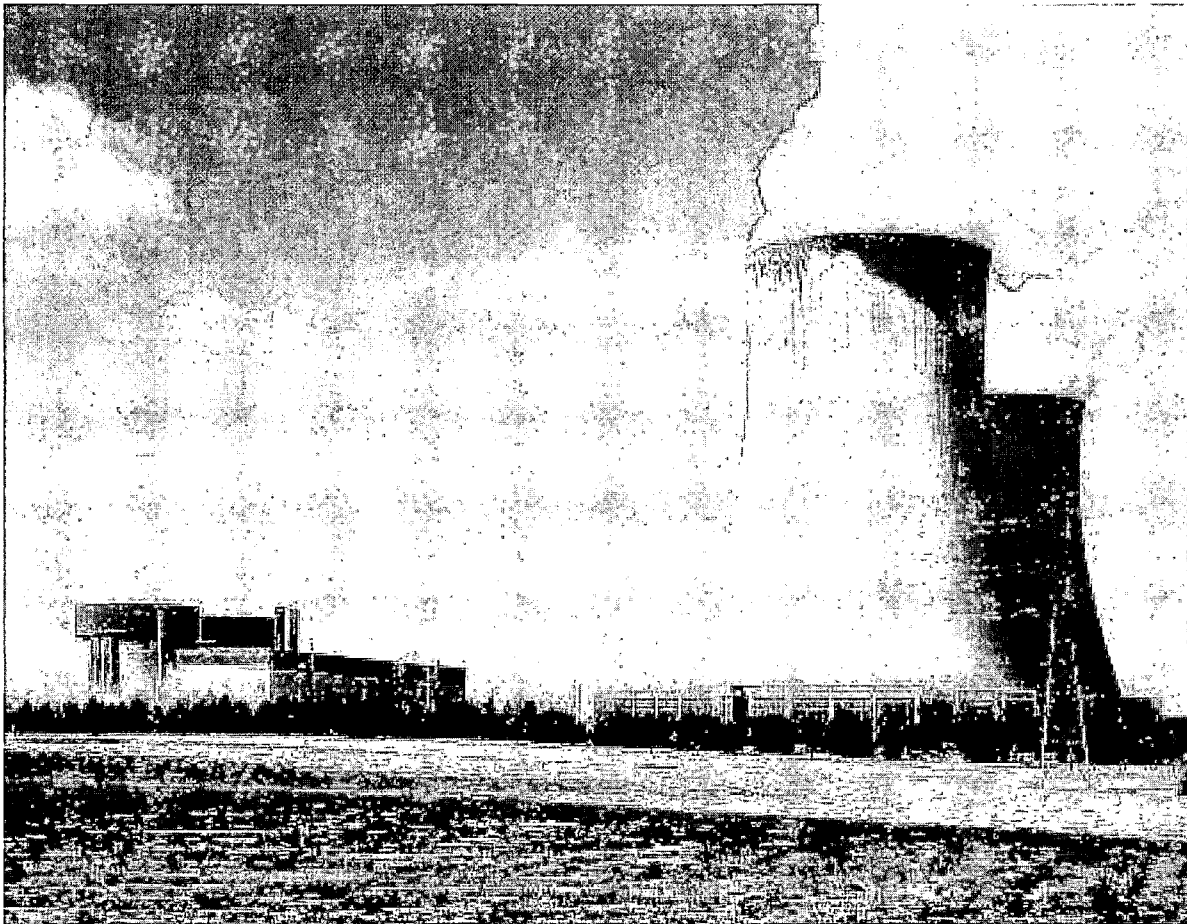


# After Action Report/ Improvement Plan

Exercise Date – September 26, 2017

Radiological Emergency Preparedness (REP) Program



Byron Station



FEMA

*Published November 14, 2017*

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Radiological Emergency Preparedness (REP) Program

After Action Report/Improvement Plan

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# After Action Report/Improvement Plan

Published November 14, 2017

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## EXECUTIVE SUMMARY

On September 26, 2017, a Radiological Emergency Preparedness Partial-Participation Plume Exposure Pathway Exercise was evaluated by the U.S. Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA) for the 10-mile Emergency Planning Zone (EPZ) around the Byron Station. The purpose of this exercise was to assess the capabilities of the State and local preparedness organizations in responding to a radiological emergency. This exercise was held in accordance with the DHS/FEMA policies and guidance concerning the exercise of State and local Radiological Emergency Response Plans (RERPs) and procedures.

The previous exercise at this site was conducted on May 20, 2015. The qualifying emergency preparedness exercise was conducted on November 15, 1983.

The DHS/FEMA wishes to acknowledge the efforts of the many individuals who participated in this exercise. Ogle County and Winnebago County participated along with the State of Illinois Emergency Management Agency.

Protecting the public health and safety is the full-time job of some of the exercise participants and an additional assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork on the part of all the participants were evident during this exercise.

This Final After Action Report/Improvement Plan contains the evaluation of the biennial exercise and the evaluation of the following out-of-sequence interviews and activities:

- Jefferson High School Evacuee Registration and Congregate Care interview
- Protective Actions for Schools interview for Meridian Community Unit School District #223
- Illinois State Police District 16 Headquarters Dosimetry Control Officer Briefing and Traffic and Access Control Post interview
- Mount Morris Police Department Dosimetry Control Officer Briefing and Traffic and Access Control Post interview
- OSF Saint Anthony Medical Center Medical Services Drill

Sections 3 and 4 of this report provide detailed information regarding any Level 1 or Level 2 Findings, Plan Issues, and Schedule of Corrective Actions.

## SECTION 1: INTRODUCTION

### 1.1 Exercise Basis

On December 7, 1979, the President directed FEMA to assume the lead responsibility for all offsite nuclear planning and response. The DHS/FEMA activities are conducted pursuant to Title 44 of the Code of Federal Regulations (CFR) Parts 350 "Review and Approval of State and Local Radiological Emergency Plans and Preparedness," 351 "Radiological Emergency Planning and Preparedness" and 352 "Commercial Nuclear Power Plants: Emergency Preparedness Planning". These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

FEMA Regulation 44 CFR 350 establishes the policies and procedures for the DHS/FEMA initial and continued approval of State and local governments' radiological emergency planning and preparedness for commercial nuclear power plants. This approval is contingent, in part, on State and local governments' participation in joint exercises with licensee.

The DHS/FEMA responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

- Taking the lead in offsite emergency planning and in the review and evaluation of Radiological Emergency Response Plan and procedures developed by State and local governments;
- Determining whether such plans and procedures can be implemented on the basis of observation and evaluation of exercises of the plans and procedures conducted by State and local governments;
- Responding to requests by the U.S. Nuclear Regulatory Commission pursuant to the Memorandum of Understanding between the NRC and FEMA dated October 1, 2015, and;
- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:
  - U.S. Department of Agriculture;
  - U.S. Department of Commerce;
  - U.S. Department of Energy;
  - U.S. Department of Health and Human Services;
  - U.S. Department of the Interior;
  - U.S. Department of Transportation;
  - U.S. Environmental Protection Agency;
  - U.S. Food and Drug Administration; and
  - U.S. Nuclear Regulatory Commission.

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Representatives from these agencies serve on the DHS/FEMA Region V Regional Assistance Committee (RAC), which is chaired by the DHS/FEMA.

Formal submission of the RERP for Byron Station to FEMA Region V by the State of Illinois and involved local jurisdictions occurred on March 28, 1982. Formal approval of these RERP was granted by FEMA on September 12, 1984, under 44 CFR 350.

A Radiological Emergency Preparedness (REP) Partial-Participation Plume Exposure Pathway Exercise was conducted on September 26, 2017, and evaluated by the DHS/FEMA to assess the capabilities of State and local offsite emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the Byron Station. The purpose of this AAR/IP is to present the exercise results and findings based on the performance of the offsite response organizations during a simulated radiological emergency.

The findings presented in this Final After Action Report/Improvement Plan are based on the evaluations of the federal evaluation team, with final determinations made by the DHS/FEMA Region V RAC Chair, and approved by the DHS/FEMA Headquarters.

The criteria utilized in the FEMA evaluation process are contained in:

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;
- FEMA Radiological Emergency Preparedness: Exercise Evaluation Methodology, as published in the FEMA Radiological Emergency Preparedness Manual, dated January 2016.

Section 2 of this report, entitled Exercise Overview, presents exercise details, exercise planning team leadership, and participation organizations.

Section 3 of this report, entitled Analysis of Capabilities, contains the exercise evaluation and results, summary results of the exercise evaluation, and criteria evaluation summaries.

Section 4 of this report, entitled Conclusion, presents detailed information on the demonstration of applicable exercise criteria at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues-only format. This section also contains: (1) descriptions of all Level 1, Level 2, and Plan Issues if any, assessed during this exercise, recommended corrective actions, and the State and local governments' schedule of corrective actions, if applicable, for each identified exercise issue; and (2) descriptions of unresolved Level 2 assessed during previous exercises and the status of the offsite response organization (ORO) efforts to resolve them.

## **1.2 Emergency Planning Zone Description**

Byron Station is located in Ogle County, Illinois. The Station is located on a 1,288 acre site in Rockvale Township, approximately 3.7 miles south-southwest of the City of Byron and 2.2 miles east of the Rock River in Ogle County. The site is situated approximately in the center of the county in a predominantly agricultural area.

The 10-mile EPZ encompasses the following jurisdictions: Ogle County, which includes the municipalities of Byron, Oregon, Stillman Valley, Leaf River, Mt. Morris and Davis Junction, and Winnebago County, which includes the municipalities of Rockford and Seward. The 2010 population of the 10-mile EPZ is 29,282 persons. The primary land use around Byron Station is agricultural, with cash grain crops of corn and soybeans.

Recreational facilities outside the municipalities include the 273 acre Lowden Memorial State Park located 3.5 miles southwest of the Byron Station. The Park has facilities for hiking, camping, picnicking, boating, and fishing. Seven miles south-southwest of the Byron Station is the 1,800 acre Castle Rock State Park and Nature Preserve with facilities for picnicking, fishing, boating, and hiking along the 600 acre Nature Preserve. The 2,225 acres Lowden-Miller State Forest is approximately 6.5 miles southwest of the Byron Station. This facility has trails for year-round hiking, seasonal snow-skiing, and hunting (October to December; 40 hunters per day).

Major transportation facilities in the Byron Station EPZ are limited to Illinois Route 72, 3.5 miles north of the Byron Station; Illinois Route 2, 2.5 miles west of the Byron Station; and Illinois Route 64, 4.5 miles south of the Byron Station. Three rail lines also run through the Byron Station EPZ: the I & M Rail Link, LLC, is 4.5 miles north of the Byron Station; the Burlington Northern and Santa Fe Railway Company 5.5 miles south of the Byron Station; and the Illinois Railnet is 9.5 miles east of the Byron Station.

## **1.3 Exercise Purpose and Design**

The DHS/FEMA Region V Office evaluated the Byron Station REP Partial-Participation Plume Exposure Pathway Exercise conducted on September 26, 2017 to assess the capabilities of local emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the Byron Station. The purpose of this report is to present the results and findings on the performance of the ORO during a simulated radiological emergency.

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

Exercise objectives and identified capabilities/REP criteria selected to be demonstrated are discussed in Appendix E "Extent-of-Play." The Exercise Planning Team (EPT) selected objectives that focus on evaluating emergency response procedures, identifying areas for improvement, and fostering collaboration between the various OROs and stakeholders. This exercise focused on the following objectives:

- ORO demonstration of effective Emergency Operations Management;



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- ORO demonstration of effective Protective Action Decision Making; and
- ORO demonstration of effective Protective Action Implementation;
- ORO demonstration of effective Emergency Notification and Public Information; and
- ORO demonstration of effective Support Operations and Facilities

### **1.5 Scenario Summary**

Appendix F, Scenario Timelines, contains a summary of the exercise scenario, and a simulated sequence of events that was used as the basis for invoking emergency response actions by OROs during the Byron Station REP Partial-Participation Plume Exposure Pathway Exercise on September 26, 2017.

Results of a technical review of the scenario, submitted on June 19, 2017, indicate that the scenario was adequate to support demonstration of the DHS/FEMA requirements, as well as criteria selected by the ORO provided in the State's March 14, 2017; May 22, 2017; May 30, 2017; June 29, 2017; and revised August 29, 2017, extent-of-play submissions.

During the exercise, in addition to information and data provided through the Byron Station onsite scenario, controllers from the state of Illinois provided inject messages containing scenario events and/or relevant data to those persons or locations who would normally receive notification of such events. The inject messages were the method used for invoking additional specific response actions by OROs.

## SECTION 2: EXERCISE OVERVIEW

### 2.1 Exercise Details

**Exercise Name**

Byron 2017 Partial-Participation Radiation Emergency Preparedness Exercise

**Type of Exercise**

Plume Exposure Pathway

**Exercise Date**

September 26, 2017

**Program**

DHS/FEMA Radiological Emergency Preparedness Program

**Scenario Type**

Radiological Emergency

### 2.2 Exercise Planning Team Leadership

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## **2.3 Participating Organizations**

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

### **State Jurisdictions**

Illinois Emergency Management Agency  
Illinois State Police District #16  
Mutual Aid Box Alarm System MABAS

### **Risk Jurisdictions**

Meridian Community School District #223  
Mount Morris Police Department  
Ogle County Board Chairman  
Ogle County Emergency Management Agency  
Ogle County Sheriff's Department  
Rockford Emergency Services and Disaster Agency  
Thomas Jefferson High School, Rockford Public School District #205  
Winnebago County Board Chairman  
Winnebago County Emergency Services and Disaster Agency  
Winnebago County Regional Office of Education  
Winnebago County Sheriff's Department

### **Private Organizations**

American Red Cross  
Exelon Nuclear  
OSF Saint Anthony Medical Center  
Radio Station WRHL

### **Federal Jurisdictions**

Federal Emergency Management Agency  
United States Nuclear Regulatory Commission

## **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 that participated in the September 26, 2017, Byron Station Radiological Emergency Preparedness (REP) Partial-Participation Plume Exposure Pathway Exercise. The exercise was conducted to test the offsite emergency response capabilities of State and local governments in the 10-mile Emergency Planning Zone (EPZ) surrounding the Byron Station.

Each jurisdiction and functional entity was evaluated based on its demonstration of exercise criteria delineated in the FEMA REP Program Manual, dated January, 2016. Appendix E, Extent-of-Play, contains detailed information on the selected exercise criteria and the extent-of-play agreements used for this exercise. Presented below are definitions of the terms used in this report relative to the criteria demonstration status.

- **M – Met:** The status of a REP exercise evaluation area criterion indicating that the participating OROs demonstrated all demonstration criteria for the evaluation area criterion to the level required in the extent-of-play agreement with no Level 1 Findings, Level 2 Findings or Plan Issues assessed in the current exercise and no unresolved prior Level 2 Findings.
- **1 – Level 1 Finding:** An observed or identified inadequacy of organizational performance in an exercise that could cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant.
- **2 – Level 2 Finding –** An observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety.
- **P – Plan Issue –** An observed or identified inadequacy in the ORO's emergency plan or implementing procedures, rather than in the ORO's performance.
- **N – Not Demonstrated –** Exercise criteria that were not demonstrated as scheduled during this exercise and the reason(s) they were not demonstrated.

### **3.2 Summary Results of Exercise Evaluation**

Tables 3.1-3.3, Summary of Exercise Evaluation, on the following pages, presents the status of all exercise criteria from the FEMA REP Program Manual, dated January 2016, which were scheduled for demonstration during this exercise by all participating jurisdictions and functional entities.

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This subsection provides information on the evaluation of each participating jurisdiction and functional entity in a jurisdiction-based, issues-only format.

The DHS/FEMA has developed a standardized system for numbering exercise issues. This system is used to achieve consistency in numbering exercise issues among DHS/FEMA Regions and site-specific exercise reports within each Region. It also is used to expedite tracking of exercise issues on a nationwide basis.

The identifying number of Level 1 Findings, Level 2 Findings, and Plan Issues includes the following elements, with each element separated by a hyphen (-).

- Plant Site Identifier – A two-digit number, corresponding to the Utility Billable Plant Site Code (09 for Byron Station).
- Exercise Year – The last two digits of the year the exercise was conducted.
- Criterion Number – An alpha and two-digit number corresponding to the criteria numbers in the six Exercise Evaluation Areas described in the FEMA REP Program Manual, dated January 2016.
- Issue Classification Identifier – (1 = Level 1 Finding, 2 = Level 2 Finding, P = Plan Issue)

Exercise Identification Number – A separate two or three-digit indexing number assigned to each issue identified in the exercise.

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**Table 3.1 - Summary of Exercise Evaluation – State of Illinois**

DATE: September 26, 2017 SITE: Byron Station M: Met L1: Level 1 Finding L2: Level 2 Finding P: Plan Issue		State – ISP District 16 TACP	State - ISP District 16 DCO Briefing	State – OSF Saint Anthony Hospital	State – OSF Saint Anthony Trans	State – Jefferson HS CCC	State – Jefferson HS Evac	State – IL Rad Advisor Ogle E	State – IL Rad Advisor Winnebago	State – IEMA Advisor Ogle	State – IEMA Advisor Winnebago
Emergency Operations Management											
Mobilization	1a1										
Facilities	1b1										
Direction and Control	1c1										
Communications Equipment	1d1	M	M	M	M						
Equipment and Supplies to Support Operations	1e1	M	M	M	M			M	M	M	M
Protective Action Decision-Making											
EW Exposure Control Decisions	2a1										
PARs	2b1										
PADs	2b2							M			
PADs for Disabled/Functional Needs	2c1										
Ingestion PADs	2d1										
RRR Decisions	2e1										
Protective Action Implementation											
EW Exposure Control Implementation	3a1	M	M	M	M						
KI Public/Institutionalized	3b1										
PAD Implementation Disabled/Functional Needs	3c1										
PAD Implementation Schools	3c2										
TACP Establishment	3d1	M									
Impediments	3d2										
Implement Ingestion PADs	3e1										
Ingestion Pathway Decisions	3e2										
Implementation of RRR Decisions	3f1										
Field Measurement and Analysis											
RESERVED	4a1										
Field Team Management	4a2										
Field Team Operations	4a3										
Field Team Sampling	4b1										
Laboratory Operations	4c1										
Emergency Notification and Public Info											
Initial Alert & Notification	5a1										
RESERVED	5a2										
Backup Alert & Notification	5a3										
Exception Area Alerting	5a4										
Subsequent Information & Instructions	5b1										
Support Operations and Facilities											
Reception Center Operations	6a1						M				
EW Monitoring & Decontamination	6b1										
Congregate Care	6c1					M					
Contaminated Injured	6d1			M	M						

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**Table 3.2 - Summary of Exercise Evaluation – Ogle County**

DATE: September 26, 2017 SITE: Byron Station M: Met L1: Level 1 Finding L2: Level 2 Finding P: Plan Issue		Ogle – IWP	Ogle – EOC	Winnebago Liaison	Ogle TACP EOC	Ogle - DCO Briefing EOC	Ogle - EAS Station WRHL	Ogle – Mt Morris TACP	Ogle – Mt Morris DCO	Ogle – Meridian CUSD 223 Stillman Valley EV2
<b>Emergency Operations Management</b>										
Mobilization	1a1	M	M							
Facilities	1b1		M							
Direction and Control	1c1		M	M						
Communications Equipment	1d1	M	M		M		M	M	M	M
Equipment and Supplies to Support Operations	1e1		M		M	M		M	M	M
<b>Protective Action Decision-Making</b>										
EW Exposure Control Decisions	2a1									
PARs	2b1									
PADs	2b2		M							
PADs for Disabled/Functional Needs	2c1		M							
Ingestion PADs	2d1									
RRR Decisions	2e1									
<b>Protective Action Implementation</b>										
EW Exposure Control Implementation	3a1		M		M	M		M	M	M
KI Public/Institutionalized	3b1		M							
PAD Implementation Disabled/Functional Needs	3c1		M							
PAD Implementation Schools	3c2		M							M
TACP Establishment	3d1		M	M				M		
Impediments	3d2		M	M	M					
Implement Ingestion PADs	3e1									
Ingestion Pathway Decisions	3e2									
Implementation of RRR Decisions	3f1									
<b>Field Measurement and Analysis</b>										
RESERVED	4a1									
Field Team Management	4a2									
Field Team Operations	4a3									
Field Team Sampling	4b1									
Laboratory Operations	4c1									
<b>Emergency Notification and Public Info</b>										
Initial Alert & Notification	5a1		2				M			
RESERVED	5a2									
Backup Alert & Notification	5a3									
Exception Area Alerting	5a4									
Subsequent Information & Instructions	5b1		M							
<b>Support Operations and Facilities</b>										
Reception Center Operations	6a1									
EW Monitoring & Decontamination	6b1									
Congregate Care	6c1									
Contaminated Injured	6d1									



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**Table 3.3 - Summary of Exercise Evaluation - Winnebago County**

DATE: September 26, 2017 SITE: Byron Station M: Met L1: Level 1 Finding L2: Level 2 Finding P: Plan Issue		Winnebago – IWP	Winnebago – EOC	Winnebago – Ogle EOC Liaison	Winnebago - EOC TACP	Winnebago - EOC DCO Briefing
Emergency Operations Management						
Mobilization	1a1	M	M			
Facilities	1b1					
Direction and Control	1c1		M	M		
Communications Equipment	1d1	M	M		M	
Equipment and Supplies to Support Operations	1e1		M		M	M
Protective Action Decision-Making						
EW Exposure Control Decisions	2a1					
PARs	2b1					
PADs	2b2					
PADs for Disabled/Functional Needs	2c1					
Ingestion PADs	2d1					
RRR Decisions	2e1					
Protective Action Implementation						
EW Exposure Control Implementation	3a1		M		M	M
KI Public/Institutionalized	3b1		M			
PAD Implementation Disabled/Functional Needs	3c1					
PAD Implementation Schools	3c2					
TACP Establishment	3d1		M	M	M	
Impediments	3d2		M	M		
Implement Ingestion PADs	3e1					
Ingestion Pathway Decisions	3e2					
Implementation of RRR Decisions	3f1					
Field Measurement and Analysis						
RESERVED	4a1					
Field Team Management	4a2					
Field Team Operations	4a3					
Field Team Sampling	4b1					
Laboratory Operations	4c1					
Emergency Notification and Public Info						
Initial Alert & Notification	5a1					
RESERVED	5a2					
Backup Alert & Notification	5a3					
Exception Area Alerting	5a4					
Subsequent Information & Instructions	5b1					
Support Operations and Facilities						
Reception Center Operations	6a1					
EW Monitoring & Decontamination	6b1					
Congregate Care	6c1					
Contaminated Injured	6d1					

### **3.3 Criteria Evaluation Summaries**

#### **3.3.1 State Jurisdictions**

##### **3.3.1.1 Illinois State Police District 16 Headquarters - DCO Briefing**

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.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

##### **3.3.1.2 Illinois State Police District 16 Headquarters – TACP**

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, 3.d.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

##### **3.3.1.3 Jefferson High School - Evacuee Registration**

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

- a. MET: 6.a.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

##### **3.3.1.4 Jefferson High School – Congregate Care**

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

- a. MET: 6.c.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

### **3.3.1.5 Ogle County EOC - Illinois State Liaison**

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

- a. MET: 1.e.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

### **3.3.1.6 Ogle County EOC - Illinois State Radiological Advisor**

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

- a. MET: 1.e.1, 2.b.2.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

### **3.3.1.7 OSF Saint Anthony Medical Center - Medical Services – Facility**

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, 6.d.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

### **3.3.1.8 OSF - Saint Anthony Medical Center - Medical Service – Transport**

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, 6.d.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

### **3.3.1.9 Winnebago County EOC - Illinois State Liaison**

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

- a. MET: 1.e.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE

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- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

**3.3.1.10 Winnebago County EOC - Illinois State Radiological Advisor**

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

- a. MET: 1.e.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

**3.3.2 Risk Jurisdictions**

**3.3.2.1 Emergency Broadcast Station – WRHL**

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

- a. MET: 1.d.1, 5.a.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

**3.3.2.2 Ogle County Emergency Operations Center**

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.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.b.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: 5.a.1.
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

**LOCATION:** Ogle County Emergency Operations Center

**ISSUE NO:** 09-17-5a1-L2-1

**CRITERION:** 5.a.1

**CONDITION:** The WRHL station engineer recorded the Protective Action Decision message via landline telephone with the Ogle County Emergency Operations Center. However, the station engineer was not instructed when to commence the emergency message broadcast to coordinate with the siren activation, at what interval to re-broadcast the message, or when to

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terminate broadcast. Additionally, the Ogle County official did not offer a code word to validate authenticity of the caller.

**CORRECTIVE ACTION:** This criterion was successfully redemonstrated on October 16, 2017 at the Ogle County Emergency Operations Center located at 510 Lincoln Highway, Rochelle, IL.

**3.3.2.3 Winnebago County 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.a.1, 3.b.1, 3.d.1, 3.d.2.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

**3.3.2.4 Ogle County Initial Warning Point**

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

- a. MET: 1.a.1, 1.d.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

**3.3.2.5 Winnebago County Initial Warning Point**

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

- a. MET: 1.a.1, 1.d.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

**3.3.2.6 Meridian Community Unit School District #223 - Evacuation School**

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, 3.c.2.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

### **3.3.2.7 Mount Morris Police Department - DCO Briefing**

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.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

### **3.3.2.8 Mount Morris Police Department - TACP**

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, 3.d.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

### **3.3.2.9 Ogle County Sheriff's Department - DCO Briefing**

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

- a. MET: 1.e.1, 3.a.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

### **3.3.2.10 Ogle County Sheriff's Department - TACP**

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, 3.d.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

### **3.3.2.11 Winnebago County EOC - DCO Brief**

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

- a. MET: 1.a.1, 1.d.1, 3.a.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE

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- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

**3.3.2.12 Winnebago County EOC - TACP**

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

- a. MET: 1.a.1, 1.d.1, 3.a.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

**3.3.2.13 Winnebago County Liaison to Ogle County**

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

- a. MET: 1.a.1, 1.d.1.
- b. LEVEL 1 FINDINGS: NONE
- c. LEVEL 2 FINDINGS: NONE
- d. PLAN ISSUES: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

## **SECTION 4: CONCLUSION**

There were no Level 1 or Level 2 findings or plan issues identified for the state of Illinois or Winnebago County.

There were no Level 1 findings or plan issues identified for Ogle County. There was one Level 2 finding identified with the Ogle County Emergency Operation Center regarding Assessment Area 5, Emergency Notification and Public Information. The specific criterion was successfully redemonstrated on October 16, 2017. Further details may be found in Appendix A, Improvement Plan.

Based on the results of the exercise, the planning and preparedness for the state of Illinois and affected local jurisdictions provide reasonable assurance that appropriate measures can be taken to protect public health and safety. Therefore, Title 44 CFR Part 350, approval of the offsite radiological emergency response plans and preparedness for the state of Illinois, remains in effect.



## APPENDIX A: IMPROVEMENT PLAN

This section summarizes the findings from the of the evaluation of all jurisdictions and functional entities that participated in the September 26, 2017, Radiological Emergency Preparedness Partial-Participation Plume Exposure Pathway Exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile Emergency Planning Zone surrounding the Byron Station, recommended corrective actions, and a schedule of corrective actions for the identified primary responsible agency.

**Finding: 09-17-5a1-L2-1**

**Ogle County – EOC**

**Criterion: 5.a.1**

**ISSUE:**

The station engineer recorded the Protective Action Decision message via landline telephone with the Ogle County Emergency Operations Center. However, the station engineer was not instructed when to commence the emergency message broadcast to coordinate with the siren activation, at what interval to re-broadcast the message, or when to terminate broadcast. Additionally, the Ogle County official did not offer a code word to validate authenticity of the caller.

**RECOMMENDATION:**

Ogle County should review their plans and procedures, provide training to responders regarding the implementation of plans and procedures, and redemonstrate Criterion 5.a.1. within 120 days of this exercise.

**CORRECTIVE ACTION DESCRIPTION:**

Redemonstration was successfully conducted on October 16, 2017.

**CAPABILITY:**

Emergency Public Information and Warning

**PRIMARY RESPONSIBLE AGENCY:**

Ogle County Emergency Management Agency

**CAPABILITY ELEMENT:**

Emergency Operations Center

**START DATE:**

September 26, 2017

**AGENCY POC:**

Tom Richter 815-562-1001

**ESTIMATED COMPLETION DATE:**

October 16, 2017

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## APPENDIX B: EXERCISE TIMELINE

Emergency Classification Level or Event	Time Utility Declared	Ogle	Winnebago
Unusual Event (end of verification call for ECLs)	N/A	N/A	N/A
Alert	0810 CDT	0837 CDT	0842 CDT
Site Area Emergency	0920 CDT	0934 CDT	0955 CDT
General Emergency	1030 CDT	1042 CDT	1047 CDT
Release of Radioactive Material Started	1042 CDT	1043 CDT	1047 CDT
Release of Radioactive Material Terminated	N/A	N/A	N/A
Facility Declared Operational		0905 CDT	0930 CDT
Declaration of State/Local Emergency		N/A	N/A
Exercise Termination		1233 CDT	1229 CDT
Early Precautionary Action Decision: <evacuate state parks and hunting areas.>		1102 CDT	N/A
Early Precautionary Action Decision: <livestock advisory.>		1103 CDT	N/A
Early Precautionary Action Decision: < air, water and rail traffic restrictions.>		1050 CDT	N/A
Early Precautionary Action Decision: <evacuate schools and/or special populations.>		1050 CDT	1104 CDT
General Information Message: <public advised of incident at Byron Station.>		1006 CDT	1030 CDT
Siren Activation:		N/A	N/A
EAS Message:		N/A	N/A
Protective Action Recommendation: evacuation of sub-area 1		1042 CDT	N/A
Protective Action Decision		1050 CDT	N/A
Siren Activation		1107 CDT	N/A
EAS Message		1122 CDT	N/A
Protective Action Recommendation: evacuation of sub-areas:		N/A	N/A
Protective Action Decision		N/A	N/A
Siren Activation		N/A	N/A
EAS Message		N/A	N/A
KI PAD Emergency Workers and Immobile Populations Decision		N/A	N/A

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## APPENDIX C: EXERCISE EVALUATION TEAM

DATE: September 26, 2017

SITE: Byron Nuclear Station

LOCATION	TEAM LEADER	AGENCY
Emergency Broadcast Station - WRHL	David Persaud	FEMA Region V
Winnebago County Emergency Operations Center	Janet Hlavaty-LaPosa	FEMA Region X
Ogle County Emergency Operations Center	David Persaud	FEMA Region V
Illinois State Police District 1 Headquarters - DCO Briefing	David Ortman	FEMA Region V
Illinois State Police District 1 Headquarters - TACP	David Ortman	FEMA Region V
Winnebago County Initial Warning Point	Janet Hlavaty-LaPosa	FEMA Region X
Ogle County Initial Warning Point	David Persaud	FEMA Region V
Jefferson HS - Congregate Care Center	David Ortman	FEMA Region V
Jefferson HS - Evacuee Registration	David Ortman	FEMA Region V
Meridian Community Unit School District #223	David Persaud	FEMA Region V
Mount Morris Police Department - DCO Briefing	David Persaud	FEMA Region V
Mount Morris Police Department - TACP	David Persaud	FEMA Region V
Ogle County EOC - Illinois State Liaison	David Persaud	FEMA Region V
Ogle County EOC - Illinois State Radiological Advisor	David Persaud	FEMA Region V
OSF - Saint Anthony Medical Center - Medical Service - Transport	David Ortman	FEMA Region V
OSF Saint Anthony Medical Center - Medical Services - Facility	David Ortman	FEMA Region V
Ogle County Sheriff's Department - DCO Briefing	David Persaud	FEMA Region V
Ogle County Sheriff's Department - TACP	David Persaud	FEMA Region V
Winnebago County EOC - Illinois State Radiological Advisor	Janet Hlavaty-LaPosa	FEMA Region X
Winnebago County Liaison to Ogle County	Janet Hlavaty-LaPosa	FEMA Region X

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<b>LOCATION</b>	<b>TEAM LEADER</b>	<b>AGENCY</b>
Winnebago County EOC - DCO Brief	Janet Hlavaty-LaPosa	FEMA Region X
Winnebago County EOC - TACP	Janet Hlavaty-LaPosa	FEMA Region X
Emergency Broadcast Station - WRHL	John Wills	ICFI
Winnebago County EOC	Marcy Campbell	ICFI
Ogle County EOC	Clark Duffy	ICFI
Winnebago County EOC	James Greer	ICFI
Ogle County EOC	Meg Swearingen	ICFI
Ogle County EOC	Michael Petullo	ICFI
Illinois State Police District 1 Headquarters - DCO Briefing	Alvin Blake	FEMA Region V
Illinois State Police District 1 Headquarters - TACP	David Persaud	FEMA Region V
Winnebago County Initial Warning Point	Dennis Wilford	ICFI
Ogle County Initial Warning Point	Ronald Bonner	ICFI
Jefferson HS - Congregate Care Center	Kimberly Alahmadi	FEMA Region V
Jefferson HS - Evacuee Registration	David Ortman	FEMA Region V
Meridian Community Unit School District #223	David Persaud	FEMA Region V
Mount Morris Police Department - DCO Briefing	David Persaud	FEMA Region V
Mount Morris Police Department - TACP	James King	FEMA Region V
Ogle County EOC - Illinois State Liaison	Ronald Bonner	ICFI
Ogle County EOC - Illinois State Radiological Advisor	Ronald Bonner	ICFI
OSF - Saint Anthony Medical Center - Medical Service - Transport	James King	FEMA Region V
OSF Saint Anthony Medical Center - Medical Services - Facility	Brian Reinhart	FEMA Region V

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LOCATION	TEAM LEADER	AGENCY
Ogle County Sheriff's Department - DCO Briefing	Clark Duffy	ICFI
Ogle County Sheriff's Department - TACP	Gary Bolender	ICFI
Winnebago County EOC - Illinois State Radiological Advisor	Marcy Campbell	ICFI
Winnebago County Liaison to Ogle County	Gary Bolender	ICFI
Winnebago County Liaison to Ogle County	Ronald Bonner	ICFI
Winnebago County EOC - DCO Brief	Dennis Wilford	ICFI
Winnebago County EOC - TACP	Paul Ringheiser	ICFI

## APPENDIX D: ACRONYMS AND ABBREVIATIONS

ACRONYM	DESCRIPTION
AAR	After Action Report
ARC	American Red Cross
BPO	Byron Police Officer
CCC	Congregate Care Center
CDE	Committed Dose Equivalent
CFR	Code of Federal Regulations
CPM	Counts Per Minute
DCO	Dosimetry Control Officer
DHS	Department of Homeland Security
DLR	Dosimeter of Legal Record
DPM	Disaster Program Manager
DRD	Direct Read Dosimeter
EAL	Emergency Action Level
EAS	Emergency Alert System
ECL	Emergency Classification Level
ED	Emergency Department

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ACRONYM	DESCRIPTION
EMA	Emergency Management Agency
EMC	Emergency Management Coordinator
EMT	Emergency Medical Technicians
EOC	Emergency Operation Center
EOF	Emergency Operations Facility
EPI	Emergency Public Information
EPT	Exercise Planning Team
EPZ	Emergency Planning Zone
ESDA	Emergency Services and Disaster Agency
EST	Equipment Status Tag
EW	Emergency Worker
FEMA	Federal Emergency Management Agency
GE	General Emergency
GIS	Geographical Information Systems
IC	Incident Commander
ICC	Illinois Commerce Commission
IEMA	Illinois Emergency Management Agency
IESMA	Illinois Emergency Services Management Association

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<b>ACRONYM</b>	<b>DESCRIPTION</b>
ILEAS	Illinois Law Enforcement Alarm System
IMT	Incident Management Team
IP	Improvement Plan
ISP	Illinois State Police
IWP	Initial Warning Point
JIC	Joint Information Center
LD	Luminescent Dosimeter
MABAS	Mutual Aid Box Alarm System
MRT	Medical Radiation Technician
NARS	Nuclear Accident Reporting System
NRC	Nuclear Regulatory Commission
NIMS	Nation Incident Management System
NMT	Nuclear Medical Technician
NRC	Nuclear Regulatory Commission
OCBC	Ogle County Board Chair
OCEOC	Ogle County Emergency Operations Center
OCHD	Ogle County Health Department
OCS	Ogle County Sheriff



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ACRONYM	DESCRIPTION
ORO	Offsite Response Organization
OSLD	Optically Stimulated Luminescent Dosimeter
PAD	Protective Action Decision
PAR	Protective Action Recommendation
PDP	Personnel Dosimetry Packet
PIC	Personal Ion Chamber
PIO	Public Information Officer
PPE	Personal Protective Equipment
PRD	Permanent Record Dosimeter
PRM	Portal Radiation Monitors
RAC	Regional Assistance Committee
RAFT	Radiological Assessment Field Team
RCS	Reception Center Supervisor
REA	Radiological Exclusion Area
REAC	Radiological Emergency Assessment Center
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
RRG	Radiological Response Group

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<b>ACRONYM</b>	<b>DESCRIPTION</b>
RTF	Radiological Task Force
SAE	Site Area Emergency
SEOC	State Emergency Operations Center
SIMCELL	Simulation Cell
TAC	Traffic and Access Control
TACP	Traffic and Access Control Point
TEDE	Total Effective Dose Equivalent
TICP	Tactical Interoperable Communications Plan
TJHS	Thomas Jefferson High School
TSC	Technical Support Facility
UE	Unusual Event
WCSD	Winnebago County Sheriff's Department

## **APPENDIX E: EXTENT-OF-PLAY**

This appendix lists the exercise criteria which were scheduled for demonstration in the Byron Station Radiological Emergency Preparedness Partial-Participation Plume Exposure Pathway Exercise on September 26, 2017, and the offsite Extent-of-Play agreement accepted by DHS/FEMA Region V on August 30, 2017. The exercise criteria, contained in the FEMA Radiological Emergency Preparedness (REP) Program Manual (January 2016), represent a functional translation of the planning standards and evaluation criteria of NUREG-0654/FEMA-REP-1, Rev1, "Criteria for the Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980. Because the exercise criteria are intended for use at all nuclear power plant sites, and because of variations among offsite plans and procedures, an Extent-of-Play agreement is prepared by the State and accepted by DHS/FEMA to provide Evaluators with guidance on expected actual demonstration of the criteria.

### **Exercise Criteria**

Listed on the following pages are the specific radiological emergency preparedness criteria that were scheduled for demonstration during this exercise.

## STATE OF ILLINOIS EXTENT-OF-PLAY AGREEMENT

### FOR THE BYRON STATION EXERCISE

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Criteria that can be redemonstrated immediately for credit, at the discretion of the evaluator, include the following: 3.a.1, 3.d.1, 6.a.1, 6.b.1, 6.c.1 and 6.d.1. Criteria that may be redemonstrated, as approved on a case-by-case basis by the Chairperson of the Regional Assistance Committee, include the following: 2.a.1, 2.b.1, 2.b.2, 3.d.2, 5.a.1 and 5.b.1.

**NOTE: If the exercise scenario, or related exercise play, does not prompt specific criteria-related actions, individual criteria may be addressed through a functional interview or alternative scenario-driven task demonstration. When utilized, this process will be done in a manner not to disrupt or interfere with normal exercise play.**

#### **EVALUATION AREA 1 - EMERGENCY OPERATIONS MANAGEMENT**

**Criterion 1.a.1:** OROs use effective procedures to alert, notify and mobilize emergency personnel and activate facilities in a timely manner.

The State Emergency Operations Center (SEOC), which houses the IEMA Communications Center (Initial Warning Point), and the Radiological Emergency Assessment Center (REAC), will **NOT** be activated. **SIMCELLS will be established to play the roles of SEOC and REAC. The SIMCELLS will support Ogle and Winnebago County exercise play, but will not be evaluated.** The IEMA Emergency Response Telecommunicator will support county-level exercise play, but will not be evaluated.

The state Unified Area Command (UAC) will not be evaluated, but will operate as a SIMCELL to support state and county play, located in Springfield. A FEMA observer is not requested for the UAC.

Radiological Assessment Field Team (RAFT) and mobile lab will **NOT** be activated. IEMA personnel will be prepositioned in the local area and dispatched to the Ogle County EOC, and Winnebago County EOC. FEMA will not evaluate the TSC.

The prepositioned State staff will begin exercise play no earlier than the Alert.

**Criterion 1.b.1:** Facilities are sufficient to support the emergency response.

This criterion will not be demonstrated during this exercise at REAC, SEOC and the IEMA Communications Center.

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**Criterion 1.c.1:** Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible.

The ability to direct and control emergency response activities will NOT be demonstrated. Coordination will NOT be demonstrated, but the state will support county exercise play.

**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.

This criterion will not be demonstrated.

**Criterion 1.e.1:** Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations.

The State of Illinois will demonstrate the use of equipment, maps and displays to support emergency operations only at the Ogle County EOC and Winnebago County EOC. Dosimetry Control Officer (DCO) logs will be available from an IEMA Radiological Advisor in the Ogle County EOC.

A DCO briefing/Traffic and Access Control (TAC) interview was conducted by Illinois State Police District 16 during an out-of-sequence interview on **Tuesday, July 25th at 9:00 AM** (confirmed) at District 16 Headquarters in Pecatonica. During this event, the availability of dosimetry will be demonstrated. No more than 10% of ISP District 16 dosimetry kits will be inspected during the interview to confirm serial numbers.

## **EVALUATION AREA 2 - PROTECTIVE ACTION DECISION MAKING**

**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.

The ability to make the decision to recommend the use of KI to emergency workers will NOT be demonstrated in REAC.

**Criterion 2.b.1:** Appropriate protective action recommendations are based on available information on plant conditions, field monitoring data and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions.

This criterion will not be evaluated during this exercise.

**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).

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The State PAR will be transmitted to Ogle County via NARS to support exercise play, but will not be evaluated.

**Criterion 2.c.1:** Protective action decisions are made, as appropriate, for groups of people with disabilities and those with access/functional needs.

The State PAR will be transmitted to Ogle County via NARS, and then forwarded to Ogle County Officials at the Winnebago County EOC to support exercise play, but will not be evaluated.

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

This criterion will not be demonstrated during this exercise.

**Criterion 2.e.1:** Timely post-plume phase re-location, re-entry and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the OROs plan and/or procedures.

This criterion will not be demonstrated during this exercise.

**EVALUATION AREA 3 - PROTECTIVE ACTION IMPLEMENTATION**

**Criterion 3.a.1:** The OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with the plan and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. Appropriate record-keeping of the administration of KI for emergency workers is maintained.

A DCO briefing/Traffic and Access Control (TAC) interview was conducted by Illinois State Police District 16 during an out-of-sequence interview on **Tuesday, July 25<sup>th</sup> at 9:00 AM** at District 16 Headquarters in Pecatonica.

**Criterion 3.b.1:** KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for institutionalized individuals is maintained.

This criterion will not be evaluated.

**Criterion 3.c.1:** Protective action decisions are implemented for people with disabilities and those with access/functional needs other than schools within areas subject to protective actions.

This criterion does not apply to the State of Illinois.

**Criterion 3.c.2:** OROs/School officials decide upon and implement protective actions for schools.

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This criterion does not apply to the State of Illinois.

**Criterion 3.d.1:** Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel.

This criterion will not be demonstrated during the exercise. An out-of-sequence DCO briefing/Traffic and Access Control (TAC) interview was conducted by Illinois State Police District 16 during an out-of-sequence interview on **Tuesday, July 25th at 9:00 AM** at District 16 Headquarters in Pecatonica.

**Criterion 3.d.2:** Impediments to evacuation are identified and resolved.

This criterion will not be demonstrated during this exercise.

**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.

This criterion will not be demonstrated during this exercise.

**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.

This criterion will not be demonstrated during this exercise.

**Criterion 3.f.1:** Decisions regarding controlled re-entry, relocation, and return of individuals during the post-plume phase are coordinated with appropriate organizations and implemented.

This criterion will not be demonstrated during this exercise.

**EVALUATION AREA 4 - FIELD MEASUREMENT AND ANALYSIS**

**Criterion 4.a.1:** {Reserved}

**Criterion 4.a.2:** Field teams (2 or more) are managed to obtain sufficient information to help characterize the release and to control radiation exposure.

This criterion will NOT be demonstrated during the exercise.

**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.

This criterion will NOT be demonstrated during the exercise.

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**Criterion 4.b.1:** The field teams demonstrate 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.

This criterion will not be demonstrated during this exercise.

**Criterion 4.c.1:** The laboratory is capable of performing required radiological analyses to support protective action decisions.

This criterion will NOT be demonstrated during the exercise.

**EVALUATION AREA 5 - EMERGENCY NOTIFICATION AND PUBLIC INFORMATION**

**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.

This criterion will NOT be demonstrated during the exercise.

**Criterion 5.a.2:** [RESERVED]

**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.

This criterion does not apply to the State of Illinois.

**Criterion 5.a.4:** Activities associated with FEMA-approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation.

This criterion does not apply to the State of Illinois.

**Criterion 5.b.1:** OROs provide accurate emergency information and instructions to the public and the news media in a timely manner.

This criterion will NOT be demonstrated during this exercise.

A rumor control phone bank for public inquiries will not be operated by the State during the exercise.

The State of Illinois does not currently recommend the use of KI by the general public. However the State SIMCELL may address the general public, who has KI, regarding the proper time to consider taking KI through the JIC, if applicable in the scenario to support the counties, but will not be evaluated.



### **EVALUATION AREA 6 - SUPPORT OPERATION/FACILITIES**

**Criterion 6.a.1:** The reception center facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees.

An interview of State and local officials and inspection of Jefferson High School (Rockford, IL) was conducted on **Tuesday, July 25th, at 11:00 a.m.** The following organizations were represented at the interview: local EMA, Police and Fire Departments, American Red Cross and IEMA. Evacuees will not be processed. Monitoring equipment will not be available at the interview/inspection.

**Criterion 6.b.1:** The facility/ORO has adequate procedures and resources to accomplish monitoring and decontamination of emergency workers and their equipment and vehicles.

This criterion will not be demonstrated during this exercise.

**Criterion 6.c.1:** Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross planning guidelines. Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities.

An interview of State and local officials and inspection of Jefferson High School (Rockford, IL) was conducted on **Tuesday, July 25th, at 11:00 a.m.** The following organizations were represented at the interview: local EMA, Police and Fire Departments, American Red Cross and IEMA. Evacuees will not be processed. Monitoring equipment will not be available at the interview/inspection.

**Criterion 6.d.1:** The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals.

This criterion was demonstrated during an out of sequence drill conducted at St. Anthony Hospital on **July 25th, at 8:30 a.m.**

# OGLE COUNTY EXTENT-OF-PLAY AGREEMENT

## FOR THE BYRON STATION EXERCISE

September 26th, 2017

Criteria that can be redemonstrated immediately for credit, at the discretion of the evaluator, include the following: 3.a.1, 3.d.1, 6.a.1, 6.b.1, 6.c.1 and 6.d.1. Criteria that may be redemonstrated, as approved on a case-by-case basis by the Chairperson of the Regional Assistance Committee, include the following: 2.a.1, 2.b.1, 2.b.2, 3.d.2, 5.a.1 and 5.b.1.

**NOTE:** If the exercise scenario, or related exercise play, does not prompt specific criteria-related actions, individual criteria may be addressed through a functional interview or alternative scenario-driven task demonstration. When utilized, this process will be done in a manner not to disrupt or interfere with normal exercise play.

### EVALUATION AREA 1 - EMERGENCY OPERATIONS MANAGEMENT

**Criterion 1.a.1:** OROs use effective procedures to alert, notify and mobilize emergency personnel and activate facilities in a timely manner.

Ogle County will fully activate the Emergency Operations Center (EOC) in Rochelle, Illinois. The County will implement notification procedures as defined in IPRA-Byron. Representatives from the EPZ municipalities, Winnebago County, IEMA, ISP and Exelon will staff the County EOC but will not be pre-positioned in the EOC. A roster will be provided to demonstrate 24-hour staffing of the EOC. The evaluator will not be allowed to remove the roster from the EOC.

An evaluator will be positioned at the County Sheriff's Communications Center (initial warning point) at the start of the exercise.

**Criterion 1.b.1:** Facilities are sufficient to support the emergency response.

This criterion will be evaluated during the exercise.

**Criterion 1.c.1:** Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible.

Decision making will be demonstrated at the Ogle County EOC. Coordination of decisions and emergency activities will be demonstrated between Ogle County, the State Emergency Operation Center (SEOC) (SIMCELL) and the JIC (SIMCELL), and between the County and municipalities within the EPZ. Coordination between Ogle County and Winnebago County will be demonstrated.

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**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.

Ogle County may use a combination of NARS, commercial telephone, cellular telephone, electronic mail, radio and telefax to communicate with departments/agencies. Ogle County may choose to use WebEOC during the exercise, but on an unevaluated, trail basis.

**Criterion 1.e.1:** Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations.

Ogle County will demonstrate the ability to support operations through the use of maps, status boards and other displays as appropriate. DCO logs will be available from the IEMA Radiological Advisor in the Ogle County EOC. The availability of dosimetry and KI will be demonstrated during the traffic and access control demonstration and the school interview.

The DCO briefing for the Ogle County deputy demonstrating traffic and access control will be conducted at the Ogle County EOC during the exercise. The DCO briefing for the Mt. Morris Police officer demonstrating traffic and access control was conducted on Monday, July 24th at 3:00 pm (tentative) at the Mt. Morris Department.

## **EVALUATION AREA 2 - PROTECTIVE ACTION DECISION MAKING**

**Criterion 2.a.1:** OROs use a decision-making process, considering relevant factors and appropriate coordination, to insure 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.

This criterion does not apply to Ogle County.

**Criterion 2.b.1:** Appropriate protective action recommendations are based on available information on plant conditions, field monitoring data and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions.

This criterion does not apply to Ogle County.

**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).

The State of Illinois will make protective action recommendations to Ogle County officials in the Ogle County EOC. The Ogle County officials will make the final decision regarding what protective actions will be recommended to the public. Coordination between the ICP and the Ogle County EOC will be demonstrated.

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**Criterion 2.c.1:** Protective action decisions are made, as appropriate, for groups of people with disabilities and those with access/functional needs.

The State of Illinois will make protective action recommendations to Ogle County officials in the County EOC. The Ogle County officials will make the final decision regarding what protective actions will be recommended for groups of people with disabilities and those with access/functional needs.

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

This criterion does not apply to Ogle County.

**Criterion 2.e.1:** Timely post-plume phase re-location, re-entry and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the OROs plan and/or procedures.

This criterion will not be demonstrated during this exercise.

**EVALUATION AREA 3 - PROTECTIVE ACTION IMPLEMENTATION**

**Criterion 3.a.1:** The OROs issue appropriate Dosimetry, KI, and procedures and manage radiological exposure to emergency workers in accordance with the plan and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. Appropriate record-keeping of the administration of KI for emergency workers is maintained.

Ogle County will demonstrate this criterion by close coordination with the IEMA Radiological Advisor and timely dissemination and exchange of information within the County Dosimetry Control Officer network. Exercise messages will be injected which will ensure the opportunity to demonstrate this criterion in the Ogle County EOC.

This criterion will also be demonstrated during the traffic and access control demonstration and the school interview.

The DCO briefing for the Ogle County deputy demonstrating traffic and access control will be conducted at the Ogle County EOC during the exercise. The DCO briefing for the Mt. Morris Police officer demonstrating traffic and access control was conducted on Monday, July 24th at 3:00 PM (confirmed) at the Mt. Morris Police Department.

**Criterion 3.b.1:** KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for institutionalized individuals is maintained.

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When notified by the State of Illinois to distribute and administer KI, Ogle County officials will discuss the issuance of KI and immobile populations, as a voluntary measure, and will notify the municipalities of the State's recommendation.

The State of Illinois will make an announcement through the JIC of the appropriate time for the public to consider voluntarily taking KI.

**Criterion 3.c.1:** Protective action decisions are implemented for people with disabilities and those with access/functional needs other than schools within areas subject to protective actions.

This will be demonstrated by Ogle County through the simulated implementation of the appropriate procedures. The appropriate officials will coordinate transportation and receiving facilities for people with disabilities and those with access/functional needs other than schools within areas subject to protective actions. One of each type of special facility will be contacted during the exercise. One of each type of transportation provider (ambulance/bus) will be contacted during the exercise. The public will not be involved in the demonstration.

The Mobility Impaired List/Cards will be available for inspection in the County EOC during the exercise. The evaluator will not be allowed to remove the list/cards from the EOC.

**Criterion 3.c.2:** OROs/School officials decide upon and implement protective actions for schools.

Ogle County officials will demonstrate this capability through the simulated implementation of the appropriate procedures in the Ogle county EOC. The EPZ schools and transportation providers will be contacted during the exercise.

A School interview (EV-2) was conducted with the Meridian CUSD #223 on **Wednesday, August 23<sup>rd</sup> at 10:30 am**. The roles of the superintendent, principal, teacher, transportation coordinator, bus driver, maintenance supervisor and DCO were represented at the interview.

**Criterion 3.d.1:** Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel.

Coordination between Ogle County agencies designated to provide traffic and access control will be exhibited in the Ogle County EOC. For the demonstration, a post will be selected by Ogle County or the exercise controller during the exercise based on exercise play. A deputy will not be asked to drive to the selected post location for the demonstration, but will provide adequate information to the evaluator to describe the process of staffing the selected post. The staffing of the remaining posts will be simulated.

A Mt. Morris Police officer demonstrated traffic and access control procedures on Monday, July 24th at 3:00 PM at the Mt. Morris Police Department. Any traffic and access control assignments will be simulated and not require the officer to drive to a location.

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**Criterion 3.d.2:** Impediments to evacuation are identified and resolved.

The Ogle County EOC staff will demonstrate the capability to identify and take appropriate actions concerning impediments to evacuation. A message will be injected by the Controller that will drive this demonstration. County personnel will deal with the impediment by identifying the equipment needed, discussing its estimated time of arrival, etc. Actual contacts with resource providers will be made and logged. The impediment information will also be coordinated into public messaging (i.e., via media briefing, notifying the JIC, etc.) to communicate alternative routes to potential evacuees.

**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.

This criterion does not apply to Ogle County.

**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.

This criterion does not apply to Ogle County.

**Criterion 3.f.1:** Decisions regarding controlled re-entry, relocation and return of individuals during the post-plume phase are coordinated with appropriate organizations and implemented.

This criterion will be not be demonstrated this exercise.

**EVALUATION AREA 4 - FIELD MEASUREMENT AND ANALYSIS**

This evaluation area does not apply to Ogle County.

**EVALUATION AREA 5 - EMERGENCY NOTIFICATION AND PUBLIC INFORMATION**

**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.

Ogle County will demonstrate the capability to provide both an alert signal and an instructional message to populated areas throughout the 10-mile plume pathway EPZ in a timely manner after their decision to activate the alert and notification system to implement protective action decisions (PAD).

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This capability will be demonstrated through the simulated activation of the Byron Station EPZ Prompt Notification System as defined in IPRA-Byron. The Prompt Notification System (outdoor warning sirens) will not be activated during the exercise.

The ability to provide instructions to the public will be demonstrated through the simulated activation of the local radio station (WRHL). The local radio station will be contacted during the first, and possibly the second, alert and notification sequence. An evaluator and a controller will be positioned at the radio station during the exercise to monitor the initial message. If the initial message does not contain a PAR, the evaluator and controller will stay at the radio station until a message containing a PAR is received.

The IEMA Controller will terminate the demonstration if the demonstration interferes with the radio station's daily operations.

**Criterion 5.a.2: [RESERVED]**

**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.

This criterion will not be demonstrated in this exercise by Ogle County.

**Criterion 5.a.4:** Activities associated with FEMA-approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation.

This criterion does not apply to Ogle County.

**Criterion 5.b.1:** OROs provide accurate emergency information and instructions to the public and the news media in a timely manner.

Ogle County will demonstrate this criterion by using pre-scripted messages as indicated in IPRA-Byron. Contact with the radio station will be simulated for each alert and notification sequence following the message containing a protective action recommendation.

The ability to provide information to the media will be demonstrated by Ogle County through briefings held at the Ogle County media briefing location. If real media are not present for the briefings, the controller and observers will serve as mock media. Evaluators will not serve as mock media.

The ability to deal with rumors will be demonstrated by Ogle County through coordination between the County EOC and the JIC support unit at the SEOC. The Ogle County EOC controller will inject exercise messages that will ensure the opportunity to demonstrate this criterion. County officials will investigate and address "rumors." If appropriate, the "rumors" will be coordinated between State and County officials in the County EOC and the JIC support unit at the SEOC.

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County emergency broadcast messages and news releases, if issued, will be faxed to the JIC.

**EVALUATION AREA 6 - SUPPORT OPERATION/FACILITIES**

This evaluation area does not apply to Ogle County.



## **WINNEBAGO COUNTY EXTENT-OF-PLAY AGREEMENT**

### **FOR THE BYRON STATION EXERCISE**

**September 26th, 2017**

Criteria that can be re-demonstrated immediately for credit, at the discretion of the evaluator, include the following: 3.a.1, 3.d.1, 6.a.1, 6.b.1, 6.c.1 and 6.d.1. Criteria that may be re-demonstrated, as approved on a case-by-case basis by the Chairperson of the Regional Assistance Committee, include the following: 2.a.1, 2.b.1, 2.b.2, 3.d.2, 5.a.1 and 5.b.1.

**NOTE:** If the exercise scenario, or related exercise play, does not prompt specific criteria-related actions, individual criteria may be addressed through a functional interview or alternative scenario-driven task demonstration. When utilized, this process will be done in a manner not to disrupt or interfere with normal exercise play.

#### **EVALUATION AREA 1 - EMERGENCY OPERATIONS MANAGEMENT**

**Criterion 1.a.1:** OROs use effective procedures to alert, notify and mobilize emergency personnel and activate facilities in a timely manner.

Winnebago County intends to activate the Emergency Operations Center (EOC) in Rockford, Illinois, to the appropriate level. The County will implement notification procedures as defined in IPRA-Byron. The EOC will be staffed with representatives from the County Board, ESDA Director or Coordinator, a Sheriff's Department representative, Highway Department representative and Regional Superintendent of Schools representative. If the scenario does not drive protective actions in Winnebago County, the County may decide to down-staff the EOC to a level sufficient to support Ogle County play and represent Winnebago County operational knowledge. A roster will be provided to demonstrate 24-hour county staffing of the EOC. Evaluators will not be allowed to remove the roster from the EOC.

An evaluator will be positioned at the County Sheriff's Communications Center (initial warning point) at the start of the exercise.

**Criterion 1.b.1:** Facilities are sufficient to support the emergency response.

This criterion will be not demonstrated during this exercise.

**Criterion 1.c.1:** Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible.

Coordination of decisions and emergency activities will be demonstrated between

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Winnebago County and Ogle County.

**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.

Winnebago County will use commercial telephone, radio and telefax to communicate with departments and agencies at other locations. Winnebago County may choose to use WebEOC during the exercise, but on an unevaluated, trail basis.

**Criterion 1.e.1:** Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations.

Winnebago County will adequately demonstrate the ability to support operations through the use of maps, status boards and other displays as appropriate. The availability of dosimetry and KI will be demonstrated during the traffic and access control demonstration. The DCO briefing for the deputy demonstrating traffic and access control will be conducted at the County EOC.

**EVALUATION AREA 2 - PROTECTIVE ACTION DECISION MAKING**

**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.

This criterion does not apply to Winnebago County.

**Criterion 2.b.1:** Appropriate protective action recommendations are based on available information on plant conditions, field monitoring data and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions.

This criterion does not apply to Winnebago County.

**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).

This criterion does not apply to Winnebago County. Ogle County is solely responsible for this criterion.

**Criterion 2.c.1:** Protective action decisions are made, as appropriate, for groups of people with disabilities and those with access/functional needs.

This criterion does not apply to Winnebago County.

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

This criterion does not apply to Winnebago County.

**Criterion 2.e.1:** Timely post-plume phase re-location, re-entry and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the OROs plan and/or procedures.

This criterion does not apply to Winnebago County. This function is the responsibility of Ogle County.

**EVALUATION AREA 3 - PROTECTIVE ACTION IMPLEMENTATION**

**Criterion 3.a.1:** The OROs issue appropriate Dosimetry, KI, and procedures and manage radiological exposure to emergency workers in accordance with the plan and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. Appropriate record-keeping of the administration of KI for emergency workers is maintained.

Winnebago County will demonstrate this criterion by close coordination with IEMA and timely dissemination and exchange of information within the County Dosimetry Control Officer network.

This criterion will also be demonstrated during the traffic and access control demonstration. The Sheriff's deputy will obtain dosimetry from the DCO in the County EOC. The DCO briefing for the deputy demonstrating traffic and access control will be conducted at the County EOC.

**Criterion 3.b.1:** KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for institutionalized individuals is maintained.

When notified by the State of Illinois to distribute and administer KI, Winnebago County officials will discuss the issuance of KI to immobile populations, as a voluntary measure.

**Criterion 3.c.1:** Protective action decisions are implemented for people with disabilities and those with access/functional needs other than schools within areas subject to protective actions.

This criterion does not apply to Winnebago County.

**Criterion 3.c.2:** OROs/School officials decide upon and implement protective actions for schools.

This criterion does not apply to Winnebago County.

**Criterion 3.d.1:** Appropriate traffic and access control is established. Accurate instructions are

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provided to traffic and access control personnel.

Coordination between Winnebago County and Ogle County will be demonstrated. Decision making regarding traffic and access control will be demonstrated by the Winnebago County representative in the Ogle County EOC.

A Sheriff's deputy will be available during the exercise to simulate the staffing of one post. The post for the demonstration will be selected by Winnebago County during the exercise based on exercise play. The deputy will not be asked to drive to the selected post location for the demonstration. The staffing of the remaining posts will be simulated.

**Criterion 3.d.2:** Impediments to evacuation are identified and resolved.

The Winnebago County EOC staff will demonstrate the capability to identify and take appropriate actions concerning impediments to evacuation. A message will be injected by the Controller that will drive this demonstration. County personnel will deal with the impediment by identifying the equipment needed, discussing its estimated time of arrival, etc. Actual contacts with resource providers will be made and logged.

The impediment information will also be coordinated into public messaging (i.e., via media briefing, notifying the JIC, etc.) to communicate alternative routes to potential evacuees. Coordination of this task may be demonstrated or coordinated by the Winnebago County Sheriff's Department Liaison, located in the Ogle County EOC, if required by the exercise scenario.

**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.

This criterion does not apply to Winnebago County.

**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.

This criterion does not apply to Winnebago County.

**Criterion 3.f.1:** Decisions regarding controlled re-entry, relocation and return of individuals during the post-plume phase are coordinated with appropriate organizations and implemented.

This criterion does not apply to Winnebago County.

**EVALUATION AREA 4 - FIELD MEASUREMENT AND ANALYSIS**

This evaluation area does not apply to Winnebago County.

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**EVALUATION AREA 5 - EMERGENCY NOTIFICATION AND PUBLIC INFORMATION**

**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 FEMA REP guidance.

This criterion does not apply to Winnebago County. This function is the responsibility of Ogle County.

**Criterion 5.a.2:** [RESERVED]

**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.

This criterion does not apply to Winnebago County.

**Criterion 5.a.4:** Activities associated with FEMA-approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation.

This criterion does not apply to Winnebago County.

**Criterion 5.b.1:** OROs provide accurate emergency information and instructions to the public and the news media in a timely manner.

This criterion does not apply to Winnebago County. This function is the responsibility of Ogle County.

**EVALUATION AREA 6 - SUPPORT OPERATION/FACILITIES**

This evaluation area does not apply to Winnebago County.

## **APPENDIX F: SCENARIO TIMELINES**

This Appendix presents the Off-Site Scenario Timelines for the State of Illinois and the Counties of Ogle and Winnebago that drove the Byron Station Radiological Emergency Preparedness, Partial Participation Plume Exposure Pathway Exercise conducted on September 26, 2017. The timelines include both on-site events and comments and expected off-site response actions.

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## OFFSITE EXERCISE TIMELINE

Approx. Time	Event/Anticipated Response
0800 CDT	Initial conditions/weather forecast message to players.
0810 CDT	An ALERT is declared at Byron Station.
0825 CDT	<p>Exelon notifies the IEMA Telecommunicator of the ALERT via NARS.</p> <p>An IEMA Duty Officer contacts the Dresden Station Shift Engineer.</p> <p>IEMA Telecommunicator notifies IEMA personnel of the ALERT per SOP.</p> <p>IEMA may activate the State Emergency Operation Center (SEOC) and Radiological Emergency Assessment Center (REAC), if appropriate.</p> <p>IEMA may dispatch liaisons to the County EOCs, Unified Area Command (UAC), Radiological Assessment Field Team (RAFT) Staging Area, Joint Information Center (JIC), Technical Support Center (TSC) and Emergency Operations Facility (EOF), if appropriate.</p> <p>IEMA notifies Governor's Office of the ALERT. (Simulated)</p> <p>IEMA Telecommunicator notifies appropriate State agencies of the ALERT.</p> <p>IEMA notifies FEMA of the ALERT.</p>
0840 CDT	<p>IEMA Telecommunicator notifies the counties of the ALERT via NARS.</p> <p>County telecommunicators complete and verify the NARS message.</p> <p>County telecommunicators notify County officials and municipalities of the ALERT per SOP.</p> <p>The counties may activate the EOCs, if appropriate.</p> <p>Municipal telecommunicators complete and verify the NARS message.</p> <p>Municipal telecommunicators notify officials of the ALERT per SOP.</p>
0930 CDT	A SITE AREA EMERGENCY is declared at Byron Station.
0940 CDT	<p>Exelon notifies the IEMA Telecommunicator of the SITE AREA EMERGENCY via NARS.</p> <p>IEMA Telecommunicator verifies the NARS message.</p> <p>REAC contacts the Byron Station Shift Engineer.</p> <p>SEOC is activated if not previously activated.</p>

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	SEOC notifies the Governor's Office and requests that a representative report to the State EOC. (Simulated)
0945 CDT	<p>Exelon notifies the IEMA Telecommunicator of the SITE AREA EMERGENCY via NARS.</p> <p>IEMA Telecommunicator verifies the NARS message.</p> <p>REAC contacts the Byron Station Shift Engineer.</p> <p>SEOC is activated if not previously activated.</p> <p>SEOC notifies the Governor's Office and requests that a representative report to the State EOC. (Simulated)</p> <p>State dispatches liaisons to the County EOCs, UAC, RAFT, JIC, TSC and EOF, if not previously dispatched.</p> <p>SEOC notifies FEMA of conditions. (Simulated)</p> <p>IEMA notifies State agencies (Simulated):</p> <ul style="list-style-type: none"> <li>- Illinois State Police</li> <li>- IDOT/Division of Highways</li> <li>- IDOT/Division of Aeronautics</li> <li>- IDNR</li> <li>- Illinois National Guard</li> <li>- ICC</li> <li>- American Red Cross</li> <li>- IDPH</li> <li>- IEPA</li> <li>- IDOC</li> <li>- IDHS</li> <li>- IDOA</li> <li>- Office of the State Fire Marshal</li> <li>- others as appropriate</li> </ul> <p>REAC contacts Federal agencies. (Simulated)</p> <p>REAC provides an update to the SEOC and County EOC Liaisons. REAC provides an update to the JIC.</p>
1000 CDT	<p>IEMA notifies the counties of the SITE AREA EMERGENCY via NARS. County telecommunicators complete and verify the NARS message.</p> <p>County telecommunicators notify County officials and municipalities of the SITE AREA EMERGENCY per SOP.</p>



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	<p>County EOCs are activated if not previously activated.</p> <p>Counties implement public notification procedures, if appropriate.</p> <p>Municipal telecommunicators complete and verify the NARS message. (Simulated)</p> <p>Municipal telecommunicators notify officials per SOP.</p> <p>Dosimetry is issued to emergency personnel, EOC staff and exposure records are completed.</p>
1030 CDT	A GENERAL EMERGENCY is declared at Byron Station.
1045 CDT	<p>Exelon notifies the IEMA Telecommunicator of the GENERAL EMERGENCY via NARS. Protective actions are recommended.</p> <p>IEMA Telecommunicator verifies the NARS message.</p> <p>The SEOC and REAC evaluate the protective action recommendation.</p> <p>A recommendation is made to the Governor.</p> <p style="padding-left: 40px;">Governor recommends that protective actions be implemented. (Simulated)</p> <p>SEOC staff is advised of the situation.</p> <p>SEOC advises UAC, the County EOC liaisons and JIC staff of the situation.</p> <p>SEOC notifies FEMA of conditions. (Simulated)</p> <p>REAC provides an update to the SEOC and County EOC liaisons.</p> <p>REAC provides an update to the JIC.</p>
1100 CDT	<p>SEOC notifies the counties of the GENERAL EMERGENCY and the recommended protective actions via NARS.</p> <p>County telecommunicators complete and verify the NARS message.</p> <p>County telecommunicators notify County officials and municipalities per SOP.</p> <p>Counties implement public notification procedures and traffic and access control per SOPs, as applicable.</p>

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	Municipal telecommunicators complete and verify and the NARS message. Municipal telecommunicators notify EOC staff.
1230 CDT	Terminate exercise play.

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Onsite Exercise Timeline

Scenario Timeline

Exercise vs. Clock Time

Narrative Summary

Summary of Expected EALs and PARs

Meteorology

Release Information

Initial Conditions		
Unit 1	Common	Unit 2
<ul style="list-style-type: none"> <li>• 99% reactor power – MOL</li> <li>• 1174 MWe</li> <li>• 87 days online</li> <li>• Online Risk YELLOW</li> <li>• <b>Equipment OOS</b> -1B CS pump – 10 hr work window for electrical work on motor, four hours to restore</li> <li>• <b>Protected Equipment</b> – 1A DG; 1A CS Train</li> <li>• Major evolutions - None</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Equipment OOS</b> – 0C WS Pump; 2B RSH Transformer</li> <li>• <b>Protected Equipment</b> – 0A WS Pump; 0B WS Pump</li> <li>• <b>Major evolutions</b> – OC WS Pump is in day 10 of 20 for impeller replacement; 2B RSH Transformer is undergoing bus work repairs (will be complete at 1700) ; bus 045-01 is cross-tied to Bus 045-02</li> </ul>	<ul style="list-style-type: none"> <li>• 99% reactor power - EOL</li> <li>• 1143 MWe</li> <li>• 256 days online</li> <li>• Online Risk GREEN</li> <li>• <b>Equipment OOS</b> - None</li> <li>• <b>Protected Equipment</b> – 2B DG</li> <li>• <b>Major evolutions scheduled</b> – 2A DG operability surveillance (2BOSR 8.1.21) is scheduled to start at 0900</li> </ul>
T+0	0800	<b>Start Scenario:</b> Wind direction from 290 degrees, 22 mph, Stability Class C

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T+15	~0810	<p><b>ALERT, MA5 – Hazardous event affecting a SAFETY SYSTEM required for the current operating mode</b></p> <p><i>Plant Actions</i></p> <ul style="list-style-type: none"> <li>• (0800) National Weather Service issues a Severe Thunderstorm WARNING for Ogle County until 0830 – Call from the WEC (who is listening to a weather radio)               <ul style="list-style-type: none"> <li>- Crew responds per 0(1)(2)BOA ENV-1                   <ul style="list-style-type: none"> <li>▪ EO's will be sent to walk down plant equipment and outside buildings after storm passes</li> <li>▪ 2A DG Surveillance will be postponed</li> </ul> </li> <li>- Crew responds per OP-AA-108-111-1001</li> </ul> </li> <li>• 15 minute average wind speed increases to a peak of 55 mph</li> <li>• (0810) Debris from the storm strikes and damages the 0A SX Cooling Tower causing running fans 0A/0B/0C to trip (T=0 for ALERT)               <ul style="list-style-type: none"> <li>- Crew responds per BAR 0-37-B6 and 1BOA PRI-7 and dispatch EO to investigate</li> <li>- Report from Security of large piece of debris that has contacted the SX Cooling Tower</li> </ul> </li> <li>• (0825) A CW M/U Pump trips due to large piece of debris entering the A Traveling Screen               <ul style="list-style-type: none"> <li>- Crew responds per BAR 0-38-A-11 and 0BOA SEC-11 and dispatch EO to investigate</li> </ul> </li> <li>• If attempted, B CW M/U Pump will start successfully               <ul style="list-style-type: none"> <li>- A Traveling screen is found to be tripped due to high D/P across screen</li> </ul> </li> <li>• (0825 - 0840) 15 minute average wind speed decreases and steadies at 25 mph</li> <li>• (0830) 1B Feed Pump trips and steam leak develops from the Turbine Stop Valve               <ul style="list-style-type: none"> <li>- 1A Feed Pump will be started per BHC 1-16-BC1</li> </ul> </li> </ul>
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T+55 to T+65	0850 to 0900	<p><b>Equipment Malfunctions</b></p> <p><i>Plant Actions</i></p> <ul style="list-style-type: none"> <li>• (0850) Rod Control Urgent Failure Alarm comes in (BAR 1-10-C6) <ul style="list-style-type: none"> <li>- IM's will discover loose card in the local cabinet</li> <li>- Ops crew responds per 1BOA ROD-2</li> </ul> </li> <li>• (0855) Failure of 1LT676 resulting in CC Surge Tank Level Low Alarm (1-2-A5) <ul style="list-style-type: none"> <li>- Crew will respond per 1BOA PRI-6</li> <li>- AOV 1CC183 (WM Makeup to CC Surge Tank) valve goes open and cannot be closed from the Main Control Board</li> <li>- EOs will be dispatched to close 1CC185 (WM Makeup Isolation Valve), but the 90°</li> </ul> </li> <li>Operator moves freely</li> <li>- 1CC9454A (WM Makeup Isolation Valve) has an EST on the valve hand-wheel stating that the valve is mechanically bound in the open position</li> <li>- MM's will be dispatched to assist in closing the 1CC185, and will be successful</li> <li>- CC Surge Tank will overflow to berm area around tank</li> <li>• (0900) 1A SX Pump trips due to overcurrent condition</li> </ul>
T+65	0905	<p><b>SITE AREA EMERGENCY, FS1 – Loss or Potential Loss of ANY two barriers</b></p> <p><i>Plant Actions</i></p> <ul style="list-style-type: none"> <li>• (0910) RCS Loop D will develop a LOCA (~1000gpm) <ul style="list-style-type: none"> <li>- Ops crew will trip the Reactor and manually actuate Safety Injection</li> <li>- Phase A Isolation will not actuate for B Train, equipment will have to be manually aligned</li> <li>- Concurrent ALERT (FA1) due to a Loss of RCS (RC.1.a)</li> <li>- Fuel damage will ensue due to LOCA transient creating a decreased pressure allowing departure from nucleate boiling to occur in localized spots in the core</li> <li>- Containment Rads begin rising</li> </ul> </li> <li>• 1A Aux Feed pump starts <ul style="list-style-type: none"> <li>- Broken motor shaft experienced on the pump, preventing flow from being developed.</li> </ul> </li> <li>• (0920) Containment Rads exceed 1950R/hr and peak at 2250R/hr (T=0 for SITE AREA EMERGENCY due to Loss of Fuel Clad (FC.3.1)).</li> </ul> <p><i>ERO Actions</i></p> <ul style="list-style-type: none"> <li>• <b>SED should declare SITE AREA EMERGENCY (FS1) due to Loss of FC (FC.3.1)</b></li> </ul>

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T+155	1030	<p><b>GENERAL EMERGENCY, FG1 – Loss of any two barriers AND Loss or Potential Loss of third barrier</b></p> <p><i>Plant Actions</i></p> <ul style="list-style-type: none"> <li>• If Ops crew attempts to start 1A Containment Spray to combat rising Containment pressure, an overcurrent condition will be experienced preventing the start of the equipment</li> <li>• (1010) 1D RCFC trips due to overcurrent <ul style="list-style-type: none"> <li>- If attempted, breaker can be reset to re-start RCFC</li> </ul> </li> <li>• (1030) Containment Penetration P95 (451' Elevation) fails causing Containment pressure to drop and then trend to 3 psig (T=0 for GENERAL EMERGENCY)</li> <li>• Aux Building Hi Rad alarms come in for multiple elevations</li> <li>• Release in Progress begins o        URI Path H <ul style="list-style-type: none"> <li>- Unit 1 and Unit 2 Aux Building Vent Stack monitors rise to 6E+07 uCi/sec (1100 peak)</li> <li>- Site Boundary – 67mR/hr, 2 miles – 4.5mR/hr, 5 miles – 1.4mR/hr</li> </ul> </li> </ul> <p><i>ERO Actions</i></p> <ul style="list-style-type: none"> <li>• <b>SED should declare GENERAL EMERGENCY (FG1) due to Loss of FC (FC.3.1) Loss of RCS (RC.3) and Loss of CT (CT.4)</b></li> <li>• NARS / ENS notifications performed</li> <li>• PARs should be developed by the EOF</li> </ul>
T+275	1230	Exercise Termination

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## **NARRATIVE SUMMARY**

### **Initial Conditions – 0755 CDT**

The Operating Crew will be briefed at 0700 and is expected to take the shift by 0755. The crew will be directed to continue full power on Unit 1 and Unit 2. There is electrical bus work in progress on the 2B River Screen House Transformer, and therefore Bus 045-01 is cross tied to Bus 045-02. The 0C Service Water Pump is undergoing an impeller replacement, and is in day 10 of 20 of the work window. Finally, the 2A Diesel Generator has an Operability Surveillance (2BOSR 8.1.2-1) that is scheduled to start at 0900 today.

### **ALERT - 0810**

At 0800 the National Weather Service will issue a Severe Thunderstorm WARNING for Ogle County that is in effect until 0830. The WEC (Work Execution Center) Supervisor has a weather radio that he listens to, and will call the Control Room Simulator with this information. The crew will respond by entering 0(1)(2)BOA ENV-1, and will contact all out buildings to inform them of the storm along with delaying the 2A DG Surveillance.

The wind speed will climb from 0800 to 0810 to ~55mph at its peak. At 0810 multiple pieces of debris from a truck carrying lumber on German Church Road (which runs N-S along the side of the plant) will impact the 0A SX Cooling tower causing the 0A/0B/0C fans to trip due to the damage. The Security Guard in the BRE (Bullet Resistant Enclosure) will report the visible damage to the Control Room. The crew will respond per BAR 0-37-B6 and 1BOA PRI-7 which requires an EO be dispatched to investigate the cause of the trip. The dispatch of an EO may be delayed due to safety concerns from the high winds.

The Shift Manager will declare an ALERT (MA5) due to high winds causing visible damage to a Safety System required by Tech Specs for the current operating mode. The ERO will be activated via PA and Everbridge notifications. Command and Control will be transferred to the EOF and TSC when the facilities are activated. Notifications to the State will be made via the NARS system from the Control Room Simulator.

At 0825 the A Circ Water Pump will trip due to high differential pressure across the A Traveling Screen from debris in the intake. The crew will respond per BAR 0-38-A-11 and 0BOA SEC-11. This again requires dispatching an EO to investigate, but it may be delayed due to the safety concerns from the high winds. The crew will be able to successfully start the B Circ Water Pump if attempted.

Between 0825 and 0840 the wind speed will reside back to ~25mph where it will stay for the remainder of the scenario. When wind speed comes back down, the crew should dispatch operators in accordance with the procedures if not already done.

### **Equipment Malfunctions**



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The following set of casualties will be tracked, evaluated, and prioritized by the ERO. Some, if not all, of the response actions will come from the OSC after command and control is turned over to the TSC and EOF.

At 0830 the 1B Feed Pump will trip and develop a steam leak from the Turbine Stop Valve. The crew will respond per BHC 1-16-BC1 and start the 1A Feed Pump (motor driven). Operators will be dispatched to isolate the steam leak but will find the handwheel on the 1MS-072A is free spinning due to a broken key. MM's will be required to be dispatched to assist in closing the valve.

At 0850 a Rod Control Urgent Failure alarm will come in and the crew will respond per 1BOA ROD-2. The IM's, when dispatched, will discover a loose card in the 1BD Rod Control Cabinet. This can be fixed.

At 0855 the CC Surge Tank level transmitter (1LT676) will fail low causing an alarm to come in and makeup to the CC Surge Tank to automatically start. The crew will respond per 1BOA PRI-6 and attempt to isolate the WM makeup source via 1CC183 from the control room but will be unsuccessful. When EO's are dispatched to locally isolate the makeup they will find the tank overflowing to the Floor Drain System. The first isolation valve (1CC185) will have a 90<sup>0</sup> operating handle free moving. The second isolation valve (1CC9454A) will have an EST (Equipment Status Tag) on the handwheel stating that the valve is mechanically bound in the open position. MM's will be required to be dispatched to assist in closing the 1CC185 valve.

At 0900 the 1A SX Pump will trip due to an overcurrent condition. The crew will respond per BHC 12-A1 and 1BOA PRI-7 and start the 1B SX Pump. When EM's are dispatched to look at the breaker they will find char marks around the Control Power fuse and an acrid odor. There are no indications of flame or smoke.

#### **SITE AREA EMERGENCY – 0920 CDT**

At 0910 the D RCS Loop will develop a significant LOCA (Loss of Coolant Accident) of ~1000gpm.

The crew will respond by tripping the reactor and manually actuating Safety Injection. Phase A Isolation actions will not automatically actuate for the B Train, and the Control Room operators will have to manually align the equipment. This condition constitutes a concurrent ALERT (FA1) due to a Loss of the RCS (RC.1). The transient incurred from the LOCA will cause localized spots in the core to exceed temperature limits and fuel damage will occur. This will be evident by Containment radiation level rising significantly.

The 1A Aux Feed Pump will start, but will experience a broken motor shaft preventing flow from being developed. When a team is dispatched they will find sparks emanating

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from around the shaft and a loud grinding noise. The crew will trip the 1A Aux Feed Pump.

At 0920 the Containment radiation level will exceed 1950R/hr and peak at 2250R/hr.

The Station Emergency Director will classify a SITE AREA EMERGENCY (FS1) due to the Loss of the RCS and Loss of the Fuel Clad, and the EOF will notify the State via the NARS system. Additionally, a station assembly will be enacted by the TSC (this will be a real assembly, not simulated).

### **GENERAL EMERGENCY – 1030 CDT**

Containment pressure will rise due to the LOCA with a peak of around ~10psig. If the crew were to attempt to start the 1A Containment Spray (1B is out of service) to combat the rising Containment pressure, an overcurrent condition will be experienced on the 1A CS Pump. At 1010 the 1D RCFC (Reactor Containment Fan Cooler) will trip due to an overcurrent condition. When a team is dispatched they will find the breaker in a tripped position, and will be able to reset the breaker to restart the 1D RCFC.

At 1030 the Containment Penetration P95 will fail causing a rapid drop in Containment pressure and a release into the 451' Aux Building elevation. After the initial Containment pressure drop, it will trend to 3 psig over the remainder of the scenario. A radioactive release in progress will commence as the Unit 1 and Unit 2 Aux Building Vent Stack monitors rise initially to 5.0E+04 uCi/sec. The release will be from URI Path H (<RCS><Containment><Aux Building><Filters><Stack><Environment>) and will rise to a peak of 6.0E+07 uCi/sec at 1100.

The Station Emergency Director will classify a GENERAL EMERGENCY (FG1) due to Loss of Fuel Clad, Loss of RCS, and Loss of Containment. The EOF will develop PARs to Evacuate IL Sub-areas 19, 23, 25 and will notify the State via the NARS system.

Field Monitoring Teams will be sent to strategic locations downwind (from 290) to track the plume. Dose Assessments will not yield any areas exceeding Protective Action Guidelines.

The Ops crew will enter cooldown (1BEP ES1.2) and could use S/G PORVs as an option for cooldown. There is no leakage between the primary and secondary systems, so this will not add to the radioactive release.

### **Exercise Termination - ~1230 CDT**

The exercise will be terminated after all participating facilities have demonstrated their objectives sufficiently. After termination, all facilities will conduct a critique of their performance.

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**EXPECTED EALs AND PARs**

Time	EAL #	Description	
0810	MA5	<p><b>ALERT (MA5): Hazardous event affecting a SAFETY SYSTEM required for the current operating mode.</b></p> <p>1. The occurrence of <b>ANY</b> of the following hazardous events:</p> <ul style="list-style-type: none"><li>• Seismic event (earthquake)</li><li>• Internal or external flooding event</li><li>• High winds or tornado strike</li><li>• FIRE</li><li>• EXPLOSION</li><li>• Other events with similar hazard characteristics as determined by the Shift Manager</li></ul> <p><b>AND</b></p> <p>2. <b>EITHER</b> of the following:</p> <ul style="list-style-type: none"><li>• Event damage has caused indications of degraded performance in at least one train of a SAFETY SYSTEM required by Technical Specifications for the current operating mode.</li></ul> <p><b>OR</b></p> <ul style="list-style-type: none"><li>• The event has caused <b>VISIBLE DAMAGE</b> to a SAFETY SYSTEM component or structure required by Technical Specifications for the current operating mode.</li></ul>	
0920 ALERT +70	FS1	Fuel Clad – Loss FC.3.1 – Containment radiation monitor (AR020) reading > 1.95E+03 R/hr	Reactor Coolant System - Loss RC.1 – An automatic or manual SI activation is required by UNISOLABLE RCS leakage OR RC.3 – Containment radiation monitor (AR020) reading >25 R/hr
1030 SAE+70	FG1	GENERAL EMERGENCY (FG1): Loss of any two barriers AND loss or potential loss of third barrier	

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Time	EAL #	Description
		<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p>Containment – Loss</p> <p>CT.1 – Containment isolation is required and EITHER of the following:</p> <p>a. UNPLANNED lowering in containment pressure or rise in radiation monitor readings outside of containment in the Emergency Director judgement indicate a loss of containment integrity OR</p> <p>b. UNISOLABLE pathway from containment to the environment exists.</p> </div> <div style="width: 48%;"> <p><b>Fuel Clad – Loss</b></p> <p>FC.3.1 Containment radiation monitor (AR020) reading &gt; 1.95E+03 R/hr AND</p> <p><b>Reactor Coolant System – Loss</b></p> <p>RC.1 An automatic or manual SI actuation is required by UNISOLABLE RCS leakage OR</p> <p>RC.3 Containment radiation monitor (AR020) reading &gt; 25 R/hr</p> </div> </div>
1230		Anticipated Termination

**Expected PARs:** *Wind from 290 for entirety of scenario*

Time	Event	Release	Affected Counties
0810	Alert – <i>MA5</i>	None	None
0920	Site Area Emergency – <i>FSI</i>	None	None
1100	General Emergency – <i>FGI</i>	Occurring	Ogle - evacuate 19, 23, 25
1230	Anticipated Termination		

### METEOROLOGY

Wind from 290°  
 Wind Speed 22 mph  
 Stability Class C  
 Air Temperature 80 F  
 Precipitation Raining (rain will cease prior to release)

### RELEASE INFORMATION

Dose projections for the release were developed using the URI program. The following peak dose projections are based on the data from the 1100-1130 dose kernel found in Section 8:

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URI Release Path H: <RCS><Containment><Aux Building><Filters><Stack><Environment>

Process Reduction factor is 1.60E-03

Core Damage is 53% based on containment rads

Release Duration is 2:00 (Good / Daytime conditions)

The table below is from the peak Dose Assessment

Distance	TEDE (mRem)	CDE (mRem)
S.B	1.43E+02	6.34E+02
2 miles	9.55E+02	4.29E+01
5 miles	2.41E+00	6.41E+00
10 miles	1.20E+00	3.10E+00