evaluator Briefing

• **CONTROLLER/EVALUATOR GUIDELINES**

The following information, as augmented, should be used to instruct controller/evaluators on functions and responsibilities for conduct during drills or exercises. Personnel assigned as controller/evaluators should be proficient in the area they are evaluating and briefed on these guidelines prior to any scheduled drill or exercise.

- 1.** The controller/evaluator organization is coordinated through a chain of command. Controllers report to their lead facility controller who reports to the lead drill/exercise controller. This chain of command is vital for accurate and timely information flow and message issue through the controller organization; and allows for rapid dissemination of changes, if required.
- 2.** Evaluators are individuals assigned to key functional areas to document and evaluate emergency response actions. Evaluators have no responsibility or authority for controlling or impacting scenario simulation.
- 3.** Written messages are used to initiate, modify, and/or complete events posed by the scenario. Controllers issue messages to pre-designated individuals or distribute information sheets at pre-designated locations after demonstration of ability to obtain the information, as stipulated by the scenario timeline. Message/information delivery is assigned to specific controllers responsible for issuing the message. Controllers may ensure that ERO participants understand the content of all messages. There are two types of messages:
 - Controller Inject Messages: Messages that pose hypothetical events or communicate data necessary to promote a response. Controller inject messages are the primary means of implementing scenario events if any automated data source is not available.
 - Contingency Messages: Messages that prevent, correct, or direct certain responses. Contingency messages should be clearly marked and are to be used by controllers to maintain the scenario continuity or correct the timeliness of scenario activities. Controllers should always obtain approval from the lead drill/exercise controller prior to issuing a contingency message and must record times such messages are issued. Contingency messages may be printed on colored paper.
- 4.** Scenario messages generally include the following, as appropriate:
 - Sequential number and type of message, either controlling or contingency.
 - Message Delivery Time - Approximate time the message is to be delivered and/or the condition/event for delivering the message.
 - From - Message origination and controller responsible for delivery.
 - To - ERO participant or facility to receive the message.
 - **TEXT - Clear, concise verbal or written picture that should prompt a response.**

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- Controller note - Notes including precautions; actions required to be completed by ERO participants before receiving message; subsequent controller actions, and additional information, etc.
 - Expected response - Generic narrative of expected minimum actions (i.e. inform management of the situation presented, mitigating actions the responder could take, etc.).
5. Controllers must not provide scenario information to the ERO participants or resolve problems encountered, unless ERO participants take actions necessary to obtain information. In the event of incorrect or incomplete responses; or if an ERO participant indicates lack of knowledge of how to proceed, controllers may find it necessary to coach the ERO participant with necessary instructions to maintain the scenario schedule. Prompting or coaching must be recorded. When lack of knowledge on how to proceed occurs in an exercise the participant is expected to be reliant upon his/her resources; however if it is necessary controllers may intercede only after it is determined actions cannot be completed and the action is necessary to advance the scenario as intended. Controllers shall take note and discuss actions during the post drill critique to resolve any confusion after the drill/exercise is terminated.
 6. The controller should confer with their lead controller to determine whether a prompt should be made. A contingency message indicates the anticipation by the SDT that an inject message in the scenario may be necessary. Prompting/coaching is performed by authorized personnel and must be approved by the lead drill/exercise controller. Any prompting/coaching performed must be identified in the critique. In all cases, prompting must be recorded. Telegraphing should be avoided and must be recorded if it occurs (Telegraphing examples: location or body language that may influence an action, pointing to an indication or information and facial expressions in response to actions).
 7. Controllers may have responsibilities for issuing time - related process or radiological parameters. This information should only be issued if ERO participants' actions would allow them access to the information if it were an actual event.
 8. Scenario data must not be issued prior to ERO participants performing the necessary actions required to obtain the data.
 9. Scenario material is to be treated as confidential and must not be provided to ERO participants prematurely, i.e., scenario books and messages must not be left unattended.
 10. Scenario events are hypothetical. No actions or reactions involving operation of plant systems or affecting operability or emergency preparedness should be initiated.

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11. Some ERO participants may insist that events or times are unrealistic. The scenario should be based on real world failures when possible. Controllers have the authority to clarify questions critical to the continuity of the simulation or demonstration of objectives. It may be necessary to state, "This is due to requirements of the scenario for the ERO to demonstrate emergency plan implementation ". Ensure that ERO participants are aware they are being given credit for all actions.
12. NRC Performance Indicators of classification, notification, and protective action recommendations should be discussed with controllers and times documented by each facility. Controllers shall not intervene, prompt or provide guidance during these opportunities of the scenario timeline.
13. Do not coach the following if NRC performance indicators are being evaluated and counted:
 - a. Classification of emergencies or indications that lead to classification. If indications that an EAL initiating condition exists but is not recognized by the ERO, coaching that the indication exists (not EAL) may occur after the time for classification (15 minutes) has expired and the classification is required for the progression of the drill. Do not coach missed classifications, the ERO as a team should recognize this.
 - b. Timeliness of classification.
 - c. State and local notifications of classification or PARs or timeliness of the notification. Do not coach on errors on the notification form or call or the missed time limit.
 - d. Protective Action Recommendations or indications that lead to a PAR or re-evaluation/upgrade of a PAR.
 - e. Performance opportunities are considered missed if coaching occurs.
14. Drills designated as training drills may have mentor/coaches assigned to specific positions to ensure positive training occurs. Coaching may be used to:
 - f. ENSURE the participant adheres to the communications standard.
 - g. COACH or TRAIN the participant in the understanding of position responsibility, position procedures, interface with other positions or facilities, how to obtain information, or equipment required for the position.
 - h. IDENTIFY good performance or areas needing improvement or additional training.
 - i. Learning objectives in areas where controllers coached during training drills can be considered met provided the participant demonstrated the ability to perform the task independently during the drill.

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Controller/Evaluator Briefing

15. Performance objectives in areas where controllers coach are evaluated as unsatisfactory if the coaching affected the outcome of the activity (that is, the participant would not have performed the task adequately without coaching).
16. Controllers are *not* allowed to arbitrarily inject free play into the scenario. Any deviation from the scenario must be approved by the lead drill/exercise controller.
17. The controller/evaluator organization must synch clocks to ensure messages are delivered at the prescribed time.
18. Phone and radio communications associated with the drill begin and end with the phrase "This is a drill". Controllers are encouraged to interrupt and prompt participants with "This is a drill" if not used. Three way communications is the standard during drills.
19. Controllers and evaluators must ensure that they are at their assigned positions and are easily identifiable to ERO participants.
20. Controllers are thoroughly familiar with the ERO participant guidelines which establish the scope of simulation and emergency response. When any questions arise during the conduct of a drill or exercise, contact your lead facility controller or the lead drill/exercise controller for guidance.
21. As part of the controller evaluator briefing facility controllers should group together in a tabletop to walk-through and validate events and associated control activities.
22. Controllers monitor the use of resources and personnel to ensure that simulated use does not exceed the quantity or capacity that is actually available.
23. Some reminders: DO:
 - **MAINTAIN** professional conduct during drills/exercises and critiques.
 - **BECOME** familiar with the controller/evaluator organization.
 - **PERFORM** a walk-down of the facility and areas you will control/evaluate prior to the drill / exercise.
 - **MAKE** sure you understand the scenario.
 - **KNOW** what the ERO participants' required actions are.
 - **GIVE** yourself time to set up at your location
 - Controllers shall locate the communications equipment to be used for drill/exercise control.

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- POSITION yourself to maximize your effectiveness in issuing messages, observing the ERO participants, or conducting your evaluation without interfering.
- IDENTIFY yourself to the ERO participants. Wear the identification provided.
- ISSUE messages on time. Make sure that ERO participants understand the content.
- VERIFY that the scenario is running on schedule.
- DOCUMENT demonstration of objectives.
- ALLOW ERO participants reasonable flexibility to perform their functions and demonstrate their ability, knowledge and initiative.
- TAKE accurate, detailed notes on strengths, deficiencies, weaknesses, and improvement items. STATE facts, not opinions.
- COMPLETE any evaluation forms provided. Resist the tendency to draw conclusions.
- ATTEND all scheduled critique functions and be ready to contribute.

- DO NOT:
 - Do not leave your scenario package unattended.
 - Do not leave your post at key times.
 - Do not criticize ERO participants' actions during the simulation.
 - Do not allow external influences to distract ERO participants' emergency response.
 - Do not allow simulation of equipment or supplies if they are actually available, without authorization from the lead drill/exercise controller.
 - Do not carry on conversations in the facility that may distract ERO participants.

- The Lead Drill/Exercise Controller will:
 - ESTABLISH start time for the drill/exercise and coordinate the start with the controller/evaluator staff.
 - PROVIDE positive control and monitoring of the input data through the control cell support staff.
 - COORDINATE termination of the drill/exercise with the NRC, State, local agencies and controller organization as necessary.
 - ENSURE agreement is reached upon termination time, and jointly accomplish drill/exercise termination.

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- 24.** The Facility Lead Controller will:
- MONITOR issuance of scenario messages and completion of scenario inputs with the lead drill/exercise controller.
 - MAINTAIN a comprehensive log of events to aid in compiling event reconstruction for the drill report.
 - ASSUME the roles of simulated representatives for NRC and other agencies not participating in the drill.
- 25.** WHEN personnel accountability is listed as a drill/exercise objective, THEN PROVIDE the following information regarding exempted personnel:
- NOTIFY the ERO that there are exemptions for the drill
 - The exempt personnel list will be provided at the appropriate time to the participants needing the information
 - The initial report concerning the results of personnel accountability will include the number of exempt personnel.
 - The controller may assist in the deletion of exempt personnel from the “missing persons list.”
 - Personnel on the exempt list will not be tracked or contacted during the search and rescue.
 - Exempt personnel lists should be provided to security.
- 26.** Drills and exercises, excluding training drills, are conducted without preconditioning in order to accurately evaluate the readiness of the ERO to respond to unexpected events.

3.0 OBSERVER GUIDELINES

Observers must have the permission of the Manager, EP, or the lead facility controller to observe in the specific facility. The following is a topical guideline from which pertinent topics may be drawn. The chosen content may be provided to observers by email or presentation.

- 1.** An observer is just that, he/she is to observe. Professional conduct should be maintained during drills and critiques.
- 2.** If the observer has knowledge of scenario details, then the observer must maintain scenario confidentiality.
- 3.** Always wear your OBSERVER identification in plain view.

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- 4.** NO interaction with ERO participants is allowed. If you are asked anything by an ERO participant, simply state that you are an observer only. No other statement should be needed as ERO participants have been advised of the role of observers. The only time this does not apply will be for safety issues and concerns. Please notify Facility Lead Controller immediately if a safety issue arises.
- 5.** Minimal interaction with controllers is allowed. Observer questions may be directed to a controller, but controller duties will take precedence over answering your questions, especially during a drill. It is preferred that you simply record your questions and ask them after the drill.
- 6.** Observers may observe the critique and may participate (i.e., comment or ask questions) after the participants have completed their self-critique. The critique process is a vital part of the drill or exercise to be conducted by the ERO and controller organization. Comments about the critique must be left for the end or may be given to the Manager, EP.
- 7.** Information concerning the level of simulation, interaction between ERO participants and controllers and scenario information needed may be obtained from the Drill and Exercise Coordinator.
- 8.** Do not carry on lengthy discussions with other observers during the drill in the emergency response facilities. Such discussions should be moved out of the facilities.
- 9.** Do not interfere with any drill activity. For example, use of the phones, stand in front of a status board, use procedures provided for the ERO participants, etc.
- 10.** You are eyes and ears only. If your needs exceed that, communicate your needs to the facility lead controller.
- 11.** If you are an assigned observer, any food or drink provided to the ERO participants will also be provided to you.
- 12.** If you are being escorted, follow all security requirements (i.e., stay with your escort, etc.).
- 13.** All observers shall comply with site procedures and practices for entry into actual security and radiological controlled areas.

PARTICIPANT BRIEFING

GUIDELINES

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Participant Briefing

This section provides information to be provided to drill/exercise participants prior to the drill/exercise. The information is intended to assist participants in understanding proper drill/exercise conduct protocol as well as the initial plant conditions and equipment status at the start of the drill/exercise. Information will not be provided which discloses any specifics of the subsequent scenario events.

Participants should be encouraged to ask questions about the drill control process, level of simulation, etc. This attachment should be utilized for participant briefings.

Avoid discussing the following items that could result in preconditioning drill participants (Participant preconditioning and coaching are permitted in training drills.):

- Operating experience that is directly relevant to elements of the drill
- Recent EP program changes
- Reminders on how to perform tasks or functions
- Discussion of plant or facility equipment problems that would not normally be covered in plant shift turnovers.

PARTICIPANT BRIEFING GUIDELINES

1. Training and mentoring/coaching is not permitted during NRC evaluated biennial exercises. Drill participants are expected to coach other drill participants. See Attachment 4 Step 2.a for exceptions.
2. During the drill, DO NOT:
 - a. Violate any safety, radiation protection, operation or security practices
 - b. Operate any plant equipment as part of drill activities
 - c. Enter posted protected pathway areas
 - d. Enter high radiation or contamination areas and practice ALARA
 - e. Inject “free play” or assume that certain actions may be simulated or not demonstrated. If there is doubt about the level of simulation, ask a controller
3. Controllers, evaluators and observers will wear an identification aid (e.g., badge, vest,)
4. The success of the drill/exercise is largely dependent upon participant responses to the simulated event. Therefore, it is crucial that participants know how they can get and/or request data.
5. Do not accept or provide any data/instruction from an observer including the NRC observers. All information must be obtained from normal sources or from the controller organization

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Participant Briefing

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- 6.** Drill participants are expected to learn information. For example:
 - RP Technicians will be provided survey data if the survey area is entered and the survey instrument is properly operated.
 - OSC repair teams should have the right tools/procedures to perform the task.
 - Participants should perform actions as though it is an actual event. For example, briefings, obtaining tools, donning respirators and protective clothing, acquiring procedures, logging onto RWP, etc. The controller will engage the repair team when the normal process must be altered for drill purposes (e.g. Issue data, inform team to move to a mockup, walkthrough repair steps, issue site conditions).
- 7.** Information may be obtained from simulator or controller messages.
- 8.** Personnel assigned to maintain safe operation of the plant (i.e., on-shift operators) will be exempt from drill activities. Do not interact with the on-shift operating crew.
- 9.** Drill communications over radios and telephones are to be prefaced and followed by "THIS IS A DRILL." Face-to-face communications do not require this statement.
- 10.** ACCEPT the drill/exercise information as provided. Questions may be asked to clarify the information but recognize that some events in emergency drills/exercises can seem unrealistic. Remember we are testing how well ERO personnel can implement the Emergency Plan, not the realism or probability of the scenario occurring.
- 11.** DEMONSTRATE your actions in the emergency response facilities and in the field at a level that allows evaluation. For example:
 - ARTICULATE your actions to your controller
 - CONDUCT conversations within earshot of your controller
 - INFORM your controller of decisions, instructions, and communications
 - KEEP accurate, detailed logs
- 12.** MAINTAIN a professional attitude.
- 13.** A controller will inject information at times when something may be simulated. Simulation will be kept to a minimum, but when in doubt - ask.
- 14.** PRACTICE proper communication protocols, (three-part, phonetic alphabet, etc.). Think pro-actively.

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Participant Briefing

- 15.** NOTE items for the critique. Both positive and negative items may be presented. Use of a participant observation form is encouraged, although written comments will be received in any format.
- 16.** Participants will be informed of a scheduled exercise but may not be informed of the start time and will not be informed of scenario, expected actions, or any other information that may compromise the exercise. Participants and equipment shall not be pre-staged for the exercise.
- 17.** If you disagree with a controller, you may request reconsideration from the lead facility controller. Under NO circumstances are you to argue or indulge in theoretical discussions with the controller.
- 18.** Participants must respond to simulated events as if they are real. This includes but is not limited to the following: [As amended by extent of play or controllers]
 - Wearing of dosimetry and protective clothing.
 - Observing good radiation protection practices
 - Minimizing exposures
 - Responding to failed instruments in the field
 - Reporting hazards to the correct personnel
 - Proper contamination control
- 19.** Controllers and observers are exempt from responding to simulated radiological hazards during the drill/exercise.
- 20.** All normal site procedures and rules are to be followed when entering the protected area and actual radiological controlled or radiation areas. NO ONE, including controllers, and observers, are exempt from normal station radiological or safety practices.
- 21.** Following termination, COLLECT all logs, work sheets, etc.
- 22.** Always leave your work area as you found it. The Emergency Response Facilities should be left in an operational status following the drill/exercise.
- 23.** A Participant critique will be held following every drill/exercise. This is an important part of the drill/exercise. Identify strengths as well as areas for improvement, however it is important to be self-critical to ensure that the critique will lead to an improved Emergency Response.

OBJECTIVES



OBJECTIVES

A1 - Demonstrate the ability of the Emergency Director to provide overall direction (command and control) by initiating, coordinating and implementing timely and effective actions during the event.

A2 - Demonstrate the coordination of the implementation of emergency measures and the exchange of information between the utility and federal, state and local agencies and other support organizations having an emergency response role within the emergency planning zone (EPZ).

A3 - Demonstrate the capability to establish, plan for and maintain continuous (24 hour) operations for a protracted period.

B1 - Demonstrate the ability of the normal staff complement to perform the functions of the on-shift ERO.

B2 - Demonstrate the Emergency Director's ability to immediately and unilaterally initiate any emergency response action, including providing protective action recommendations to authorities responsible for implementing offsite emergency measures.

B3 - Demonstrate the ability to transfer overall command and control of the emergency response. B4 - Demonstrate the performance of authority of the nondelegable responsibilities.

B5 - Demonstrate the ability to augment the on-shift response capabilities within a short period of time.

B6 - Demonstrate the ability of management, administrative and technical support personnel to augment the plant staff in the areas of logistics support, technical support, government interface, and public information.

B7 - Demonstrate the ability of specified contractor and private support organizations to provide technical assistance to or augment the ERO.

B11 - Demonstrate the ability to implement the strategies, procedures and guidance pursuant to 10 CFR 50.54(hh)(2). C1 - Demonstrate the ability to effectively integrate assistance resources from federal agencies to augment the plant's emergency response capabilities. Note: NRC Incident Response Team (IRT) or mock IRT is participating.

C2 - Demonstrate the ability to provide a liaison at each participating offsite governmental emergency operations center (EOC).

C3 - Demonstrate the ability to effectively use and coordinate assistance from support radiological laboratories for monitoring and analysis services.

D1 - Demonstrate the ability to recognize the initiating conditions for the EALs and to properly classify emergencies. E1 -

Demonstrate the ability to notify the offsite response organizations (ORO) consistent with the classification scheme including the verification of messages in a timely manner.

E2 - Demonstrate the ability to alert, notify and mobilize ERO personnel.

E3 - Demonstrate the ability to provide the required content for the initial notification messages accurately within the required timeframes.

E4 - Demonstrate the ability to provide the required content for the follow-up notification messages timely and accurately.

F1 - Demonstrate the ability to operate the communications systems used by the ERO to provide information to the state(s) and local agency(s).

F2 - Demonstrate the ability to operate the communications systems used by the ERO to provide information to federal agency(s).

F3 - Demonstrate the ability to activate ERDS as soon as possible but no later than one hour after declaration of an emergency of an Alert or higher emergency classification.

F4 - Demonstrate the ability to operate the communications systems used by the ERO to exchange information with other emergency response facility(s).

F6 - Demonstrate the ability to perform communications with both fixed and mobile medical support units. Note: This objective may be demonstrated concurrently with objectives B.8, L.1 and/or L.3.

G1 - Demonstrate the adequacy of the Joint Information Center (JIC) to support emergency response activities. G2 - Demonstrate the ability of the spokespersons to brief the media in a clear, accurate and timely manner.

G3 - Demonstrate timely exchange of public information among designated agency spokespersons.

G4 - Demonstrate the ability to establish and operate rumor control in a coordinated fashion.

- G5 - Demonstrate the ability to develop and release information to the media/public for a declared emergency.
- H1 - Demonstrate the adequacy of the TSC to support emergency response activities. H2 - Demonstrate the adequacy of the EOF to support emergency response activities. H3 - Demonstrate the adequacy of the OSC to support emergency response activities.
- H4 - Demonstrate the ability to activate the emergency response facility in a timely manner.
- H16 - Demonstrate the ability to acquire data from, or have access to, offsite monitoring and analysis equipment.
- H17 - Demonstrate the ability to obtain current and forecasted meteorological information from primary as well as backup and alternate sources.
- I1 - Demonstrate the ability to provide initial values and continuing assessment throughout the course of an accident as well as the parameter values that correspond to the initiating conditions for EALs and PARs.
- I2 - Demonstrate the ability to determine the extent of core failure based on station-specific assessment strategies and sampling.
- I3 - Demonstrate the capability to determine the magnitude of radioactive releases or perform dose assessments based on plant parameters, effluent monitors, field data and meteorological conditions.
- I4 - Demonstrate the ability to determine the release rate and projected dose when effluent monitors are off-scale or inoperable.
- I5 - Demonstrate response and analysis of simulated elevated airborne and liquid samples and direct radiation measurements in the environment.
- I6 - Demonstrate response and analysis of simulated elevated airborne and liquid samples and direct radiation measurements in the environment.
- I7 - Demonstrate the adequacy of the OMTs to support emergency response activities.
- I8 - Demonstrate the ability to monitor radiological releases to the environment in the field.
- I9 - Demonstrate the ability to monitor post-plume environmental conditions in the field. (At least one sample onsite and one offsite)
- J1 - Demonstrate the means to alert individuals at the site and persons who may be in the public access areas within the owner-controlled area.
- J2 - Demonstrate the ability to evacuate and relocate onsite personnel to a relocation center at a Site Area Emergency or higher classification.
- J4 - Demonstrate the ability to perform accountability for all individuals in the protected area within 30 minutes of declaration. Note: Objective met when list containing unaccounted for personnel is issued to appropriate ERO position (e.g. Shift Manager, TSC Security Coordinator, Emergency Plant Manager).
- J5 - Demonstrate the availability and use of respiratory protection and protective clothing for onsite emergency response personnel.
- J6 - Demonstrate the availability and use of potassium iodide (KI) for utility emergency response personnel. J7 - Demonstrate the ability to recommend protective actions to appropriate offsite authorities.
- K4 - Demonstrate contamination control practices.
- K5 - Demonstrate the capability to minimize ERO internal contamination through ERF habitability controls and controlling the intake of drinking water and food supplies.
- N1 - Demonstrate the ability to conduct drills and exercises that evaluate key skills, overall emergency response capabilities and formal critiques identifying weaknesses or deficiencies requiring action.
- N2 - Personnel, plans, procedures, facilities and equipment are tested and maintained ready to respond to emergencies, from minor events to severe accidents.

NARRATIVE **SUMMARY/SIMULATED** **ACTIVITIES**

NARRATIVE DESCRIPTION OF SCENARIO:**SPECIAL TURNOVER ITEMS:**

- Green train protected. EOOS Acceptable Risk, PSI= 10.
- 2P-89A OOS for pump outage, 2P-89C align to red train.

Dynamic Simulator Briefing checklist completed
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- **INITIAL CONDITIONS:** 100% power, MOL.
- Green train protected. EOOS Acceptable Risk, PSI= 10.
- 2P-89A OOS for pump outage, 2P-89C align to red train.

T=5 RCP vib starts rising due to impeller failure, RCP shaft shears due to elevated vibrations, VLPMS alarm due to impeller failure, 4 CEAs remain withdrawn, and RCS fuel failure starts due to FME. On the Reactor trip, turbine bypass valve 2CV-0303 will fail to open (positioner air leak).

Notification of Unusual Event SU4.1, Failed Fuel Iodine radiation monitor 2RITS-4806B > 9e5 cpm.

T=AFW pump start, When the crew tries to start the AFW pump it will not clear the start interlock for low lube oil pressure due to a pressure switch failure. They will use EFW to feed both Steam Generators

T=40 Steam generator tube leakage start on the 'B' Steam Generator trend up to 150 gpm over 2 min. The crew will notice the SG tube rupture and calculate RCS leak rates. They will actuate SIAS and CCAS, then transition to the SG tube rupture EOP. They will also commence an RCS cooldown and isolate the ruptured SG.

Alert based on FA1.1, Any Loss or any Potential loss of either Fuel Clad or RCS barrier. RCB1 An auto or manual ESFAS actuation required by S/G tube rupture

T=SIAS #1 EDG hand switch contacts fail, this prevents starting #1 EDG from the control room.

T=60 2K12-D3 'A' Charging Pump oil pressure low will alarm. The NLO will report an oil leak. The crew may use the Annunciator Corrective Action (ACA) and direct an NLO to adjust oil pressure to clear the alarm or may determine to secure the pump. If oil pressure is raised, the leak will degrade, and the alarm will come back in. The NLO will suggest securing 2P-36A.

T=90 Condenser air leak causes condenser vacuum to degrade. The crew will start the standby vacuum pump and place the vacuum pumps in hogging. There will be a Manway leak that can be repaired by Mech. Placing a top hat or sealing the manway.

T~110 After the crew has cooled down and isolated the 'B' SG a MSSV fails open on 'B' SG and the 'B' SG Tube Rupture degrades to ~ 200 gpm. The crew will actuate MSIS and then transitions to the Functional Recovery EOP. The crew will have to monitor the B SG for depressurization and when the depressurization and cooldown are complete, they will ensure the RCS does not heat up and re-pressurize by steaming the 'A' SG as needed. The crew should continue a cooldown and RCS depressurization to minimize the RCS leakage from the B SG.

SAE based on FS1.1, Loss or Potential Loss of any 2 barriers. RCB1 An auto or manual ESFAS actuation required by S/G tube rupture, and CNB1 a S/G that is leaking > 44 gpm that is also faulted outside containment.

OR

AS1.2 Dose assessment using actual meteorology indicates doses > 100 mrem TEDE or 500 mrem thyroid CDE at or beyond the SITE Boundary

T~160 The SG tube rupture on 'B' steam generator degrades to 500 gpm, 2P-89C HPSI pump relay failure, 2P-89B pump degrades when extra load is placed on the pump and RCS fuel failure degrades. One Possible HPSI pump recovery strategy is replacing the relay on 2P-89C with the relay from 2P-89A.

GE based on AG1.2, Dose assessment using actual meteorology indicates doses > 1000 mrem TEDE or 5000 mrem thyroid CDE at or beyond the site boundary.

This Scenario may be terminated at the direction of the EPLAN lead controller.

SESSION SUMMARY			
EPLAN Exercise			
NOTE: This scenario may be initiated by triggers, schedule files, or action menu selection. The time line may be modified by the lead instructor as necessary to maximize training effectiveness.			
EVENT	TIME	MALFUNCTION NO.	DESCRIPTION
<u>TRIG</u>	Conditional Trigger setup: T7 = E14R0763 2P-4B aligned to green train. Reset to IC 181		
<u>EVENT</u>	<u>TIME</u>	<u>MALE NO.</u>	<u>DESCRIPTION</u>
		WDIR57 WSPEED10	10 meter wind direction = 322°
		WSPEED57 XSPSIGMA	57 meter wind direction = 320° 10 meter wind speed = 6 mph 57
		XSPDELTA	meter wind speed = 6 mph Sigma Theta, Value = 10 Delta T,
		CEA08STUCK	Value = 0.3
		CEA17STUCK	CEA 8 stuck, value = 0%
		CEA18STUCK	CEA 17 stuck, value = 0%
		CEA24STUCK	CEA 18 stuck, value = 0%
			CEA 24 stuck, value = 0%
<u>T-1</u>	T=5	RCP2P32AMV	2P32A MOTOR VIBRATION, Value = 26, Ramp = 1 min.
		RCP2P32APV	2P32A PUMP SHAFT VIB, Value = 30, Ramp = 1 min.
		RCP2P32ASHA	2P32A shaft break, Value = active, Delay = 1min.
		RCSFUELFAL	Failed Fuel, Value = .2%, Ramp = 5 min., Delay = 1 min. 15 sec.
		CV0303	SDBCS 2CV-0303, Value = 0
<u>T-2</u>	T=40	SGBTUBE	'B' S/G Tube rupture, Value = 150 gpm, Ramp = 2 min. #1 EDG
		EDG1AUTOFAIL	auto start fails, Value = active
		DI_HS_2809_3	2DG1 ENG START STOP START, Value = False.
		XRI2RITS8925_12	Containment High Range rad monitor, Value = 100, Ramp = 60
			min., Delay = 10 min.
		PING6CH5/9	SPING6 CH 5/9, Value = .002, Ramp = 20 min, Delay = 10 min.
<u>T-3</u>	T=60	K12-D03	Charging pump oil press lo, Value = on.
<u>T-4</u>	T=90	CNDAIRLEAKHI	Condenser air Leak. Value = 1000 SCFM, Ramp = 1 min.
<u>T-5</u>	T=110	MS1053 SGBTUBE	B' SG Main Steam Safety lifts, Value = 0.
		XRI2RITS8925_12	'B' S/G Tube rupture, Value = 200 gpm, Ramp = 2 min.
			Containment High Range rad monitor, Value = 102, Ramp = 10
			min.
<u>T-6</u>	T=160	SGBTUBE HPI2P89C	'B' S/G Tube rupture, Value = 500 gpm, Ramp = 2 min. 2P89C
		SIS2P89BX	Fault, Value = active
		RCSFUELFAL	2P89B Pump Degradation, Value = 25%, Ramp = 10 min. Failed
		XRI2RITS8925_12	Fuel, Value = 2%, Ramp = 5 min.
			Containment High Range rad monitor, Value = 350, Ramp = 10
			min.
<u>T-7</u>	T~ AFW start	AFW2P75LO	2P-75 Aux Feedwater pump loss of lube oil, Value = active

T=5 Trigger 1, Elevated RCP vibrations, shaft shear, minor RCS failed fuel, and 2CV-0303 fails to open.

If NLO directed to investigate RCP vibration panel in LSEPR inject” 2P-32A upper motor bearing, lower motor bearing, and pump shaft vibration alarms are present on 2C404” when NLO reaches panel.

If contacted as AO to perform pre-start checks for 2P-75, then once the NLO has completed normal pre-start checks (oil levels, suction/discharge valve checks, area clear of debris and personnel), then report that pre-start checks are sat. (2P-75 pre-start check should be sat.)

The crew may request oil pressures and flow once the Aux-lube pump is running. If they contact the simulator booth to determine if the Aux-lube oil pump is running and then report that there is oil flow in all 5 sight glasses Lube oil filter (2F-761) DP is ~ 5 psig and Bearing Lube Oil pressure is ~ 15 psig.

If contacted after the pump trips report that the low oil pressure alarm is in locally but oil pressure is ~ 15 psi locally (prior to calling in current pressure contact the sim booth to verify oil pump is still running).

If contacted as Unit 1 report that there are no conditions on Unit 1 impacting EALs.

If contacted to investigate 2CV-0303, once the NLO reaches 2CV-0303 (West Heater Deck) and simulator investigation, then have them report that there is an air leak on the positioner for 2CV- 0303 and the positioner output is zero psi. If asked about isolating the air leak report that it is very small but could be isolated by the local air isolation to 2CV-0303 (unlabeled local valve)

If informed as the WCO that dose rates are elevated in the Aux building, then acknowledge the message

If contacted as Chemistry to sample the RCS, then acknowledge the request. It would normally take over an hour prior to lining up RCS sample.

If requested as Chemistry for a recommendation for letdown flow, then call back after a couple minutes and request letdown be left in service at ~ normal flow rate for RCS clean up.

T=40 Trigger 2, ‘B’ SG tube rupture 150 gpm. (When, B SG is isolated ramp SPING 6 back down to the pre event value over 40 minutes.)

If contacted as NLO's for ESF equipment post start checks, once the NLO describes their actions for post start checks call the simulator booth and confirm what equipment is running and if it is running sat prior to allowing the NLO to call on the radio to report equipment status. All running equipment should be running sat at this stage.

If contacted to perform Standard Att. 10 for local isolation of 'B' SG then once the NLO has simulated performing the appropriate step call the simulator crew and inform them that local actions are complete.

If contacted by the NLO controller that the NLO has secured turbine building sump pumps then override TBS alarms 2K-12 J8 and J9 to on after a time delay. 2K-12 J8 time delay = 30 minutes, 2K-12 J9 time delay = 45 minutes.

If contacted to assess MSSV tail pipes for leakage, then once the NLO has simulator checking the tailpipes call the control room and inform them that the tailpipes have been checked and NO leakage is noted.

If contacted as NLO to investigate #1 EDG failure to start, then after the NLO has simulator local check have them report that #1 EDG looks fine mechanically and no alarms are in.

If requested to locally start the EDG then after the operator simulates taking the switch to start call the booth and the sim operator will take the local switch start and then you can report, you started #1EDG

Booth operator: use remote EDGDG1ASS to start the EDG locally.

T=60 Trigger 3, 2P-36A Charging pump oil pressure low due to leak.

When requested as WCO, report that 'A' Charging pump oil pressure is reading 10 psi. There is an oil leak and 2P-36A is running satisfactory (except for the low oil pressure). The oil leak is small and if recommend by the NLO they can report they are going to add oil and setup a catch to prevent the oil from getting to the floor drain.

If requested to raise charging pump oil pressure, acknowledge request and after the NLO has simulator raising oil pressure contact the sim booth to clear the low oil pressure alarm by taking it back to normal and report that 'A' Charging pump oil pressure has been adjusted to 30 psi.

Booth Operator: If the crew directs raising the oil pressure, 5 min. after the alarm is cleared bring the alarm back in.

When requested as WCO to investing 'A' Charging pump oil pressure again, report it is reading 10 psi and the oil leak is has degraded. Suggest securing 2P-36A.

T=90 Trigger 4, Condenser Vacuum degrades due to Manway leak.

If contacted as NLO to investigate the system for air in-leakage, acknowledge the request. After 5 minutes report a gasket leak at manway 24 (located east side of 2E11A near 2E-7A).

If asked if it can be corrected state that you don't think can fix it. Please send Mechanic's for assistance.

If directed to place the Auto/Hog switch to hogging for both vacuum pumps, then after the NLO has simulated the action call the booth operator to place the Auto/Hog switch to hogging.

Booth Operator place the remote for Auto/Hog switch (CONDENSER) to ON

T=110 Trigger 5, 'B' MSSV lifts, 'B' SG tube rupture degrades to 200 gpm.

If requested as NLO to investigate the failed open MSSV, the report there is a large steam plume coming from the top of the MSIV room.

If contacted as NLO to close LTOP breakers 2B-51E4 and 2B-51K2, the AO has simulated opening the breakers, then call the booth for them to use remote function to energize the LTOPs. Once the booth has closed the simulated breakers, then report that are closed.

T=160 Trigger 6, 2P-89C motor trips due to relay failure, 2P-89B pump degrades, and RCS fuel failure degrades.

When called to investigate and NLO reaches breaker, inject 2A-307, 2P-89C HPSI pump breaker, has 2A-307 150/151 relay drop flags dropped and a blacken coil. The WCO will report no issues noted locally at pump

If requested as an NLO to investigate 2P-89B HPSI pump, then report that 2P-89B casing is warmer than normal and vibs are elevated. It does NOT appear that pump is cavitating.

When requested as an NLO to swap 2P-89C to green, the NLO should perform the directed portions or the entire attachment as directed by the Simulator. After they simulate each section of the attachment, call the booth operator and have the booth operator perform their actions to align 2P-89C to green train. The attachment is not included in the guide.

When requested as an NLO to operate the SIT breakers for Standard Attachment 36, the NLO should simulate portions of the attachment as directed by the Simulator. After they simulate closing the breakers, call the booth operator and have the booth operator perform the actions to close the breakers. Once the booth operator informs you the breakers are closed then allow the NLO to call the simulated control room. The attachment is not included in the guide.

END

This scenario may be terminated as directed by the lead EPLAN Drill Coordinator.

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