



Dresden Nuclear Power Station

After Action Report/ Improvement Plan

Exercise Date – April 19, 2017

Radiological Emergency Preparedness (REP) Program



FEMA

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EXECUTIVE SUMMARY

On April 19, 2017, a Radiological Emergency Preparedness (REP) Partial-Participation Plume Exposure Pathway Exercise was evaluated by the U.S. Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA) for the 10-mile Emergency Planning Zone (EPZ) around the Dresden Nuclear Power Station (DNPS). The purpose of this exercise was to assess the capabilities of the State and local preparedness in responding to a radiological emergency. This exercise was held in accordance with DHS/FEMA's 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 July 29, 2015. The qualifying emergency preparedness exercise was conducted on September 30, 1981.

The DHS/FEMA wishes to acknowledge the efforts of the many individuals who participated in this exercise. In the State of Illinois, the risk Counties of Grundy and Kendall participated along with the State Government. Will County was not evaluated during this exercise because its biennial requirements were met during the 2016 Braidwood Partial Participation Plume Exercise. The State of Indiana did not participate in the exercise since it was not a full participation/ingestion exercise.

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 (AAR)/Improvement Plan (IP) contains the evaluation of the biennial exercise and the evaluation of the following out-of-sequence interviews and activities:

- Protective Actions for Schools (EV-2) for Minooka School Districts 111 and 201
- Protective Actions for Schools (EV-2) for Troy School District 30C
- Illinois State Police (ISP) District 5 Headquarters Dosimetry Control Officers (DCO) Briefing;
- ISP Traffic and Access Control Post (TACP) at the ISP District 5 Headquarters
- Kendall County Sheriff's Department DCO Briefing
- Kendall County Sheriff's Department TACP

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.

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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's 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" (Commonly referred to as 44 CFR 350 through 352). 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 DHS/FEMA's 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's 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 Plans (RERP) 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 (NRC) 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.

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

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Formal submission of the RERP for the DNPS to FEMA Region V by the State of Illinois and involved local jurisdictions occurred on March 31, 1981. Formal approval of these RERP was granted by FEMA on June 4, 1982, under 44 CFR 350.

A REP Partial-Participation Plume Exposure Pathway Exercise was conducted on April 19, 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 DNPS. The purpose of this AAR/IP is to present the exercise results and findings based on the performance of the Offsite Response Organizations (OROs) during a simulated radiological emergency.

The findings presented in this AAR/IP are based on the evaluations of the Federal evaluation team, with final determinations made by the DHS/FEMA Region V RAC Chairperson, 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 information pertaining to the team that planned and coordinated the exercise. This section also provides a listing of all participating jurisdictions and functional entities that were evaluated.

Section 3 of this report, entitled "Exercise Design Summary," contains the purpose and design of the exercise, a description of the exercise objectives and presents basic information and data relevant to the exercise scenario.

Section 4 of this report, entitled "Analysis of Capabilities," 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 OROs' efforts to resolve them.

Section 5 of this report, entitled "Conclusion," presents the DHS/FEMA summary of overall exercise conduct and results as evaluated against the requirements of 44 CFR 350.

1.2 Emergency Planning Zone (EPZ) Description

The DNPS is located on 953 rolling prairie acres in northeast Grundy County on the southern bank of the Illinois River. The topography of the site and its immediate environs is relatively flat, with elevations varying from 509 to 523 feet above sea level. The only significant topographic deviations in the area around the DNPS are the Kankakee Bluffs, 591 to 624 feet high, located just northeast of the site.

Portions of the site owned by Exelon Nuclear Corporation are leased for cattle grazing and field crops. Approximately 150 acres are used for grazing. Field crop cultivation occupies about another 300 acres. Recreational activity is in the form of hunting during legally prescribed seasons, with entry controlled by the agricultural lessee. The EPZ for the DNPS consists of a circle with the DNPS as the center point. The EPZ extends 10-miles outward in all directions from the DNPS for the plume exposure pathway planning zone and 50-miles outward for the ingestion exposure pathway planning zone. In the event of a serious accident at the DNPS, the plume exposure EPZ will be the area in which intensive efforts will be made to notify and protect residents and transient populations from exposure to radiation. This EPZ includes the following counties and municipalities: Grundy County (Illinois), and the municipalities of Carbon Hill, Coal City, Diamond, Minooka, and Morris; Will County (Illinois), and the entire municipalities of Braidwood, Channahon, Elwood, and Wilmington, portions of the municipalities of Joliet and Shorewood, and a small portion of Kendall County (Illinois). The plume EPZ is divided into a total of 16 sub-areas.

The population distribution in the 10-mile EPZ surrounding the DNPS is relatively low. The 2010 census population for the 10-mile EPZ is divided as follows: Braceville - population 793 located nine miles South from the site; Braidwood - population 6191 located seven miles South Southeast from the site; Carbon Hill - population 345 located three miles South Southeast from the site; Channahon - population 12560 located seven miles Northeast from the site; Coal City - population 5587 located seven miles South from the site; Diamond - population 2527 located eight miles South from the site; Elwood - population 2279 located nine miles East from the site; Minooka - population 10924 located four miles North of the site; Morris - population 13636 located eight miles West of the site; and Wilmington - population 5724 located nine miles Southeast of the site.

The majority of the populations for the following jurisdictions reside outside of the 10-mile EPZ: Joliet - population 147433 located four miles northeast from the site and Shorewood - population 16615 located nine miles north-northwest of the site.

Outside of the DNPS's boundaries there is a substantial amount of industry. Adjacent to the southern boundary of the Station is the Away-From-Reactor Operations Spent Fuel Storage Facility. Four miles southeast of the DNPS is the former Joliet Arsenal (36,000 acres), which now is comprised of two industrial areas: 9,000 acres for a national cemetery; and 23,000 acres for the Midewin National Tallgrass Prairie. The Army is retaining the use of 4,000 acres

Within the EPZ of the DNPS there are industrial plants, chemical production facilities, petroleum refining industries, warehousing, dry dock facilities and transportation equipment industries. The majority of the remaining area in the DNPS EPZ is used for agriculture, predominately cash

grain production. South of the DNPS is approximately twenty-seven (27) square miles of recreational and residential land. The EPZ also contains four state parks and a conservation area. These areas are served by various forms of transportation. Interstate Highway 80 passes five miles to the north of the DNPS, and Interstate Highway 55 passes four miles to the east of the DNPS. The Illinois, Des Plaines and Kankakee Rivers flow near the DNPS. Several railroads operate on tracks running near the DNPS EPZ, including, the Burlington Northern and Santa Fe Railway Company and Amtrak which is four (4) miles east of the DNPS; the Elgin, the Joliet and Eastern Railroad which is one and one-half (1½) miles west of the DNPS; the CSX Transportation Inc., which is four (4) miles northwest of the DNPS; and the Union Pacific Railroad Company, which is seven (7) miles east of the DNPS.

SECTION 2: EXERCISE OVERVIEW

2.1 Exercise Details

Exercise Name

Dresden Nuclear Power Station

Type of Exercise

Plume Exposure Pathway

Exercise Date

April 19, 2017

Program

Department of Homeland Security/FEMA
Radiological Emergency Preparedness Program

Scenario Type

Radiological Emergency

2.2 Exercise Planning Team

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2.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the Dresden Nuclear Power Station exercise:

State Jurisdictions

Illinois Emergency Management Agency (IEMA)

Risk Jurisdictions

Coal City Police Department
Grundy County 9-1-1
Grundy County Board Chair
Grundy County Community Organizations Active in Disasters
Grundy County Coroner
Grundy County Dosimetry Control Officer
Grundy County Emergency Management Agency
Grundy County Health Department
Grundy County Highway Department
Grundy County Human Resources
Grundy County Information Technology
Grundy County Public Information Officer
Grundy County Regional Office of Education
Grundy County Sheriff's Office
Lisbon-Seward Fire District
Kendall County 9-1-1 (KenCom)
Kendall County Board Representative
Kendall County Coroner
Kendall County Dosimetry Control Officer
Kendall County Emergency Management Agency
Kendall County Health Department
Kendall County Highway Department
Kendall County Public Information Officer
Kendall County Regional Office of Education
Kendall County Sheriff's Office
Minooka Community High School District #111
Minooka Community Consolidated School District #201
Minooka Police Department
Troy Community Consolidated School District #30C

Private Organizations

Exelon Nuclear
Radio Station WCSJ
Radio Station WSPY

Federal Jurisdictions

Federal Emergency Management Agency
United States Nuclear Regulatory Commission

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SECTION 3: EXERCISE DESIGN SUMMARY

3.1 Exercise Purpose and Design

The DHS/FEMA Region V Office evaluated the Dresden Nuclear Power Station Radiological Emergency Preparedness (DNPS REP) Partial-Participation Plume Exposure Pathway Exercise conducted on April 19, 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 DNPS. The purpose of this report is to present the results and findings on the performance of the Offsite Response Organizations (OROs) during a simulated radiological emergency.

3.2 Exercise Objectives, Capabilities and Activities

Exercise objectives and identified Capabilities/REP Criteria selected to be demonstrated are discussed in Appendix E "Exercise Plan." 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;
- ORO demonstration of effective Protective Action Decision Making;
- ORO demonstration of effective Protective Action Implementation; and
- ORO demonstration of effective Emergency Notification and Public Information

3.3 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 DNPS REP Partial-Participation Plume Exposure Pathway Exercise on April 19, 2017.

Results of a technical review of the scenario, submitted on February 17, 2017, indicate that the scenario was adequate to support demonstration of DHS/FEMA requirements, as well as criteria selected by the Offsite Response Organizations provided in the State's November 22, 2016, January 19, 2017, February 17, 2017, and revised March 23, 2017, extent-of-play submissions.

During the exercise, in addition to information and data provided through the DNPS 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. These inject messages were the method used for invoking additional specific response actions by OROs.

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SECTION 4: ANALYSIS OF CAPABILITIES

4.1 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 April 19, 2017, Dresden Nuclear Power Station Radiological Emergency Preparedness (DNPS REP) Partial-Participation Plume Exposure Pathway Exercise conducted to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the DNPS.

Each jurisdiction and functional entity was evaluated based on its demonstration of exercise criteria delineated in the FEMA REP Program Manual, dated January, 2016. Detailed information on the exercise criteria and the extent-of-play agreements used in this exercise are found in Appendix E "Exercise Plan" of this report. 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 ORO 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.
- **Prior ARCAs - Resolved –** Descriptions of ARCAs assessed during previous exercises that were resolved and the corrective actions demonstrated, in this exercise. Future exercise documentation will refer to "Level 2 Findings – Resolved."
- **Prior ARCAs - Unresolved –** Descriptions of ARCAs assessed during prior exercises that were not resolved in this exercise. Included is the reason the ARCA remains unresolved and recommended corrective actions to be demonstrated before or during the next exercise. Future exercise documentation will refer to "Level 2 Findings – Unresolved."

4.2 Summary Results of Exercise Evaluation

The matrix presented in Table 4.1 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. The criterion status box is blank if it was not scheduled for demonstration.

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 (20 for Dresden Nuclear Power 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 4-1 – Summary of Exercise Evaluation – State of Illinois

DATE: April 19, 2017 SITE: Dresden Nuclear Power Station M: Met L1: Level 1 Finding L2: Level 2 Finding P: Plan Issue N: Not Demonstrated		State - REAC	State - EOF	State - ISP District 5 TACP	State - ISP District 5 DCO Briefing	State - IL OPS Liaison Grundy EOC	State - IL OPS Liaison Kendall EOC	State - IL Rad Advisor Grundy EOC	State - IL Rad Advisor Kendall EOC
Emergency Operations Management									
Mobilization	1a1	M	M						
Facilities	1b1								
Direction and Control	1c1	M	M			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							M	M
PARs	2b1	M							
PADs	2b2	M						M	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								
Impediments	3d2			M				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					M	M		
RESERVED	5a2								
Backup Alert & Notification	5a3								
Exception Area Alerting	5a4								
Subsequent Information & Instructions	5b1	M				M	M		
Support Operations and Facilities									
Reception Center Operations	6a1								
EW Monitoring & Decontamination	6b1								
Congregate Care	6c1								
Contaminated Injured Transport & Care	6d1								

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Table 4-2 – Summary of Exercise Evaluation – Grundy County

DATE: April 19, 2017 SITE: Dresden Nuclear Power Station M: Met L1: Level 1 Finding L2: Level 2 Finding P: Plan Issue N: Not Demonstrated		Grundy - IWP	Grundy - EOC	Grundy - DCO Brief Interview	Grundy - Radio Station WCSJ	Grundy - Minooka School District 201	Grundy - Minooka School District 111
Emergency Operations Management							
Mobilization	1a1	M	M				
Facilities	1b1						
Direction and Control	1c1		M				
Communications Equipment	1d1	M	M		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		M				
PADs for Disabled/Functional Needs	2c1		M				
Ingestion PADs	2d1						
RRR Decisions	2e1						
Protective Action Implementation							
EW Exposure Control Implementation	3a1		M	M		M	M
KI Public/Institutionalized	3b1		M				
PAD Implementation Disabled/Functional Needs	3c1		M				
PAD Implementation Schools	3c2		M			M	M
TACP Establishment	3d1		M				
Impediments	3d2		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		M		M		
RESERVED	5a2						
Backup Alert & Notification	5a3						
Exception Area Alerting	5a4						
Subsequent Information & Instructions	5b1		P				
Support Operations and Facilities							
Reception Center Operations	6a1						
EW Monitoring & Decontamination	6b1						
Congregate Care	6c1						
Contaminated Injured Transport & Care	6d1						

Table 4-3 – Summary of Exercise Evaluation – Kendall and Will County

DATE: April 19, 2017 SITE: Dresden Nuclear Power Station M: Met L1: Level 1 Finding L2: Level 2 Finding P: Plan Issue N: Not Demonstrated		Kendall - IWP	Kendall - EOC	Kendall - Radio Station WSPY	Kendall - DCO Briefing	Kendall - TACP	Will - Troy District 30 C - Evacuation School
Emergency Operations Management							
Mobilization	1a1	M	M				
Facilities	1b1						
Direction and Control	1c1		M				
Communications Equipment	1d1	M	M	M	M	M	M
Equipment and Supplies to Support Operations	1e1		M		M	M	M
Protective Action Decision-Making							
EW Exposure Control Decisions	2a1						
PARs	2b1						
PADs	2b2		M				
PADs for Disabled/Functional Needs	2c1		M				
Ingestion PADs	2d1						
RRR Decisions	2e1						
Protective Action Implementation							
EW Exposure Control Implementation	3a1		M		M	M	M
KI Public/Institutionalized	3b1		M				
PAD Implementation Disabled/Functional Needs	3c1		M				
PAD Implementation Schools	3c2						M
TACP Establishment	3d1		M			M	
Impediments	3d2		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		M	M			
RESERVED	5a2						
Backup Alert & Notification	5a3						
Exception Area Alerting	5a4						
Subsequent Information & Instructions	5b1		M				
Support Operations and Facilities							
Reception Center Operations	6a1						
EW Monitoring & Decontamination	6b1						
Congregate Care	6c1						
Contaminated Injured Transport & Care	6d1						

4.3 Criteria Evaluation Summaries

4.3.1 Risk Jurisdiction – State of Illinois

4.3.1.1 Radiological Emergency Assessment 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, 2.b.1, 2.b.2, 5.b.1
- b. LEVEL 1 FINDINGS: None
- c. LEVEL 2 FINDINGS: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES RESOLVED: None
- g. PRIOR ISSUES UNRESOLVED: None

4.3.1.2 Emergency Operations Facility

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

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

4.3.1.3 ISP District 5 DCO Brief

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

4.3.1.4 ISP District 5 TACP Brief

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

- a. MET: 1.d.1, 1.e.1, 2.e.1, 3.d.1
- b. LEVEL 1 FINDINGS: None

- c. LEVEL 2 FINDINGS: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES RESOLVED: None
- g. PRIOR ISSUES UNRESOLVED: None

4.3.1.5 Grundy EOC – IL State Liaison

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

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

4.3.1.6 Grundy EOC – IL State Radiological Advisor

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

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

4.3.1.7 Kendall County EOC – IL State Liaison

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

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

4.3.1.8 Kendall County EOC – IL State Radiological Advisor

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

- a. MET: 2.a.1, 2.b.1, 3.a.1, 3.d.2

- b. LEVEL 1 FINDINGS: None
- c. LEVEL 2 FINDINGS: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES RESOLVED: None
- g. PRIOR ISSUES UNRESOLVED: None

4.3.1.9 OSF Saint James Medical Center

This area was not evaluated, but added to address resolution of the previous ARCA.

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

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

LOCATION: OSF Saint James Medical Center

ISSUE NO: 20-13-3a1-A-02

CRITERION: 3.a.1

CONDITION: When interviewed, the Saint James Medical Center Nuclear Medical Technologist was unaware that DRDs should be available, zeroed, initial readings recorded, read at specific intervals, or that the Emergency Room staff treating a radioactively contaminated, injured patient should adhere to dosimeter limits.

CORRECTIVE ACTION: This issue was closed based on the State of Illinois deploying direct read dosimetry and dosimeters of legal record to all Medical Services (MS-1) Hospitals in 2014. In addition, OSF Saint James discontinued participation in the State of Illinois MS-1 Program in February, 2014. A letter testifying to this was received by FEMA Region V on February 24, 2017.

4.3.2 Risk Jurisdictions – Grundy County

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

4.3.2.2 Emergency Operations Center

LOCATION: Grundy County Emergency Operations Center – Public Information Officer

ISSUE NO: 20-17-5b1-P-1

CRITERION: 5b1

CONDITION: Subsequent to the broadcasting of the evacuation press release, it was learned that a Reception Center in Kankakee County had been opened. The message template that was included in the Grundy County Radiological Plan for DNPS included information for three other Reception Centers but did not include the Kankakee site. After the GCEMADO contacted the State Emergency Operations Center it was determined that the opening of the Kankakee site would not be relevant to the Grundy Press Release as the Kankakee site was intended for use by residents of Will County. The GCEMADO advised the Exercise Controller that had the state determined this information would have been relevant they would have issued an updated Press Release that included the Kankakee site information.

POSSIBLE CAUSE: Recent plan re-write inadvertently deleted the Kankakee Reception Center from the pre-scripted message.

REFERENCE: Dresden Nuclear Power Station Plan, Appendix F, April 2017.

EFFECT: Failure to include the Kankakee site on the pre-scripted message could cause confusion to the evacuation population regarding where to evacuate. It could also cause the evacuation population to cross through a contaminated area to get to another location based on the perceived lack of a Reception Center in their assigned location.

CORRECTIVE ACTION: Add the Reception Center to the pre-scripted message.

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, 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.a.1
- b. LEVEL 1 FINDINGS: None
- c. LEVEL 2 FINDINGS: None
- d. PLAN ISSUES: 5.b.1
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES RESOLVED: 3.c.2
- g. PRIOR ISSUES UNRESOLVED: None

LOCATION: Grundy County Emergency Operations Center

ISSUE NO: 20-15-3c2-P-02

CRITERION: 3.c.2

CONDITION: The District Superintendent did not mention shutting down ventilation systems at the school as a protective action during a Shelter-In-Place order.

CORRECTIVE ACTION: The checklist for the school superintendent was corrected during a routine plan update in January 2017.

4.3.2.3 DCO Brief Interview

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

4.3.2.4 Radio Station WCSJ

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

4.3.2.5 Minooka Consolidated Community School District #201

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

4.3.2.6 Minooka Community High School District #111

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

4.3.3 Risk Jurisdictions – Kendall County

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

4.3.3.2 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, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2, 5.a.1, 5.b.1
- b. LEVEL 1 FINDINGS: None
- c. LEVEL 2 FINDINGS: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES RESOLVED: None
- g. PRIOR ISSUES UNRESOLVED: None

4.3.3.3 Radio Station WSPY

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

4.3.3.4 Kendall County Sheriff's 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. NOT DEMONSTRATED: None
- f. PRIOR ISSUES RESOLVED: None
- g. PRIOR ISSUES UNRESOLVED: None

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

4.3.4 Risk Jurisdictions – Will County

4.3.4.1 Troy District 30-C

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

SECTION 5: CONCLUSION

There were no Level 1 or Level 2 findings or Plan Issues identified for the State of Illinois or Kendall County. There were no Level 1 or Level 2 findings identified for Grundy County. There was one Plan Issue identified for Grundy County.

One Area for Corrective Action (ARCA) from August 2013 (20-13-3a1-A-02) was resolved for the State of Illinois during the revision of plans and procedures. The August 2013 ARCA for the State of Illinois was identified during the Saint James Medical Center MS-1 demonstration regarding dosimetry distribution for direct reading dosimeters. A letter received by DHS/FEMA Region V on December 10, 2013, from the State of Illinois, Illinois Emergency Management Agency indicated that a dosimetry distribution and training plan for all MS-1 designated hospitals would be implemented in 2014. In February 2014, Saint James Medical Center was removed from the list of designated receiving hospitals. A letter testifying to this was received by FEMA Region V on February 24, 2017.

One Plan Issue from July 2015 (20-15-3c2-P-02) was resolved for Grundy County during the revision of plans and procedures in February 2017. The Plan Issue was identified when the School District Superintendent, who was located in the Grundy County Emergency Operations Center, did not mention shutting down ventilation systems at the school as a protective action during a shelter-in-place order.

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.

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APPENDIX A: IMPROVEMENT PLAN

This section summarizes the findings from the of the evaluation of all jurisdictions and functional entities that participated in the April 19, 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 EPZ surrounding the Dresden Nuclear Power Station, recommended corrective actions, and a schedule of corrective actions for the identified Primary Responsible Agency.

Finding: 20-17-5b1-P-01

Grundy County – EOC

Criterion: 5.b.1

ISSUE: Evacuation messaging for Grundy County mentioned three evacuation locations; the fourth location was omitted.

RECOMMENDATION: Add the evacuation location to the prescribed message.

CORRECTIVE ACTION DESCRIPTION: Identify an alternative communication method and update plans and procedures to include it.

CAPABILITY: Operational Communication	PRIMARY RESPONSIBLE AGENCY: IEMA
CAPABILITY ELEMENT: Planning	START DATE: April 19, 2017
AGENCY POC: William Conway	ESTIMATED COMPLETION DATE: June 30, 2017

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APPENDIX B: EXERCISE TIMELINE

Table B-1, below, presents the times at which key events and activities occurred during the Dresden Nuclear Power Station Radiological Emergency Preparedness Partial Participation Plume Exposure Pathway Exercise conducted on April 19, 2017. All times were recorded in the Central Daylight Time (CDT) Zone.

Emergency Classification Level	Time Utility Declared	REAC	Grundy County	Kendall County
Unusual Event (end of verification call for ECLs)	NA	NA	NA	NA
Alert	0815	NA	0848	0847
Site Area Emergency	0935	0942	1008	1005
General Emergency	1033	1040	1058	1056
Release of Radioactive Material Started	1101	NA	NA	NA
Release of Radioactive Material Terminated	NA	NA	NA	NA
Facility Declared Operational		0905	0918	0930
Declaration of State/Local Emergency		1141	0927	NA
Exercise Termination		1230	1237	1230
Early Precautionary Action Decision: <The State issued an order to evacuate state parks and hunting areas.>		NA	NA	N/A
Early Precautionary Action Decision: <The State issued a Livestock Advisory: All livestock are to be sheltered and placed on stored feed and water within the 10-mile EPZ.>		1020	NA	NA
Early Precautionary Action Decision: <The State issued Air, water and rail traffic restriction within the 10-mile EPZ.>		NA	NA	NA
Early Precautionary Action Decision: <Evacuate Schools and/or Special Populations.>		NA	1104	1104
General Information Message: <Public advised of incident at Dresden Station>		NA	0939	1030
Siren Activation:		NA	NA	NA
EAS Message:		NA	NA	NA
Protective Action Recommendation Evacuation of Sub-Areas: 1, 3, 4, 6		1049	NA	NA
Protective Action Decision: Evacuation of Sub-Areas: 1, 3, 4, 6		NA	1104	1105
Siren Activation:		NA	1108	1110
EAS Message:		NA	1110	1113
KI PAD Emergency Workers and Immobile Populations Decision (SEOC/REAC)/Implementation (UAC/Counties)		1049	1049	1049

APPENDIX C: EXERCISE EVALUATION TEAM

The following is a list of the personnel that managed the evaluation process and evaluated the Dresden Nuclear Power Station Radiological Emergency Preparedness Plume Exposure Pathway Exercise on April 19, 2017. The organization each of the personnel represents is indicated by the following abbreviations.

DHS/FEMA - U.S. Department of Homeland Security/Federal Emergency Management Agency
ICFI - ICF International, Inc.

Exercise Management

MANAGEMENT TITLE	NAME	ORGANIZATION
Regional Assistance Committee, Chair	Sean O'Leary	DHS/FEMA
Exercise Director	Stephen Tulley	DHS/FEMA
Deputy Exercise Director	Edward Golinski	DHS/FEMA
Illinois Site Specialist	Kimberly Alahmadi	DHS/FEMA
State of Illinois Evaluation Team Leader	David Ortman	DHS/FEMA
Grundy County Evaluation Team Leader	Edward Diaz	DHS/FEMA
Kendall County Evaluation Team Leader	David Persaud	DHS/FEMA
Regional Coordinator	John Wills	ICFI

Exercise Evaluators

LOCATION	TEAM LEADER	AGENCY
State Radiological Emergency Assessment Center	John Fill Ken Wierman	DHS/FEMA DHS/FEMA
ISP District 5 TACP	Chris Bellone	DHS/FEMA
ISP District 5 TACP DCO Briefing	Alvin Blake	DHS/FEMA
Emergency Operations Facility	Chris Bellone	DHS/FEMA
Grundy County Initial Warning Point	Marcy Campbell	ICFI
Grundy County Emergency Operations Center	Ryan Jones William McDougall Richard Smith	DHS/FEMA DHS/FEMA ICFI
Grundy County Sheriff TACP DCO Briefing	Alvin Blake	DHS/FEMA
Radio Station WCSJ	Alvin Blake	DHS/FEMA
EV-2 Minooka CCSD #111	Karl Rabenhorst	DHS/FEMA
EV-2 Minooka CCSD #201	Michael Meshenberg	ICFI
Kendall County Initial Warning Point	Darren Bates	DHS/FEMA
Kendall County Emergency Operations Center	Ray Bart Lenora Borchardt Janet Hlavaty-LaPosa	ICFI ICFI DHS/FEMA
Radio Station WSPY	Daniel Lerch	ICFI

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Kendall County Sheriff TACP	Paul Ringhauser	ICFI
Kendall County Sheriff TACP DCO Briefing	Darren Bates	DHS/FEMA
EV-2 Troy CCSD #30C	Daniel Lerch	ICFI

APPENDIX D: ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
AAR	After Action Report
CCSD	Community Consolidated School District
CDT	Central Daylight Time
CEO	County Elected Official
COAD	Community Organizations Active in Disasters
DNPS	Dresden Nuclear Power Station
DCL	Dosimetry Control Log
DCO	Dosimetry Control Officer
DLR	Dosimeter of Legal Record
DRD	Direct Reading Dosimeter
EAS	Emergency Alert System
ECL	Emergency Classification Level
EMA	Emergency Management Agency
EMAC	Emergency Management Agency Coordinator
EMC	Emergency Management Coordinator
EMD	Emergency Management Director
EMS	Emergency Medical Service
EOC	Emergency Operation Center
EOF	Emergency Operations Facility
EPZ	Emergency Planning Zone
ERT	Emergency Response Telecommunicator
EW	Emergency Worker
FEMA	Federal Emergency Management Agency
GE	General Emergency
GIS	Geographical Information System
GCBR	Grundy County Board Representative
GCEMADO	Grundy County EMA Duty Officer
ICP	Incident Command Post
IEMA	Illinois Emergency Management Agency
ILEAS	Illinois Law Enforcement Alarm System
IP	Improvement Plan
IPRA	Illinois Plan for Radiological Accidents
ISP	Illinois State Police
IWP	Initial Warning Point
JIC	Joint Information Center

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KCSO	Kendall County Sheriff's Office
KenCom	Kendall County Communications Center
LD	Luminescent Dosimeter
LEADS	Law Enforcement Agency Data System
LSC	Liquid Scintillation Counter
MCHS	Minooka Community High School
NARS	Nuclear Accident Reporting System
NIMS	National Incident Management System
NRC	Nuclear Regulatory Commission
ORO	Offsite Response Organizations
OSL	Optically Stimulated Luminescence
PAD	Protective Action Decision
PAR	Protective Action Recommendations
PDAFN	Persons with Disabilities and Access/Functional Needs
PDP	Personal Dosimetry Packet
RAC	Regional Assistance Committee
RAFT	Radiological Assessment Field Team
RCM	Rumor Control Manager
REAC	Radiological Emergency Assistance Center
REP	Radiological Emergency Preparedness
SAE	Site Area Emergency
SEOC	State Emergency Operations Center
SOP	Standard Operating Procedure
TACP	Traffic Area Control Post
TEDE	Total Effective Dose Equivalent
UAC	Unified Area Command
UE	Unusual Event

APPENDIX E: EXTENT-OF-PLAY

This appendix lists the exercise criteria which were scheduled for demonstration in the Dresden Nuclear Power Station Radiological Emergency Preparedness Partial-Participation Plume Exposure Pathway Exercise on April 19, 2017, and the offsite Extent-of-Play agreement accepted by DHS/FEMA Region V on March 23, 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 DRESDEN NUCLEAR POWER STATION EXERCISE April 19th, 2017

Criteria that can be redemonstrated immediately for credit, at the discretion of the evaluator, include the following: 3.a.1, 3.b.1, 3.d.2, 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 Radiological Preparedness Coordinating Committee, include the following: 2.a.1, 2.b.1, 2.b.2, 3.d.1, 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) and the Radiological Emergency Assessment Center (REAC) will be activated, however the SEOC will not be evaluated. The IEMA Emergency Response Telecommunicator will implement procedures for notification of IEMA staff as defined in IEMA SOPs. The SEOC will be partially activated with IEMA personnel. REAC will be fully activated. Rosters will be provided to demonstrate 24-hour staffing of the SEOC and REAC. The roster will be available for review; however, it will not be removed from the EOC.

The Unified Area Command (UAC) will be activated at **the Marseilles IL National Guard Training Center** with State district and regional personnel to support exercise play but will not be evaluated. Radiological Assessment Field Team (RAFT) and mobile lab will be activated and located at the former Dwight Correctional Facility for training purposes and will not be evaluated. A FEMA observer (or observers) is requested to provide feedback on RAFT training activities, **the UAC will not require an observer.**

IEMA personnel will be prepositioned in the local area and dispatched to the County EOCs, Unified Area Command (UAC), Emergency Operations Facility (EOF), Technical Support Center (TSC) and the JIC (in Warrenville and Springfield). The JIC will not be evaluated for this exercise, but will participate to the level necessary to support utility, State and county-level exercise play. 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.

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 be conducted at the SEOC, REAC, the UAC and the JIC but will not be evaluated. Coordination will be conducted between the SEOC, the REAC, the UAC, the JIC, the EOF, RAFT and the county EOCs but will not be evaluated._

The JIC (in Warrenville and Springfield) will not be evaluated for this exercise, but will participate to the level necessary to support utility, State and county-level 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.

IEMA may use a combination of communication systems [Nuclear Accident Reporting System (NARS), telefax, commercial telephone, cellular phone, email/electronic media, radio] to communicate with other organizations and locations.

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. Dosimetry Control Officer (DCO) logs will be available from an IEMA Radiological Advisors located in the County EOCs in Grundy & Kendall Counties. A Radiological Advisor may be placed in Will County but only for training purposes (non-evaluated).

A DCO briefing/Traffic and Access Control (TAC) interview will be conducted by the Illinois State Police on **April 18th at 9:30 am (confirmed)** at the ISP District 5 Headquarters. During this event, the availability of dosimetry will be demonstrated.

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 may be demonstrated in REAC. A message will be injected in the Grundy County EOC to drive the decision to authorize exposure in excess of administrative limits.

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.

The REAC will evaluate the licensee information and complete independent dose projections based on that information and simulated field monitoring data. REAC will make an evaluation of the data and make a protective action recommendation to the SEOC.

The coordination to determine protective action recommendations (PARs) based upon available shelters, evacuation time estimates and other relevant factors will be demonstrated between the SEOC and REAC.

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 PAR will be transmitted to the EPZ counties via NARS. The capability to determine which centers should be activated for monitoring, decontamination, registration reception and congregate care will be demonstrated at UAC, with input from the SEOC and REAC.

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 the EPZ counties via NARS. The ability to make the decision to recommend the use of KI to institutionalized persons will be demonstrated in REAC.

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.

This will be demonstrated during the ISP DCO briefing/TAC interview conducted on April 18th at **9:30 am (confirmed)** at the ISP District 5 Headquarters.

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.

The State of Illinois does not currently recommend the use of KI by the general public. However the State will address the general public who has KI regarding the proper time to consider taking KI through the JIC.

The JIC will not be evaluated for this exercise, but will participate to the level necessary to support utility, State and county-level exercise play. The JIC will be co-located at the SEOC facility.

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.

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.

During the exercise, this may be demonstrated by the State through coordination between the UAC and the County EOCs, in accordance with the Dresden Station EPZ Traffic and Access Control procedures, however this criterion will not be evaluated at the UAC. The staffing of the State posts may be simulated during the exercise.

A TAC interview will be conducted in conjunction with the DCO briefing on **April 18th at 9:30 am (confirmed)** at the ISP District 5 Headquarters.

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 may be conducted during the exercise utilizing two field teams at the RAFT staging area located at the former Dwight Correctional facility location, but will not be evaluated. A FEMA observer (or observers) is requested to provide feedback on RAFT training activities.

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 may be conducted during the exercise utilizing two field teams at the RAFT staging area located at the former Dwight Correctional facility, but will not be evaluated. A FEMA observer (or observers) is requested to provide feedback on RAFT training activities.

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 may be conducted during the exercise utilizing two field teams at the RAFT staging area located in (location to be determined), but will not be evaluated. A FEMA observer (or observers) is requested to provide feedback on RAFT training activities.

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.

The State's role in demonstrating this criterion is limited to transmitting the State's protective action recommendation (PAR) to the counties and monitoring the instructional messages provided to the public by the counties. This monitoring will be accomplished by IEMA representatives in the County EOCs.

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 will be demonstrated at the JIC in coordination with the SEOC, REAC, UAC, and the County EOCs. IEMA personnel will be present at the Warrenville JIC. Media briefings will be conducted at the Warrenville JIC. A livestock advisory will be issued to the media from the JIC or the SEOC when appropriate.

A rumor control phone bank for public inquiries will be not 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 will address the general public, who has KI, regarding the proper time to consider taking KI through the JIC, if applicable in the scenario.

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.

All reception centers for the Dresden EPZ have been successfully evaluated in the last eight years. This criterion will not be demonstrated during this exercise.

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.

All reception centers for the Dresden EPZ have been successfully evaluated in the last eight years. 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.

All reception centers for the Dresden EPZ have been successfully evaluated in the last eight years. This criterion will not be demonstrated during this exercise.

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 will not be demonstrated during this exercise.

GRUNDY COUNTY EXTENT-OF-PLAY AGREEMENT

FOR THE DRESDEN NUCLEAR POWER STATION EXERCISE April 19th, 2017

Criteria that can be redemonstrated immediately for credit, at the discretion of the evaluator, include the following: 3.a.1, 3.b.1, 3.d.2, 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 Radiological Preparedness Coordinating Committee, include the following: 2.a.1, 2.b.1, 2.b.2, 3.d.1, 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.

Grundy County intends to fully activate the Emergency Operations Center (EOC) in Morris, Illinois. The County will implement notification procedures as defined in IPRA-Dresden. Representatives from IEMA 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 roster will be available for review; however, it will not be removed from the EOC.

An evaluator will be positioned at the Grundy County Consolidated Dispatch Center (Initial Warning Point) at the start of the exercise.

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

Per REP Program guidelines, this criterion was successfully demonstrated within the last 8 years and will not be evaluated 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.

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

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.

Grundy County may use a combination of NARS, commercial telephone, cellular telephone, electronic mail, radio and telefax to communicate with departments/agencies.

This criterion will also be demonstrated or discussed at the school interviews.

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

Grundy County will adequately 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 County EOC. The availability of dosimetry and KI will be demonstrated at the County EOC and during the school interviews.

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 Grundy 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 Grundy 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 Grundy County officials in the County EOC. The Grundy County officials will make the final decision regarding what protective actions will be recommended to the public.

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 Grundy County officials in the County EOC. The Grundy 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 Grundy 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.

Grundy 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 County EOC. This criterion will also be demonstrated during the school interviews.

The Grundy County DCO will conduct a dosimetry briefing for the Grundy County EOC staff. Dosimetry kits will be distributed in the EOC to all participants, however, the physical wearing of dosimetry will be simulated to avoid misplacing actual equipment. After the briefing, two participants will be evaluated on the use of dosimetry.

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, Grundy County officials will discuss the issuance of KI to immobile populations, as a voluntary measure, and will notify the municipalities of the State's recommendation.

The State of Illinois does not recommend the use of KI by the general public and, as such, that portion of the criterion will not be demonstrated.

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 Grundy County through the simulated implementation of the appropriate task assignments. 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 will be available for inspection in the County EOC during the exercise. The evaluator will not be allowed to remove the list from the EOC.

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

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

School interviews will be conducted with representatives Minooka Community Consolidated District 201 on **April 18th at 9:00am (confirmed)** and at Minooka Community High School District #111 on **April 18th at 10:45am (confirmed)**.

The roles of District Superintendent, Principal, teacher, transportation coordinator, dosimetry control officer, maintenance supervisor and bus driver will be represented at each interview.

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

This criterion does not apply to Grundy County. Grundy County is not responsible for staffing any of the designated traffic and access control posts.

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

The Grundy 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 Grundy 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 Grundy 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 during this exercise.

EVALUATION AREA 4 - FIELD MEASUREMENT AND ANALYSIS

This evaluation area does not apply to Grundy 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.

Grundy County will demonstrate the capability to provide both an alert signal and an initial 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 recommendations (PAR).

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

[The demonstrated and evaluated tasks at the county dispatch center will need to be clarified prior to the exercise. FEMA and IEMA are currently in discussions about procedures, exercise demonstration requirements and evaluation techniques that can minimize the possibility of inadvertent siren activations.]

The ability to provide instructions to the public will be demonstrated through the simulated activation of the local radio station (WCSJ/WJDK). The local radio station will be contacted during the first, and possibly the second, alert and notification sequence. An evaluator and controller will be positioned at the radio station during the exercise to monitor the initial message. If the initial message does not contain a protective action recommendation, the evaluator and controller will stay at the radio station for a second message.

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

Coordination between Grundy County, Will County and Kendall County will be demonstrated.

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 Grundy 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 will not be demonstrated in this exercise by Grundy County.

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

Grundy County will demonstrate this criterion by using pre-scripted messages as indicated in IPRA-Dresden or ad hoc messages will be developed. The radio station will be contacted for an initial protective action message. After a protective action recommendation (PAR) message to the public has been delivered successfully, subsequent alerting and PAR messages to the radio station may be simulated. A General Information Message will not count as a PAR message.

The ability to provide information to the media will be demonstrated by Grundy County through a briefing held at the Grundy County media briefing location. If real media are not present for the briefing, 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 Grundy County through coordination between the County EOC and the JIC. The Grundy County EOC controller will inject exercise messages which 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.

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 Grundy County.

KENDALL COUNTY EXTENT-OF-PLAY AGREEMENT

FOR THE DRESDEN NUCLEAR POWER STATION EXERCISE April 19th, 2017

Criteria that can be redemonstrated immediately for credit, at the discretion of the evaluator, include the following: 3.a.1, 3.b.1, 3.d.2, 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 Radiological Preparedness Coordinating Committee, include the following: 2.a.1, 2.b.1, 2.b.2, 3.d.1, 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.

Kendall County intends to fully activate the Emergency Operations Center (EOC) in Yorkville, Illinois. The County will implement notification procedures as defined in IPRA-Dresden. Representatives from IEMA and Exelon will staff the County EOC but will not be pre-positioned in the EOC. A roster will be made available for review in order to demonstrate 24-hour County staffing of the EOC. The roster will be available for review; however, it will not be removed from the EOC.

An evaluator will be positioned at KENCOM (initial warning point) at the start of the exercise.

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

Per REP Program guidelines, this criterion was successfully demonstrated within the last 8 years and will not be evaluated 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.

Decision making will be demonstrated at the State Emergency Operation Center (SEOC) and Kendall County EOC. Coordination of decisions and emergency activities will be demonstrated between Kendall County, the SEOC, UAC and the JIC. Coordination between Kendall County, Grundy County and Will County will be demonstrated.

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.

Kendall County may use a combination of NARS, commercial telephone, cellular telephone, electronic mail, radio and telefax to communicate with departments/agencies.

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

Kendall County will adequately 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 County EOC. The availability of dosimetry and KI will be demonstrated at the County EOC and during the traffic and access control demonstration.

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 Kendall 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 Kendall 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 Kendall County officials in the County EOC. The Kendall County officials will make the final decision regarding what protective actions will be recommended to the public.

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 Kendall County officials in the County EOC. The Kendall 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 Kendall 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.

Kendall 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 County EOC.

This criterion will also be demonstrated during the (TAC) demonstration. The DCO briefing for the Sheriff's deputy demonstrating traffic and access control will be conducted at the Kendall County EOC.

The TAC and DCO briefings will be conducted with the minimum amount of county staff necessary to perform the evaluations. At minimum the county may choose to provide one individual that can brief both TAC and DCO components, and one individual to receive both briefings.

The post for the demonstration may be selected by Kendall County during the exercise based on exercise play, or may be done out-of-sequence during the exercise and selected by the exercise controller. 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.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, Kendall County officials will discuss the issuance of KI to emergency workers and immobile populations, as a voluntary measure. This criterion will also be demonstrated during the traffic and access control demonstration.

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 Kendall 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 will be available for inspection in the County EOC during the exercise. The evaluator will not be allowed to remove the list from the EOC.

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

This criterion will be not be demonstrated.

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

Coordination between Kendall County agencies designated to provide traffic and access control will be exhibited in the County EOC. A Sheriff's deputy will be available during the exercise to simulate and/or explain the staffing of one post.

The TAC and DCO briefings will be conducted with the minimum amount of county staff necessary to perform the evaluations. At minimum the county may choose to provide one individual that can brief both TAC and DCO components, and one individual to receive both briefings.

The post for the demonstration may be selected by Kendall County during the exercise based on exercise play, or may be done out-of-sequence during the exercise and selected by the exercise controller. 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 Kendall 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. If the scenario requires coordination with providers, 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 Kendall 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 Kendall 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 not be demonstrated during this exercise.

EVALUATION AREA 4 - FIELD MEASUREMENT AND ANALYSIS

This evaluation area does not apply to Kendall 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 FEMA REP guidance.

Kendall County will demonstrate the capability to provide both an alert signal and an initial 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 recommendations (PAR).

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

[The demonstrated and evaluated tasks at the county dispatch center will need to be clarified prior to the exercise. FEMA and IEMA are currently in discussions about procedures, exercise demonstration requirements and evaluation techniques that can minimize the possibility of inadvertent siren activations.]

The ability to provide instructions to the public will be demonstrated through the simulated activation of the local radio station. The local radio station (WSPY) will be contacted during the first, and possibly the second, alert and notification sequence. An evaluator and 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 for the second message.

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

Coordination between Kendall County, Grundy County and Will County will be demonstrated.

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 Kendall 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 Kendall County.

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

Kendall County will demonstrate this criterion by using pre-scripted messages as indicated in IPRA-Dresden or ad hoc messages will be developed. The radio station will be contacted for an initial protective action message. After a protective action recommendation (PAR) message to the public has been delivered successfully, subsequent alerting and PAR messages to the radio station may be simulated. A General Information Message will not count as a PAR message. .

The ability to provide information to the media will be demonstrated by Kendall County through a briefing held at the Kendall County media briefing location. If real media are not present for the briefing, 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 Kendall County through coordination between the County EOC and the JIC. The controller will inject exercise messages which 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.

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 Kendall County.

WILL COUNTY EXTENT-OF-PLAY AGREEMENT

FOR THE DRESDEN NUCLEAR POWER STATION EXERCISE April 19th, 2017

Criteria that can be redemonstrated immediately for credit, at the discretion of the evaluator, include the following: 3.a.1, 3.b.1, 3.d.2, 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 Radiological Preparedness Coordinating Committee, include the following: 2.a.1, 2.b.1, 2.b.2, 3.d.1, 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.

Will County intends to partially activate the Emergency Operations Center (EOC) in Joliet, Illinois, for training purposes and to support the exercise play of Grundy and Kendall counties only. Will County will not be formally evaluated for this exercise.

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

Per REP Program guidelines, this criterion was successfully demonstrated within the last 8 years and will not be evaluated 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.

Decision making will be demonstrated in Will County EOC only to the degree necessary to support exercise play. Coordination of decisions and emergency activities will be demonstrated by Will County only to the degree necessary to support 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.

Will County may use a combination NARS, commercial telephone, radio and telefax to communicate with departments and agencies at other locations, but the criterion will not be

evaluated during this exercise at the EOC. This criterion will be evaluated at the school interview.

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

Will County may support operations through the use of maps, status boards and other displays as appropriate, however, this criterion will not be evaluated during the Dresden exercise at the EOC. This criterion will be evaluated during the school interview **at Troy CCSD 30-C on April 18th at 2:00 pm (confirmed).**

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 Will 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 Will 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 may make protective action recommendations to Will County officials in the County EOC. If applicable, Will County officials will make the final decision regarding what protective actions will be recommended to the public, however, this criterion will not be evaluated during this exercise. Will County officials may coordinate with Kendall & Grundy Counties to support exercise play.

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 may make protective action recommendations to Will County officials in the County EOC. Will County officials may make the final decision regarding what protective actions will be recommended for groups of people with disabilities and those with access/functional needs, however this criterion will not be evaluated during this exercise.

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 Will 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.

Will County may coordinate with the IEMA Radiological Advisor (if present), however, this criterion will not be evaluated during this exercise at the EOC. This criterion will be demonstrated at the school interview.

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 during this exercise.

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 will not be demonstrated during this exercise.

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

School interviews will be conducted with representatives Troy Community Consolidated District #30C on **April 18th at 2:00 pm** (confirmed).

The roles of District Superintendent, Principal, teacher, transportation coordinator, dosimetry control officer, maintenance supervisor and bus driver will be represented at each interview.

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 this exercise.

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 does not apply to Will 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 Will 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 not be demonstrated during this exercise.

EVALUATION AREA 4 - FIELD MEASUREMENT AND ANALYSIS

This evaluation area does not apply to Will 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.

This criterion will not be demonstrated during this exercise, except to the extent necessary to support the exercise play of Grundy and Kendall Counties. The radio station will not be expected to participate in this exercise. The county may choose to utilize internal tests of the Integrated Public Alert and Warning System (IPAWS), but will not be evaluated.

Coordination between Will County, Grundy County and Kendall County will be demonstrated but Will county will not be evaluated.

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 Will 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 will not be demonstrated in this exercise by Will County.

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

Will County may practice this criterion within the EOC to the level necessary to support the JIC as well as Grundy and Kendall Counties, however it will not be evaluated in Will County.

EVALUATION AREA 6 - SUPPORT OPERATION/FACILITIES

This evaluation area does not apply to Will County.

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APPENDIX F: SCENARIO TIMELINES

This Appendix presents the Off-Site Scenario Timelines for the State of Illinois and the Counties of Grundy and Kendall that drove the Dresden Nuclear Power Station Radiological Emergency Preparedness, Partial Participation Plume Exposure Pathway Exercise conducted on April 19, 2017. The timelines include both On-Site events and comments and expected Off-Site response actions.

OFFSITE EXERCISE TIMELINE

April 19, 2017

Approx. Time Event/Anticipated Response

0800 CDT	Initial conditions/weather forecast message to players.
0810 CDT	An ALERT is declared at Dresden 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 Dresden Station.
0940 CDT	<p>Exelon notifies the IEMA Telecommunicator of the SITE AREA EMERGENCY via NARS.</p> <p>IEMA Telecommunicator verifies the NARS message. REAC contacts the Dresden Station Shift Engineer.</p> <p>SEOC is activated if not previously activated.</p>

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	<p>SEOC notifies the Governor's Office and requests that a representative report to the State EOC. (Simulated)</p>
0945 CDT	<p>Exelon notifies the IEMA Telecommunicator of the SITE AREA EMERGENCY via NARS.</p> <p>IEMA Telecommunicator verifies the NARS message. REAC contacts the Dresden Station Shift Engineer. 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. SEOC notifies FEMA of conditions. (Simulated) IEMA notifies State agencies (Simulated):</p> <ul style="list-style-type: none"> - Illinois State Police <ul style="list-style-type: none"> - IDOT/Division of Highways - IDOT/Division of Aeronautics - IDNR - Illinois National Guard - ICC - American Red Cross - IDPH - IEPA - IDOC <ul style="list-style-type: none"> - IDHS - IDOA - Office of the State Fire Marshal - others as appropriate <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. 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 Dresden 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. 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> <p>Municipal telecommunicators complete and verify the NARS message.</p> <p>Municipal telecommunicators notify EOC staff.</p>
1300 CDT	Terminate exercise play.

ONSITE EXERCISE TIMELINE

Scenario Time Line
Exercise vs. Clock Time
Narrative Summary
Summary of Expected EALs and PARs
Meteorology
Release Information

Unit 2 Initial Conditions		Unit 3 Initial Conditions
<ul style="list-style-type: none"> Unit 2 at 987 MWe 198 days online - Online Risk GREEN Equipment OOS - 2A CRD pump OOS, 2A Condensate Filter, 2/3 Crib house trash rake Protected Pathway - 2B CRD pump, 2A FPC pump Major evolutions - <ul style="list-style-type: none"> 2A Condensate Filter change out U2 EHC Main Filter change out Swap U2 Bus Duct blowers 		<ul style="list-style-type: none"> Unit 3 is at 975 MWe 532 days online - Online Risk GREEN Equipment OOS - 2/3 RBCCW pump for breaker replacement on Bus 34-1, 2/3 Crib house trash rake Protected Pathway - 3B FPC pump Major evolutions scheduled - <ul style="list-style-type: none"> Trash rake maintenance 2/3 RBCCW PP breaker inspection and replacement on Bus 34-1
T=0	0800	Start Scenario Wind direction – from 130 degrees, 12 mph, Stability Class E
T+10	0810	ALERT, RA3 - Radiation levels that impede access to equipment necessary for normal plant operations, cooldown or shutdown. <ul style="list-style-type: none"> 2A Condensate filter is being replaced. There is a heavy lift in progress and the filter is 1.2R on contact. Dose rate > 15 mR/hr in ANY of the areas contained in Table R2. ARM STA#19 alarms in CR/Sim SM should declare ALERT (RA3) due to RP notification that CAS is reading 20 mr/hr and is caused by an unplanned TB crane malfunction. ERO activated, OSC/TSC/ EOF should be staffed within 60 minutes Command and Control transfer occurs

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T+60	0900	<p>Concurrent EALs</p> <p>MA3 - Automatic or manual trip fails to shutdown the reactor, and subsequent manual actions taken at the reactor control consoles are not successful in shutting down the reactor</p> <p>FA1 - ANY Loss or ANY Potential Loss of either Fuel Clad or RCS (RC.3)</p> <ul style="list-style-type: none"> • (0850) HPCI high steam flow isolation signal received. • LOCA • Transient caused by a steam leak in the Drywell on the B Recirculation Loop. <ul style="list-style-type: none"> ○ Drywell pressure rises to near scram set point. ○ Team will manually Scram reactor and encounter an ATWS with power stabilizing at -35%. • Scram Discharge Volume does not drain efficiently causing the Ops Crew to drive rods individually. • B SBT starts. • SBLC is actuated. • Isolation signal (or manual attempts) fails to isolate RWCUs • 2-1201-1, RWCU (indication lost) • Pressure spike from the scram and turbine trip coupled with ATWS condition causes a fuel defect to develop Drywell radiation to begin rising. • Team encounters a spurious Group 1 Signal from Main Steam Line high steam flow. • Hydraulic ATWS is cleared allowing all rods to be inserted by performing scram reset scrams.
T+65	0905	<p>Equipment Malfunctions</p> <ul style="list-style-type: none"> • 28 CRO Pump trip • Overcurrent condition causes the 28 CRO Pump breaker to trip • 2 possible solutions based on ERO actions <ul style="list-style-type: none"> ○ 28 CRO Pump breaker can be swapped out with a new breaker ○ CRO Crosstie valve lineup can be conducted to supply U2 CRO system from U3 CRO Pumps. • Main Steam Line High Flow gauge is found to have a leak.
T+75	0930	<p>FS1 - Loss or Potential Loss of ANY two barriers (RC.3 and FC.5)</p> <ul style="list-style-type: none"> • Steam leak in the Drywell on 8 Recirculation Loop propagates and leads to OW pressure and radiation rising. • Drywell radiation increases quickly rising to >670 R/hr (T=O for SITE AREA EMERGENCY) • Drywell Sprays fail closed. • Valves will not be fixed during exercise • TSC should declare SITE AREA EMERGENCY (FS1) due to Loss of Reactor Coolant System (RC.3) and Loss of Fuel Clad (FC.5) • Assembly and Accountability will be performed
T+13	1030	<p>GENERAL EMERGENCY, FG1 - Loss of any two barriers AND Loss or Potential Loss of third barrier</p> <ul style="list-style-type: none"> • OW radiation will reach >1600 R/hr (CT.5) (T=O for GENERAL EMERGENCY) • TSC should declare GENERAL EMERGENCY (FG1) due to Loss of RCS (RC.3) and Fuel Clad (FC.5) and Potential Loss of Containment (CT.5) • PARs - Evacuate Sub Areas IL-1,3,4

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T+16	1100	<p>Radioactive Release in Progress</p> <ul style="list-style-type: none">• A steam leak occurs in the RWCU's room which is drawn through the S8GT system and out of the Chimney causing the Effluent monitor to rise.• URI Path G - <RCS><Rx 81dg><S8GT><Chimney>< Env>• Peak Release - 2.3E+08 uCi/s @ 1200
T>25	>1215	<p>Damage Mitigation</p> <ul style="list-style-type: none">• HPCI high flow isolation signal can be reset after gauge is repaired.• Attempts to isolate the 2-1201-1 RWCU valve are successful.• 28 CRO Pump breaker is successfully replaced.
T=30	1300	Exercise Termination

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Dresden Nuclear Power Station

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NARRATIVE SUMMARY

Initial Conditions – 0800 CDT

The Operating Crew will be briefed at 0715 and is expected to take the shift by 0800. They will be expected to continue operations at full power. The Initial Wind Direction from 130°.

Both plants are at full power. Risk level is GREEN. It is Wednesday dayshift. Current weather is mostly clear skies, no severe weather forecast for the next 48 CDT. On Unit 2 there is a 2C Condensate Filter change out occurring, U2 EHC Main Filter change out, Bus Duct Blower swap, and the 2A CRD pump is OOS. On Unit 3 there is trash rake maintenance and annual 2/3 Diesel Fire Pump Capacity Test. Unit equipment OOS is 2/3 RBCCW pump for breaker inspection from 34-1.

ALERT - 0810

At 0805 CDT, the U2 2A Condensate Filter change out is occurring. It is a heavy lift with an approved package. MMD, EO, and RP personnel are on the U2 Turbine Deck for the evolution. At 0810 CDT, Control Message (CM-3) is delivered stating that the Turbine Building Crane has experienced a fault. The crane has run to its southern limit and the RP technician reports that the Central Alarm Station (CAS) is reading 20 mr/hr. (T=O for ALERT). The ARM Station #19 alarms in the Control Room Simulator.

The Turbine Building crane malfunction is due to the belly box malfunctioning. Normally the crane is run remotely, but the control box will not respond to commands once evolution has started. This results in the crane stopping at its limits against the south wall of the Turbine Building on U2 which is separated from CAS by one wall.

Expected Actions

No later than 0825 CDT, SM should declare ALERT (RA3) due to radiation levels in the Central Alarm Station reading > 15 mr/hr which is caused by an unplanned crane malfunction. The ERO will make NARs (for Alert) and ENS notifications. A public announcement is made for the Alert. The ERO is activated, and the OSC/TSC/EOF should be staffed within 60 minutes.

Command and Control transfer occurs.

Equipment Failures – 0905 CDT

At 0905 CDT, overcurrent condition causes the 28 CRD pump breaker to trip. The breaker cannot be reset in the field and must be replaced if its use is desired.

Two possible solutions based on ERO actions:

The 28 CRD Pump breaker can be swapped out with a new breaker, or the CRD Crosstie valve lineup can be conducted to supply U2 CRD system from U3 CRD Pumps. This is the most likely outcome due to ease of operation and time restraints. The operating crew should be able to

perform this in approximately 30 minutes. One of the steam flow gauges will develop a leak which Instrument Maintenance and Mechanical Maintenance will need to repair.

Expected Actions:

EM team sent out to troubleshoot 28 CRD pump breaker tripping. CRD crosstie valve lineup is performed to Unit 3 so that CRD is available to continue driving rods for Unit 2 shutdown. MM team sent out to fix leak on Main Steam Line high flow gauge. IM team sent out to fix leak on Main Steam Line high flow gauge.

SITE AREA EMERGENCY – 0930 CDT

Steam leak in Drywell on the 8 Recirculation Loop propagates and becomes very large leading to Drywell pressure and radiation rising. Drywell radiation increases quickly rising to >670 R/hr (T=O for SITE AREA EMERGENCY), and drywell sprays fail Closed. They will not be fixed within the time constraints of the exercise.

Expected Actions:

No later than 0950 CDT, the TSC should declare SITE AREA EMERGENCY (FS1) due to Loss of Reactor Coolant System (RC.3) and Loss of Fuel Clad (FC.5). The ERO will make NARs (for SAE) and ENS notifications. A public announcement is made for Site Area Emergency, and assembly and accountability should be performed

GENERAL EMERGENCY – 1030 CDT

Drywell Radiation exceeds 1600 R/hr and peaks at 2700 R/hr (T=O for GENERAL EMERGENCY). No later than 1050 CDT, the TSC should declare GENERAL EMERGENCY (FG1) due to Loss of RCS and Fuel Clad and Potential Loss of Containment.

Expected Actions

The SEO declares General Emergency. The ERO will make NARS (for GE) and ENS notifications. The EOF determines PARs - Evacuate Sub Areas IL-1, 3, 4

PA Announcement made for General Emergency

Radioactive Release in Progress – 1100 CDT

1. Release in Progress - RWCU line breaks between the 2-1201-1 valve and the 2-1201-2 valve. The steam is drawn through the SBT system and out of the Chimney causing the Effluent monitor to rise. (T=O for Release In Progress)

2. Release in progress - Wind Direction from 130° - Wind Speed 12 mph

Expected Actions:

ERO will identify Release in Progress.

URI Path G - <RCS><Rx Bldg><SBGT><Chimney>< Env>

Peak Release - $2.3E+08$ uCi/s @ 1200 4. ERO will make appropriate notifications.

Damage Mitigation – after 1215 CDT

The 2-1201-1 valve indication is regained and valve can be closed.

MM and IM efforts to repair the HPCI high steam flow gauges are successful.

HPCI isolation can be reset.

EM breaker replacement for 28 CRD pump is completed successfully.

Exercise Termination - ~1300 CDT

The Dresden Station NRC Graded Exercise will terminate after concurrence from the State of Illinois has been received. All facilities will terminate exercise participation and conduct self-critiques of their performance.

EXPECTED EALs AND PARs

Time	EAL #	Description		
0810	RA3	<p>ALERT (RA3): Radiation levels that impede access to equipment necessary for normal plant operations, cooldown or shutdown.</p> <p>Dose rate > 15 mR/hr in ANY of the areas contained in Table R2 (below): Main Control Room (Unit 2 ARM Station 122) Central Alarm Station (by survey)</p>		
0930	FS1	<p>SITE AREA EMERGENCY (FS1): Loss or potential loss of ANY two barriers.</p> <table><tr><td>RC.3.1 Drywell pressure >2.0 psig AND Drywell pressure rise is due to RCS leakage.</td><td>FC.5 Drywell radiation monitor reading >6.70 E+02 (670 R/hr).</td></tr></table>	RC.3.1 Drywell pressure >2.0 psig AND Drywell pressure rise is due to RCS leakage.	FC.5 Drywell radiation monitor reading >6.70 E+02 (670 R/hr).
RC.3.1 Drywell pressure >2.0 psig AND Drywell pressure rise is due to RCS leakage.	FC.5 Drywell radiation monitor reading >6.70 E+02 (670 R/hr).			
1030	FG1	<p>GENERAL EMERGENCY (FG1): Loss of any two barriers AND loss or potential loss of third barrier</p> <table><tr><td>CT.5 Drywell radiation monitoring reading > 1.60E +03 (1600 R/hr)</td><td>RC.3 and FC.5</td></tr></table>	CT.5 Drywell radiation monitoring reading > 1.60E +03 (1600 R/hr)	RC.3 and FC.5
CT.5 Drywell radiation monitoring reading > 1.60E +03 (1600 R/hr)	RC.3 and FC.5			
1300		Anticipated Termination		

Expected PARs: *Wind from 130 for entirety of scenario*

Time	Event	Release	Affected Counties
0810	Alert – RA3	None	None
0930	Site Area Emergency – FS1	None	None
1030	Release in Progress begins	None	Illinois (evacuate): 1,4 – Grundy 3 – Will 6 – Kendall, via Controller inject
1100	General Emergency – FG1	Occurring	Illinois (evacuate): 1,4 – Grundy 3 – Will 6 – Kendall, via Controller inject
1300	Anticipated Termination		

METEOROLOGY

Wind from 130°
Wind Speed 12 mph
Stability Class E
Air Temperature 65 F
Precipitation None

RELEASE INFORMATION

Release Path is an elevated monitored release from a RCIC steam line break in the Reactor Building

URI Release Path 'G': <RCS><Rx Bldg><SBGT><Chimney><Env>

Process Reduction factor is 4.00E-04

Core Damage is 32% based on OW Radiation

Release Duration is 2:15 (Good / Daytime conditions)

The table below is from the peak Dose Assessment

Distance	TEDE (mRem)	COE (mRem)	CDE (mRem)
S.B	6.48 E+02	1.07 E+03	1.98 E+01
2 miles	2.88 E+02	4.28 E+02	4.49 E+00
5 miles	1.45 E+02	1.85 E+02	2.19 E+00
10 miles	1.02 E+02	1.27 E+02	1.27 E+00