



# FEMA

## Final Exercise Report

### Braidwood Nuclear Generating Station

Licensee: Exelon Nuclear Corporation

Exercise Date: November 17, 2004

Report Date: February 25, 2004

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U.S. DEPARTMENT OF HOMELAND SECURITY  
FEDERAL EMERGENCY MANAGEMENT AGENCY  
REGION V

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## **I. EXECUTIVE SUMMARY**

On November 17, 2004, an exercise was conducted in the plume exposure pathway Emergency Planning Zone (EPZ) around the Braidwood Nuclear Generating Station (BNGS) by the Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA), Region V. The purpose of the exercise was to assess the level of State and local preparedness in responding to a radiological emergency. This exercise was held in accordance with 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 October 9, 2002. The qualifying emergency preparedness exercise was conducted on November 6, 1985.

FEMA wishes to acknowledge the efforts of the many individuals in the State of Illinois, Will County, Grundy County, and Kankakee County who participated in this exercise.

Protecting the public health and safety is the full-time job of some of the exercise participant's 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 of all the participants were evident during this exercise.

This report contains the final evaluation of the biennial exercise and the evaluation of the following out-of-sequence activities:

State of Illinois	Monitoring and Decontamination of Evacuees and Emergency Workers and Evacuee Registration – Pontiac Township High School
State of Illinois	Monitoring and Decontamination of Emergency Worker Equipment – Pontiac Township High School
State of Illinois	Temporary Care of Evacuees – Pontiac Township High School
State of Illinois	Medical Services (MS-1) - Transportation (Riverside Emergency Medical Services (EMS)) and Medical Services (MS-1) - Hospital,
Will County	Implementation of Protective Actions for Schools - (EV-2) Reed-Custer Community Unit School District #255
Grundy County	Implementation of Protective Actions for Schools - (EV-2) Mazon/Verona/Kinsman School District

The State and local organizations except where noted in this report, demonstrated knowledge of their emergency response plans and procedures and adequately implemented them.

There were no Deficiencies identified for the State of Illinois, Will, Grundy, or Kankakee Counties during this exercise.

Four Areas Requiring Corrective Action (ARCA) was identified for the State of Illinois. The first ARCA was identified under Criterion 1.c.1, Direction and Control, whereby the State Emergency Operations Center (EOC), the Radiological Emergency Assessment Center (REAC), and the Unified Area Command (UAC) did not communicate regarding the opening of reception centers.

The second ARCA was identified under Criterion 1.e.1, Equipment and Supplies to Support Operations, whereby the Direct-Reading Dosimeters (DRDs) at the Radiological Emergency Field Team (RAFT) Mobile Laboratory displayed expired leakage test dates.

The third ARCA was identified under Criterion 3.a.1, Implementation of Emergency Worker Exposure Control, whereby the Emergency Worker assigned to the Traffic and Access Control Point (TACP) was unknowledgeable of the correct turn back values.

The fourth ARCA was identified under Criterion 3.d.1, Implementation of Traffic and Access Control, whereby the Emergency Worker was unfamiliar with the locations of the designated reception centers. Criteria 3.a.1 and 3.d.1 were re-demonstrated and corrected during this exercise.

One ARCA was identified for Will County under Criterion 5.b.1, Emergency Information and Instructions for the Public and the Media, whereby an Emergency Broadcast System (EBS) message was misleading regarding the evacuation of the Braidwood Schools to the Congregate Care Centers. Criterion 5.b.1 was re-demonstrated and corrected during this exercise.

## **II. INTRODUCTION**

On December 7, 1979, the President directed DHS/FEMA to assume the lead responsibility for all offsite nuclear planning and response. DHS/FEMAs activities are conducted pursuant to 44 Code of Federal Regulations (CFR) Parts 350, 351, and 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 Rule 44 CFR 350 establishes the policies and procedures for DHS/FEMAs 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 licensees.

DHS/FEMAs 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 RERPs and procedures developed by State and local governments;
- Determining whether such plans and procedures can be implemented on the basis of the 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 DHS/FEMA dated June 17, 1993 (Federal Register, Vol. 58, No. 176, September 14, 1993); and
- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:
  - U.S. Department of Commerce,
  - U.S. Nuclear Regulatory Commission,
  - U.S. Environmental Protection Agency,
  - U.S. Department of Energy,
  - U.S. Department of Health and Human Services,
  - U.S. Department of Transportation,
  - U.S. Department of Agriculture,
  - U.S. Department of the Interior, and
  - U.S. Food and Drug Administration.

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

Formal submission of the RERPs for the Braidwood Nuclear Generating Station to DHS/FEMA Region V by the State of Illinois and involved local jurisdictions occurred on January 9, 1987. Formal approval of these RERPs was granted by DHS/FEMA on April 15, 1988, under 44 CFR 350.

A REP exercise was conducted on November 17, 2004, by DHS/FEMA Region V to assess the capabilities of State and local emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the Braidwood Nuclear Generating Station. The purpose of this exercise report is to present the exercise results and findings on the performance of the offsite response organizations (ORO) during a simulated radiological emergency.

The findings presented in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the DHS/FEMA Region V RAC Chairperson and approved by the Regional Director.

The criteria utilized in the DHS/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-REP-14, "Radiological Emergency Preparedness Exercise Manual," September 1991; and
- FEMA "Radiological Emergency Preparedness: Exercise Evaluation Methodology," as published in the Federal Register Notice/Vol. 67, No. 80, dated April 25, 2002.

Section III of this report, entitled "Exercise Overview," presents basic information and data relevant to the exercise. This section of the report contains a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities which were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

Section IV of this report, entitled "Exercise Evaluation and Results," 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) description of all Deficiencies and ARCAs assessed during this exercise, recommended corrective actions, and the State and local governments' schedule of corrective actions for each identified exercise issue; and (2) descriptions of unresolved ARCAs assessed during previous exercises and the status of the OROs' efforts to resolve them.

### **III. EXERCISE OVERVIEW**

Contained in this section are data and basic information relevant to the November 17, 2004, exercise to test the offsite emergency response capabilities in the area surrounding the BNGS. This section of the exercise report includes a description of the 10-mile plume pathway EPZ, a listing of all participating jurisdictions and functional entities which were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

#### **A. Plume Emergency Planning Zone Description**

The BNGS is located in the State of Illinois. The Station is located on a 4,162-acre site in Reed Township in Southwest Will County, two miles south of Braidwood, Illinois, and three miles west of the Kankakee River. The Braidwood station site is relatively flat with an elevation of 589 feet above sea level. The landscape has been impacted by coal strip mining operations. The latitude for the site is 41° 14' 46" north, and the longitude is 88° 13' 08" west. Two pressurized water reactors are located at the site; and each generates a maximum output of 1,120MW. Unit 1 started commercial operations in July 1988, and Unit 2 started in October 1988.

The total permanent population within five miles of the BNGS is 17,142, and between five and ten miles the permanent population is 19,351.

Primary land use within five miles of the Braidwood Station is primarily agricultural, with cash grain crops of corn and soybeans. The closest industries are located within ten miles in the communities of Wilmington, Gardner, and Coal City. There are six recreational facilities located in the 10 mile EPZ that can accommodate between 1,000 and 3,000 individuals each.

Major transportation facilities within the Braidwood Station 10-mile EPZ are limited to interstate 55, which passes one and one-half (1&1/2) miles west of the Station itself, and five railroads. The railroads are; the Union Pacific Railroad (one mile west of the station); the Burlington Northern and Sante Fe Railroad (four miles northwest of the station); the Consolidated Rail Corporation (9 1/2 miles south of the station); and the Elgin, the Joliet and the Eastern Railway Company which is 14 miles northwest of the Braidwood Station.

## **B. Exercise Participants**

The following agencies, organizations, and units of government participated in the Braidwood Nuclear Generating Station exercise on November 17, 2004.

### **STATE OF ILLINOIS**

Illinois Emergency Management Agency (IEMA)  
Illinois Department of Nuclear Safety (IDNS)  
Illinois State Police  
Illinois National Guard  
Office of State Fire Marshall  
Illinois Department of Transportation  
Illinois Commerce Commission  
Illinois Department of Corrections  
Illinois Department of Public Health  
Illinois Environmental Protection Agency  
Illinois Department of Natural Resources  
Illinois Department of Agriculture  
Central Management Services

### **RISK JURISDICTIONS**

#### **WILL COUNTY**

Will County Board of Commissioners  
Will County Emergency Management  
Will County Sheriff's Department  
Will County Highway Department  
Will County Health Department  
Will County Regional Superintendent of Schools  
Will County Coroner Office  
Will County Forest Preserve  
Will County Fire Department and Rescue Service  
Emergency Management Department of Natural Resource

#### **GRUNDY COUNTY**

Grundy County Emergency Management Agency

#### **KANKAKEE COUNTY**

Kankakee County Board of Commissioners  
Kankakee County Emergency Services and Disaster Agency  
Kankakee County Sheriff's Department  
Kankakee County Regional Office of Education

Kankakee County Highway Department  
Kankakee County Coroner Office  
Kankakee County Health Department  
Regional Superintendent of Schools  
Essex Township

**PRIVATE/VOLUNTEER ORGANIZATIONS**

Amateur Radio Emergency Services  
American Red Cross  
Exelon Corporation  
Mazon/Verona/Kinsman (MVK) School District  
Radio Station WKAN  
Radio Stations WJOL, WSSR, WCCQ, and WRXQ  
Reed Custer Community Host School District #255  
Riverside Hospital  
Riverside Hospital Ambulance Service

**C. Exercise Timeline**

Table 1, on the following page, presents the times at which key events and activities occurred during the BNGS exercise on November 17, 2004. Also included are times that notifications were made to the participating jurisdictions/functional entities.

**TABLE 1. EXERCISE TIMELINE**

**DATE AND SITE:** Braidwood Nuclear Generating Station, November 17, 2004

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action was Taken					
		State of Illinois	REAC	Unified Area Command	Will County	Kankakee County	JIC
Unusual Event	NA	NA	NA	NA	NA	NA	NA
Alert	0829	0835	0848	0904	0920	0920	0834
Site Area Emergency	0936	0947	0950	0959	0958	0958	1000
General Emergency	1056	1110	1109	1120	1126	1126	1110
Radiation Release Started	1050	1106	1053	1120	1126	1126	1118
Radiation Release Terminated	NA	NA	NA	NA	NA	NA	NA
Facility Declared Operational		0910	0915	0919	0955	0953	0952
Declaration of Local Emergency		NA	NA	NA	1015	NA	NA
Declaration of State of Disaster Emergency		1017	1021	1029	1020	1030	1030
Exercise Termination		1322	1326	1332	1335	1328	1322
Early Precautionary Action Decision: Livestock Advisory: Place Livestock on Stored Feed and Water out to 10-Mile Radius		0945	0952	0959	0958	0958	1004
Instructional Message: Stay tuned to EAS/EBS Radio Station broadcast for further information		NA	NA	NA	1006	1001	1008
1 <sup>st</sup> Siren Activation:		NA	NA	NA	1012	1012	NA
1 <sup>st</sup> EBS Message:		NA	NA	NA	1013	1018	NA
1 <sup>st</sup> Protective Action Decision: Evacuate sub-areas 1,3,6,10		1121	1110	1120	1134	1129	1130
2nd Siren Activation:		NA	NA	NA	1138	1133	NA
2nd EBS Message:		NA	NA	NA	1139	1137	NA
2 <sup>nd</sup> Protective Action Decision: Evacuate sub-areas 1,2,3,6,7,9,10,11,13,14		1210	1153	1215	1216	1213	1221
3 <sup>rd</sup> Siren Activation:		NA	NA	NA	1220	1220	NA
3 <sup>rd</sup> EBS Message:		NA	NA	NA	1221	1225	NA
3 <sup>rd</sup> Protective Action Decision: Evacuate sub-areas 1,2,3,5,6,7,9,10,11,13,14		1253	1248	1247	1300	NA	1250
4 <sup>th</sup> Siren Activation: (Will County Only)		NA	NA	NA	1302	NA	NA
4 <sup>th</sup> EBS Message: (Will County Only)		NA	NA	NA	1303	NA	NA
KI Administration Decision: Emergency Workers and Immobile Population		1110	1106	1106	1134	1128	1110

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## **IV. EXERCISE EVALUATION AND RESULTS**

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities which participated in the November 17, 2004, exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the Braidwood Nuclear Generating Station.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of exercise criteria delineated in Federal Register Notice, Vol. 67, No. 80, dated April 25, 2002. Detailed information on the exercise criteria and the extent-of-play agreement used in this exercise are found in Appendix 3 of this report.

### **A. Summary Results of Exercise Evaluation**

The matrix presented in Table 2, on the following page(s), presents the status of all exercise criteria from the Federal Register Notice, Vol. 67, No. 80, dated April 25, 2002, which were scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Exercise criteria are listed by number and the demonstration status of those criteria is indicated by the use of the following letters:

- M - Met (No Deficiency or ARCAs assessed and no unresolved ARCAs from prior exercises)
- D - Deficiency/(ies) assessed
- A - ARCA(s) assessed or unresolved ARCA(s) from prior exercise(s)
- N - Not Demonstrated (Reason explained in Subsection IV.B)
- Blank - Not scheduled for demonstration



## TABLE 2. SUMMARY RESULTS OF EXERCISE EVALUATION

DATE AND SITE: November 17, 2004 – Braidwood Nuclear Generating Station

JURISDICTIONS/LOCATION	1. a.	1. b.	1. c.	1. d.	1. e.	2. a.	2. b.	2. b.	2. c.	2. d.	2. e.	3. a.	3. b.	3. c.	3. c.	3. d.	3. d.	3. e.	3. e.	3. f.	4. a.	4. a.	4. a.	4. b.	4. c.	5. a.	5. a.	5. a.	5. b.	6. a.	6. b.	6. c.	6. d.
<b><u>Will COUNTY</u></b>	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	1	2	1	2	1	1	2	3	1	1	1	2	3	1	1	1	1	
Initial Warning Point	M			M																													
Emergency Operations Center	M		M	M	M			M	M			M	M	M	M	M	M										M		M				
Traffic and Access Control Point				M	M							M	M			M																	
Radio Station (WJOL/WSSR WCCQ/WRXQ - AM/FM)																											M						
Protective Actions for Schools EV-2 (Reed-Custer Community School District #255)				M	M							M	M		M																		
<b><u>GRUNDY COUNTY</u></b>																																	
Protective Actions for Schools - EV-2 (MVK School District)					M							M	M		M																		
<b><u>KANKAKEE COUNTY</u></b>																																	
Initial Warning Point	M			M																													
Emergency Operations Center	M		M	M	M			M	M			M	M	M	M	M	M										M		M				
Traffic and Access Control Point				M	M							M	M			M																	
Radio Station (WKAN - AM)																											M						

LEGEND: M = Met (No Deficiency or ARCA(s) assessed)  
D = Deficiency assessed

A = ARCA(s) assessed (Not affecting health and safety of public)  
U = Unresolved ARCA(s) from prior exercises

Blank = Not scheduled for demonstration  
N = Not demonstrated as scheduled (Reason explained in Section IV.B.)

## B. Status of Jurisdictions Evaluated

This subsection provides information on the evaluation of each participating jurisdiction and functional entity, in a jurisdiction based, issues only format. Presented below is a definition of the terms used in this subsection relative to criterion demonstration status.

- **Met** - Listing of the demonstrated exercise criteria under which no Deficiencies or ARCAs were assessed during this exercise and under which no ARCAs assessed during prior exercises remain unresolved.
- **Deficiency** - Listing of the demonstrated exercise criteria under which one or more Deficiencies were assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.
- **Area Requiring Corrective Actions** - Listing of the demonstrated exercise criteria under which one or more ARCAs were assessed during the current exercise or ARCAs assessed during prior exercises remain unresolved. Included is a description of the ARCAs assessed during this exercise and the recommended corrective action to be demonstrated before or during the next biennial exercise.
- **Not Demonstrated** - Listing of the exercise criteria which were not demonstrated as scheduled during this exercise and the reason they were not demonstrated.
- **Prior ARCAs - Resolved** - Descriptions of ARCAs assessed during previous exercises which were resolved in this exercise and the corrective actions demonstrated.
- **Prior ARCAs - Unresolved** - Descriptions of ARCAs assessed during prior exercises which 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 biennial exercise.

The following are definitions of the two types of exercise issues, which are discussed in this report.

- **A Deficiency** is defined in FEMA-REP-14 as "...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."

- An **ARCA** is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety."

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

The identifying number for Deficiencies and ARCAs 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 Codes.
- **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 Federal Register Notice/Vol. 67, No. 80 dated April 25, 2002, which amends FEMA-REP 14, Radiological Emergency Preparedness Exercise Manual.
- **Issue Classification Identifier** - (D = Deficiency, A = ARCA). Only Deficiencies and ARCAs are included in exercise reports. Plan Issues are reported to the State(s) via a letter from the Regional Director. Therefore, standardized issue numbers are not assigned to Plan Issues.
- **Exercise Issue Identification Number** - A separate two (or three) digit indexing number assigned to each issue identified in the exercise.

# 1. STATE OF ILLINOIS

## 1.1 Initial Warning Point

- a. **MET:** Criteria 1.a.1; 1.d.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

## 1.2 Emergency Operations Center (EOC)

- a. **MET:** Criteria 1.a.1; 1.d.1; 1.e.1; 2.a.1; 2.b.1; 2.b.2; 2.c.1; 5.a.1; 5.b.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** Criterion 1.c.1

**Issue No.:** 06-04-1.c.1-A-01

**Condition:** A Reception Center (Kankakee Community College) was opened in Kankakee County because of a miscommunication between the State Emergency Operations Center (EOC), the Radiological Emergency Assessment Center (REAC), the Unified Area Command (UAC) and the State Liaisons. The REAC made a recommendation to only open Pontiac and Joliet Reception Centers, and not the Kankakee Community College Reception Center. This decision was made because the Kankakee Community College was located downwind in the plume pathway where there was a potential for increasing release rates from the Braidwood Nuclear Generating Station. However, the recommendation made to the UAC and the State EOC was not conveyed to the Counties, and the Community College was opened as a reception center.

**Possible Cause:** There was insufficient coordination between the REAC, SEOC, and the UAC, regarding the opening of Reception Centers, particularly the Kankakee Community College Reception Center.

**Reference:** NUREG-0654, A.1.d; A.2.a, 2.b

**Effect:** The public was directed to evacuate to a reception center/shelter (Kankakee Community College) that should not have been opened and was lacking the resources necessary to support monitoring and decontamination.

**Recommendation:** Opening of Reception Centers should be appropriately discussed between the REAC, the State EOC and the UAC and coordinated with the County Offsite Response Organizations (ORO) prior to their opening and providing evacuation and reception center/shelter information to the public.

**Schedule of Corrective Actions:** The decision making process for determining which reception centers will be opened has been clarified. The responsibility for this decision lies with the UAC staff. The State EOC and REAC may provide input. The UAC staff will ensure that their decision is provided to the appropriate facilities and organizations. The corrections of this ARCA will be demonstrated during the 2005 Dresden Exercise.

- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **1.3 Radiological Emergency Assessment Center (REAC)**

- a. **MET:** Criteria 1.a.1; 1.c.1; 1.e.1; 2.a.1; 2.b.1; 2.b.2; 2.c.1; 5.b.1; 6.a.1
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **1.4 Unified Area Command (UAC)**

- a. **MET:** Criteria 1.c.1; 1.d.1; 2.b.2; 2.c.1; 3.d.1; 3.d.2; 5.a.1; 5.b.1; 6.a.1
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: Criteria 1.e.1**

**Issue No.:** 06-04-1.e.1-A-02

**Condition:** Direct-Reading Dosimeters (DRDs) at the UAC operated inaccurately, and DRDs at the Radiological Assessment Field Team (RAFT) Mobile Laboratory displayed expired leakage test dates.

**Possible Cause:** The DRD issued at the UAC was inoperable or malfunctioning. The expired DRDs stored at the RAFT Mobile Laboratory had not been included in current electrical leakage testing cycle.

**Reference:** NUREG-0654, K.3.a.

**Effect:** Both the Illinois State Police (ISP) Trooper and RAFT Mobile Laboratory staff would not have been able to accurately monitor and record their radiological exposure.

**Recommendation:** Direct-Reading Dosimeters should be inspected prior to issue and replaced when not working properly. All DRDs should be inspected to ensure timely leak checks have been performed.

**Corrective Action Demonstrated:** The DRDs from the RAFT Mobile Laboratory were removed from service and tested. IEMA is considering changes to the procedures that require all RAFT personnel to obtain their dosimetry from the supply van co-located with UAC. The supply van at UAC shall not issue dosimeters unless they are working properly, within calibration, and with a recent electrical leakage test.

- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

## 1.5 Traffic and Access Control

- a. **MET:** Criteria 1.d.1; 1.e.1; 3.a.1; 3.b.1; 3.d.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** Criteria 3.a.1; 3.d.1

**Issue No.:** 06-04-3.a.1-A-03

**Condition:** The ISP Trooper assigned to a TACP was not aware of the correct administrative reporting limit or turn-back values.

**Possible Cause:** The ISP Trooper was not familiar with the appropriate administrative reporting limit and turn-back value, and the initial Dosimetry

Control Officer (DCO) briefing to the ISP Trooper did not address this information.

**Reference:** NUREG-0654, K.3.a.

**Effect:** Unaware of the correct administrative reporting limit and turn-back values, the ISP Trooper could be confused about when to leave the affected area and could receive a dose in excess of the established limits.

**Corrective Action Demonstrated:** At 1351 hours, via interview, a re-demonstration occurred after retraining of the DCO had been conducted by Illinois Division of Nuclear Safety staff. The DCO subsequently briefed the ISP Trooper that the appropriate turn-back value is 10R. Following the interview, the ISP Trooper correctly understood the difference between the administrative limit and the turn-back value and the appropriate levels for both.

**Issue No.:** 06-04-3.d.1-A-04

**Condition:** During the interview of the ISP Trooper, he was not aware of the location of the emergency worker monitoring and decontamination reception/registration center, nor was he able to explain how he would obtain this information.

**Possible Cause:** The ISP Trooper did not obtain this pertinent information before being dispatched to his assigned post, and the initial DCO briefing to the ISP Trooper did not address this information.

**Reference:** NUREG-0654 J.12, K.5.b.

**Effect:** The ISP Trooper may not be able to direct the public to the appropriate reception/registration center, if required.

**Corrective Action Demonstrated:** At 1351 hours, a re-demonstration occurred after the DCO provided the ISP Trooper with reception/registration center locations during a briefing. After the briefing, the ISP Trooper stated that the location of the nearest reception/registration center was at Pontiac Township High School.

- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

## **1.6 Joint Information Center (JIC)**

- a. **MET:** Criteria 1.c.1; 1.e.1; 5.b.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

## **1.7 Emergency Operations Facility (EOF)**

- a. **MET:** Criteria 1.a.1; 1.c.1; 1.d.1; 2.b.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

## **1.8 Radiological Assessment Field Team (RAFT)**

- a. **MET:** Criteria 1.c.1; 1.d.1; 3.a.1; 4.a.2
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

## **1.9 RAFT Mobile Laboratory**

- a. **MET:** Criteria 1.d.1; 1.e.1; 3.b.1; 4.a.1; 4.c.1

- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **1.10 Field Team A (Green)**

- a. **MET: Criteria 1.d.1; 4.a.1; 4.a.3; 4.b.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **1.11 Field Team B (Brown)**

- a. **MET: Criteria 1.e.1; 3.a.1; 3.b.1; 4.a.3; 4.b.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **1.12 Field Team C (Orange)**

- a. **MET: Criteria 4.a.3; 4.b.1**
- b. **DEFICIENCY: NONE**

- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

**1.13 Monitoring and Decontamination of Evacuees and Emergency Workers and Registration of Evacuees – Pontiac Township High School**

- a. **MET: Criteria 1.e.1; 6.a.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

**1.14 Monitoring and Decontamination of Emergency Worker Equipment – Pontiac Township High School**

- a. **MET: Criteria 3.a.1; 6.b.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

**1.15 Temporary Care of Evacuees – Pontiac Township High School**

- a. **MET: Criterion 6.c.1**
- b. **DEFICIENCY: NONE**

- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **1.16 Medical Services Drill (MS-1) - Transportation Riverside Hospital Ambulance Service**

- a. **MET: Criteria 1.e.1; 3.a.1; 6.d.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **1.17 Medical Services Drill (MS-1) - Facility (Riverside Hospital)**

- a. **MET: Criteria 1.e.1; 3.a.1; 6.d.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

## **2. RISK JURISDICTIONS**

### **2.1 WILL COUNTY**

#### **2.1.1 Initial Warning Point**

- a. **MET:** Criteria 1.a.1; 1.d.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs – UNROSOLVED:** NONE

### 2.1.2 Emergency Operations Center (EOC)

- a. **MET:** Criteria 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.c.2; 3.d.1; 3.d.2; 5.a.1; 5.b1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** 5.b.1

**Issue No.:** 06-04-5.b.1-A-05

**Condition:** An EBS message was misleading regarding the evacuation of the Braidwood schools to the congregate care shelter.

**Possible Cause:** On Page 2 of 9 in Attachment E of Standard Operating Procedure 7-SOP-8W, dated October 2004, the Braidwood schools were mistakenly listed under the Host Community column.

**Reference:** NUREG-0654; E.5.

**Effect:** Based on how the Braidwood schools were listed in the message format under Host Communities, the public could have been misled during the sequential reading of the EBS message to believe that the affected Braidwood schools were the designated congregate care shelters.

**Corrective Action Demonstrated:** Subsequent EBS messages approved for release to the public did not identify the Braidwood schools under the Host Community heading, as was the case in the first message.

- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

**2.1.3 Traffic and Access Control Point**

- a. **MET:** Criteria 1.d.1; 1.e.1; 3.a.1; 3.b.1; 3.d.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

**2.1.4 Radio Station (WJOL/WSSR/WCCQ/WRXQ AM/FM)**

- a. **MET:** Criterion 5.a.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

**2.1.5 Protective Actions for Schools – EV-2  
(Reed-Custer Community Host School District #255)**

- a. **MET:** Criteria 1.d.1; 1.e.1; 3.a.1; 3.b.1; 3.c.2
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

### **3.1 GRUNDY COUNTY (Control Cell)**

#### **3.1.1 Protective Actions for Schools – EV-2 (Mazon/Verona/Kinsman School District)**

- a. MET: Criteria 1.e.1; 3.a.1; 3.b.1; 3.c.2**
- b. DEFICIENCY: NONE**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. NOT DEMONSTRATED: NONE**
- e. PRIOR ARCAs - RESOLVED: NONE**
- f. PRIOR ARCAs - UNRESOLVED: NONE**

### **4.1 KANKAKEE COUNTY**

#### **4.1.1 Initial Warning Point**

- a. MET: Criteria 1.a.1; 1.d.1**
- b. DEFICIENCY: NONE**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. NOT DEMONSTRATED: NONE**
- e. PRIOR ARCAs - RESOLVED: NONE**
- f. PRIOR ARCAs - UNRESOLVED: NONE**

#### **4.1.2 Emergency Operations Center (EOC)**

- a. MET: Criteria 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.c.2; 3.d.1; 3.d.2; 5.a.1; 5.b.1**
- b. DEFICIENCY: NONE**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. NOT DEMONSTRATED: NONE**

e. **PRIOR ARCAs - RESOLVED: NONE**

f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **4.1.3 Traffic and Access Control Point**

a. **MET: Criteria 1.d.1; 1.e.1; 3.a.1; 3.b.1; 3.d.1**

b. **DEFICIENCY: NONE**

c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**

d. **NOT DEMONSTRATED: NONE**

e. **PRIOR ARCAs - RESOLVED: NONE**

f. **PRIOR ARCAs - UNRESOLVED: NONE**

### **4.1.4 Radio Station (WKAN - AM)**

a. **MET: Criterion 5.a.1**

b. **DEFICIENCY: NONE**

c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**

d. **NOT DEMONSTRATED: NONE**

e. **PRIOR ARCAs - RESOLVED: NONE**

f. **PRIOR ARCAs - UNRESOLVED: None**

## APPENDIX 1

### ACRONYMS AND ABBREVIATIONS

The following is a list of the acronyms and abbreviations, which were used in this report.

AM	Amplitude Modulation
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
BNGS	Braidwood Nuclear Generating Station
CFR	Code of Federal Regulations
DCO	Dosimetry Control Officer
DHS	Department of Homeland Security
DOT	Department of Transportation
DRD	Direct Reading Dosimeters
EAS	Emergency Alert System
EBS	Emergency Broadcast System
ECL	Emergency Classification Level
EMA	Emergency Management Agency
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	Environmental Protection Services
EPZ	Emergency Planning Zone
FEMA	Federal Emergency Management Agency
FM	Frequency Modulation
GE	General Emergency
GM	Guidance Memorandum
ICC	Illinois Commerce Commission
ICF	ICF Consulting
IDNS	Illinois Department of Nuclear Safety
IDOT	Illinois Department of Transportation
IDNR	Illinois Department of Natural Resources
IDPH	Illinois Department of Public Health
IEMA	Illinois Emergency Management Agency
IEPA	Illinois Environmental Protection Agency
ISP	Illinois State Police
JIC	Joint Information Center



## APPENDIX 2

### EXERCISE EVALUATORS AND TEAM LEADERS

The following is a list of the personnel who evaluated the Braidwood Nuclear Generating Station exercise on November 17, 2004. "TL" indicates evaluator Team Leaders after their organization's names. The organization each evaluator represents is indicated by the following abbreviations:

DHS/FEMA	Department of Homeland Security/Federal Emergency Management Agency
ICF	ICF Consulting
DOT	Department of Transportation
EPA	Environmental Protection Agency

	<u>NAME</u>	<u>ORGANIZATION</u>
RAC Chairperson	William E. King	DHS/FEMA
Exercise Director	William E. King	DHS/FEMA

#### 1. Biennial Plume Exercise – November 17, 2004

### STATE OF ILLINOIS

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
Initial Warning Point	Carolyn Sturghill (T/L)	DHS/FEMA
Emergency Operations Center	Carolyn Sturghill (T/L) Paul Nied	DHS/FEMA ICF
Radiological Emergency Assessment Center	Richard Grundstrom Dave Stuenkel	ICF ICF
Unified Area Command	Gary Naskrent	DHS/FEMA
Traffic and Access Control	Jeffry McSpaden	DOT
Emergency Operations Facility	Rowena Argall	ICF
Joint Information Center	Mike Meshenberg	ICF
Radiological Assessment Field Team	Bernis Hannah	ICF
RAFT Mobile Laboratory	Larry Jensen	EPA

Field Team A (Green)	Richard Holtzman	ICF
Field Team B (Brown)	David Duncan	ICF
Field Team C (Orange)	Jerry Staroba	ICF
Monitoring/Decontamination/ Registration of Evacuees/ Emergency Workers	Jerry Staroba	ICF
Monitoring/Decontamination of Emergency Worker Equipment	Dave Stuenkel	ICF
Congregate Care Center	Mike Meshenberg	ICF
Medical Services (MS-1) - Transportation	Carolyn Sturghill (T/L)	DHS/FEMA
Medical Services (MS-1) Hospital	Clinton Crackel	DHS/FEMA

**WILL COUNTY**

Initial Warning Point	Glenn Kinnear	ICF
Emergency Operations Center	Clinton Crackel (T/L) Bob Rospenda	DHS/FEMA ICF
Traffic and Access Control Point	Frank Stead	ICF
Radio Station (WJOL/WSSR/WCCQ/WRXQ – AM/FM)	William Edmonson	ICF
Protective Action for Schools (EV-2) Reed-Custer Community Host School District #255	William Edmonson	ICF

**GRUNDY COUNTY**  
**(Control Cell)**

Protective Action for Schools (EV-2) Ernest Boaze ICF  
Mazon/Verona/Kinsman School District

**KANKAKEE COUNTY**

Initial Warning Point Sandra Bailey DHS/FEMA

Emergency Operations Center Carl Bebrich (T/L) DHS/FEMA  
Sandra Bailey DHS/FEMA  
Ernest Boaze ICF  
Robert Young ICF

Traffic and Access Control Bill Lueders ICF

## APPENDIX 3

### EXERCISE CRITERIA AND EXTENT-OF-PLAY AGREEMENT

This appendix lists the exercise criteria, which were scheduled for demonstration during the Braidwood Nuclear Generating Station exercise on November 17, 2004, and described in the extent-of-play agreement approved by DHS/FEMA Region V.

The exercise criteria, contained in DHS/FEMA, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September 1991, represent a functional translation of the planning standards and evaluation criteria of NUREG-0654/FEMA-REP-1, Rev. 1, "*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 approved by DHS/FEMA to provide evaluators with guidance on expected actual demonstration of the criteria.

#### A. Exercise Criteria

Listed below are the specific Radiological Emergency Preparedness criteria scheduled for demonstration during this exercise.

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

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

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

**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.

**CRITERION 1.d.1:** At least two communications 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.

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

## **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.

**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.

**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).

**CRITERION 2.c.1:** Protective action decisions are made, as appropriate, for special population groups.

## **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 plans 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.

**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 emergency workers and institutionalized individuals (not the general public) is maintained.

**CRITERION 3.c.1:** Protective action decisions are implemented for special populations other than schools within areas subject to protective actions.

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

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

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

## **EVALUATION AREA 4: FIELD MEASUREMENT AND ANALYSIS**

**CRITERION 4.a.1:** The field teams are equipped to perform field measurement of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates.

**CRITERION 4.a.2:** Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure.

**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.

**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.

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

#### **EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION**

**CRITERION 5.a.1:** Activities associated with primary alerting and notification of the public are completed in as 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 DHS/FEMA REP guidance.

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

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

**CRITERION 6.a.1:** The reception center/emergency worker facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers.

**CRITERION 6.b.1:** The facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of emergency worker equipment including vehicles.

**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 (found in MASS CARE-Preparedness Operations, ARC 3031). 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.

**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.

**B. Extent-of-Play Agreement**

The extent-of-play agreement on the following pages was submitted by the State of Illinois and was approved by FEMA Region V, in preparation for the Braidwood Nuclear Generating Station exercise on November 17, 2004, and the extent-of-play agreement approved by DHS/FEMA Region V on October 26, 2004. The extent-of-play agreement includes any significant modification or change in the level of demonstration of each exercise criterion listed in Subsection A of the appendix.

**STATE OF ILLINOIS  
EXTENT OF PLAY AGREEMENT  
FOR THE  
BRAIDWOOD NUCLEAR GENERATING STATION EXERCISE  
November 17, 2004**

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

**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 (EOC) will be fully activated. The IEMA Emergency Response Telecommunicator will implement procedures for notification of IEMA staff as defined in IEMA SOPs. State agency liaisons will be contacted and will report to the State EOC. REAC will be fully activated. A roster will be provided to demonstrate 24-hour staffing of the State EOC and REAC.

The Unified Area Command (UAC), including RAFT, will be activated at the IEMA building in Mazon. IEMA personnel will be pre-positioned in the local area and dispatched to the Grundy County EOC, Will County EOC, Kankakee County EOC, UAC, the JIC, TSC, and the EOF.

The pre-positioned State staff will begin exercise play no earlier than the Alert ECL.

**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 demonstrated at the State EOC, REAC, the UAC, RAFT, and the JIC. Coordination will be demonstrated between the State EOC, REAC, the UAC, RAFT, the JIC, the EOF, and the county EOCs.

**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 will use a variety of communication systems [Nuclear Accident Reporting System (NARS), fax, commercial telephone, and 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. The availability of dosimetry and KI will be demonstrated at the UAC and RAFT. An equipment check will be performed at RAFT. The Exposure Control Officer at RAFT will provide information regarding dosimetry inventory. DCO logs will be available from the IEMA Radiological Advisors in the county EOCs.

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

**Criterion 2.a.1:** OROs use a decision-making process, considering relevant factors and appropriate coordination, to ensure that an exposure control system, including the use of KI, is in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides.

The ability to make the decision to recommend the use of KI to emergency workers will be demonstrated in REAC. A message will be injected to drive the decision to authorize exposure in excess of administrative limit.

**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.

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 State EOC.

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

**Criterion 2.c.1:** Protective action decisions are made, as appropriate, for special population groups.

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

The ability to make the decision to recommend the use of KI to institutional 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 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.

This will be demonstrated during the traffic and access control demonstration at the UAC. The Illinois State Police will bring dosimetry packets to the UAC from their district headquarters. This criterion will also be demonstrated at RAFT.

**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 emergency workers and institutionalized individuals (not the general public) is maintained.

This will be demonstrated during the traffic and access control demonstration. The Illinois State Police will bring dosimetry packets to the UAC from their district headquarters. This criterion will also be demonstrated at RAFT.

**Criterion 3.c.1:** Protective action decisions are implemented for special population groups 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.

This will be demonstrated by the State through coordination between the UAC and the county EOCs, in accordance with the Braidwood Station EPZ Traffic and Access Control Procedures. The Illinois State Police (ISP) will demonstrate one traffic and access control post during the exercise. The ISP will select the post for the demonstration during the exercise based on exercise play. The Trooper will drive to the selected post location for the demonstration. The staffing of the remaining State posts will be simulated.

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

This will be demonstrated through discussions at the UAC between the Illinois State Police and Illinois Department of Transportation. A message will be injected by a Controller that will drive this demonstration. State personnel will deal with the impediment by discussing the need for equipment, discussing its estimated time of arrival, etc. Actual contacts with resource providers will be made and logged.

**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 of emergency workers and relocation and return of the public 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: The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates.**

This criterion will be demonstrated at RAFT with field teams performing radiation measurements with various monitoring equipment. Air samples will be taken with charcoal cartridges and the availability of silver zeolite cartridges will be indicated. One field team will take air samples with particulate filters and the filters will be analyzed at the Mobile Laboratory.

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

This criterion will be demonstrated at RAFT.

**Criterion 4.a.3:** Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media.

This criterion will be demonstrated at RAFT.

**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 be demonstrated at RAFT. Samples appropriate to the area and season will be collected and transported in accordance with SOPs. Three field teams will be evaluated.

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

This criterion will be demonstrated by the IEMA Mobile Laboratory at RAFT. Pre-packaged samples appropriate to the area, season, and scenario will be provided to the lab, prepared, and analyzed in accordance with SOPs.

## **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.

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 the UAC through IEMA representatives in the county EOCs.

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

**Criterion 5.a.3:** 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. Backup alert and notification of the public is completed within 45 minutes 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.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 State EOC, REAC, UAC, and the county EOCs. IEMA personnel will be present at the JIC to coordinate with the utility staff. Media briefings will be conducted at the JIC. A livestock advisory will be issued to the media from the JIC or the State EOC when appropriate.

A rumor control phone bank for public inquiries will be operated by the State during the exercise.

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

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

During the exercise, the capability to determine which centers should be activated for monitoring, decontamination and registration will be demonstrated through coordination between the UAC and REAC.

This criterion will be demonstrated at the Pontiac Township High School. Two portal monitors will be set up during the demonstration. The appropriate number of evacuees will be processed to meet the 20% in 12 hours requirement.

**Criterion 6.b.1:** The facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of emergency worker equipment including vehicles.

During the exercise, the capability to determine which centers should be activated for monitoring, decontamination will be demonstrated through coordination between the UAC and REAC.

This criterion will be demonstrated at the Pontiac Township High School. The ability to decontaminate emergency workers equipment and vehicles will be fully demonstrated by RAFT personnel.

**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.

During the exercise, the capability to determine which centers should be activated for monitoring, decontamination, and registration will be demonstrated through coordination between the UAC and REAC.

This criterion will be demonstrated at the Pontiac Township High School. Local organizations responsible for operating a reception and congregate care center will be present to demonstrate this criterion.

**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 be demonstrated during a drill at Riverside Hospital in Kankakee on October 27, 2004, at 9:00 a.m.

**WILL COUNTY  
EXTENT-OF-PLAY AGREEMENT**

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

**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 fully activate the Emergency Operations Center (EOC) in Joliet, Illinois. The County will implement notification procedures as defined in IPRA-Braidwood. 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.

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

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

This criterion will 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.

Decision-making will be demonstrated at the State EOC and Will County EOC. Coordination of decisions and emergency activities will be demonstrated between Will County, the State EOC, UAC, and the JIC, and between the County and municipalities within the EPZ. Coordination between Will County, Grundy County, and Kankakee 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.

Will County will use NARS, commercial telephone, radio and fax to communicate with departments and agencies at other locations.

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

Will County will demonstrate the ability to support operations through the use of maps, status boards and other displays as appropriate. The availability of dosimetry and KI will be demonstrated at the County EOC, and during the traffic and access control demonstration and the school interview.

## **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 will make protective action recommendations to Will County officials in the County EOC. The Will 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 special population groups.

The State of Illinois will make protective action recommendations to Will County officials in the County EOC. The Will County officials will make the final decision regarding what protective actions will be recommended for special population groups.

**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 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.

Will County will demonstrate this criterion by close coordination with IEMA 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 traffic and access control demonstration and 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 emergency workers and institutionalized individuals (not the general public) is maintained.

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

**Criterion 3.c.1:** Protective action decisions are implemented for special population groups within areas subject to protective actions.

This will be demonstrated by Will County through the simulated implementation of the appropriate procedures. The appropriate officials will coordinate transportation and receiving facilities for special populations. 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.

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

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

A school interview will be conducted with the Reed-Custer School District during the week of the exercise.

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

Coordination between Will 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 demonstrate the staffing of one post. The post for the demonstration will be selected by Will County during the exercise based on exercise play. The deputy will 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 Will 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.

**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 of emergency workers and relocation and return of the public 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 FEMA REP guidance.

Will 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 Braidwood Station EPZ Prompt Notification System as defined in IPRA-Braidwood. The Prompt Notification System (outdoor warning sirens) will not be activated during the exercise.

The ability to provide instructions to the public will be demonstrated through the simulated activation of the local radio station. The local radio station (WJOL/WLLI/WJTW/WBVS) 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.

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

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

**Criterion 5.a.3:** 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. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system.

This criterion does not apply to 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 will demonstrate this criterion by using pre-scripted messages as indicated in IPRA-Braidwood will be developed. Contact with the radio station will be simulated for each alert and notification sequence following the sequence issuing the initial protective action recommendation.

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

The ability to deal with rumors will be demonstrated by Will County through coordination between the County EOC and the JIC. The Will 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 Will County.

**GRUNDY COUNTY  
EXTENT OF PLAY AGREEMENT**

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

**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.

This criterion will not be demonstrated during this exercise.

**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.

This criterion will not be demonstrated during this exercise.

**Criterion 1.d.1:** At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations.

This criterion will not be demonstrated during this exercise.

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

The availability of dosimetry and KI will be demonstrated during the school interview.

**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).

This criterion will not be demonstrated during this exercise.

**Criterion 2.c.1:** Protective action decisions are made, as appropriate, for special population groups.

This criterion will not be demonstrated 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 planning criteria.

This criterion does not apply to Grundy County.

**Criterion 2.e.1:** Timely 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.

This criterion will be demonstrated during 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 emergency workers and institutionalized individuals (not the general public) is maintained.

This criterion will be demonstrated during the school interview.

**Criterion 3.c.1:** Protective action decisions are implemented for special population groups 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.

A school interview will be conducted with the M-V-K School District during the week of the exercise.

**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 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 of emergency workers and relocation and return of the public 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 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 FEMA REP guidance.

This criterion will not be demonstrated during this exercise.

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

**Criterion 5.a.3:** 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. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system.

This criterion does not apply to Grundy County.

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

This criterion will not be demonstrated during this exercise.

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

This evaluation area does not apply to Grundy County.

**KANKAKEE COUNTY  
EXTENT-OF-PLAY AGREEMENT**

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

**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.

Kankakee County intends to fully activate the Emergency Operations Center (EOC) in Kankakee, Illinois. The County will implement notification procedures as defined in IPRA-Braidwood. 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.

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

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

This criterion will 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.

Decision-making will be demonstrated at the State EOC and Kankakee County EOC. Coordination of decisions and emergency activities will be demonstrated between Kankakee County, the State EOC, UAC, and the JIC. Coordination between Kankakee 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.

Kankakee County will use NARS, commercial telephone, radio, and fax to communicate with departments and agencies at other locations.

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

Kankakee County will adequately demonstrate the ability to support operations through the use of maps, status boards and other displays as appropriate. The availability of dosimetry and KI will be demonstrated 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 Kankakee 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 Kankakee 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 Kankakee County officials in the County EOC. The Kankakee 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 special population groups.

The State of Illinois will make protective action recommendations to Kankakee County officials in the County EOC. The Kankakee County officials will make the final decision regarding what protective actions will be recommended for special population groups.

**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 Kankakee County.

**Criterion 2.e.1:** Timely 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.

Kankakee County will demonstrate this criterion by close coordination with IEMA 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 traffic and access control demonstration.

**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 emergency workers and institutionalized individuals (not the general public) is maintained.

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

**Criterion 3.c.1:** Protective action decisions are implemented for special population groups within areas subject to protective actions.

This will be demonstrated by Kankakee County through the simulated implementation of the appropriate procedures. The appropriate officials will coordinate transportation and receiving facilities for special populations. 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.

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

Kankakee County officials will demonstrate this capability through the simulated implementation of the appropriate procedures in the County EOC. The EPZ school and transportation provider will be contacted during the exercise.

An interview with Reddick Elementary School staff was conducted in 2002. Therefore, a school interview will not be conducted.

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

Coordination between Kankakee 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 demonstrate the staffing of one post. The post for the demonstration will be selected by Kankakee County during the exercise based on exercise play. The deputy will 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 Kankakee 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.

**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 Kankakee 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 Kankakee County.

**Criterion 3.f.1:** Decisions regarding controlled re-entry of emergency workers and relocation and return of the public 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 Kankakee 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.

Kankakee 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 Braidwood Station EPZ Prompt Notification System as defined in IPRA-Braidwood. The Prompt Notification System (outdoor warning sirens) will not be activated during the exercise.

The ability to provide instructions to the public will be demonstrated through the simulated activation of the local radio station. The local radio station (WKAN) 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.

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

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

**Criterion 5.a.3:** 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. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system.

This criterion does not apply to Kankakee County.

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

Kankakee County will demonstrate this criterion by using pre-scripted messages as indicated in IPRA-Braidwood. Contact with the radio station will be simulated for each alert and notification sequence following the sequence issuing the initial protective action recommendation.

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

The ability to deal with rumors will be demonstrated by Kankakee County through coordination between the County EOC and the JIC. The Kankakee 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 Kankakee County.

**APPENDIX 4**  
**EXERCISE SCENARIO**

This appendix contains a summary of the simulated sequences of events that were used as the basis for invoking emergency response actions by OROs during the Braidwood Nuclear Generating Station exercise on November 17, 2004.

The Plume Pathway exercise scenario was submitted by the States of Illinois and Exelon Nuclear Energy Corporation, and approved by DHS/FEMA Region V on October 18, 2004.

During the exercise, controllers injected messages via telephone containing scenario events and/or relevant data, to those persons or locations that would normally receive notification of such events. These inject messages were the method used for invoking response actions by OROs.

On the following page is the November 17, 2004, Braidwood Nuclear Generating Station exercise timeline for the State of Illinois and the Counties of Will, Grundy, and Kankakee. All time intervals are approximate.

**BRAIDWOOD NUCLEAR GENERATING STATION REP EXERCISE  
EXERCISE SCENARIO  
OFFSITE EXERCISE TIMELINE**

November 17, 2004

<u>Approx. Time</u>	<u>Event/Anticipated Response</u>
0700	Initial Conditions/Weather forecast message to players
0820	An ALERT is declared at Braidwood Station.
0835	Exelon notifies IEMA Telecommunicators of the ALERT via NARS. IEMA Telecommunicator verifies the NARS message. An IDNS Duty Officer contacts the Braidwood Station Shift Engineer. IEMA Telecommunicator notifies IEMA personnel of the ALERT per SOP. IEMA may activate the State EOC, if appropriate. IEMA may dispatch liaisons to the County EOCs, Unified Area Command (UAC), RAFT, JIC, TSC, and EOF, if appropriate. IEMA notifies Governor's Office of the ALERT. (Simulated) IEMA Telecommunicator notifies appropriate State agencies of the ALERT. IEMA notifies FEMA of the ALERT. (Simulated)
0850	IEMA Telecommunicator notifies the counties of the ALERT via NARS. County Telecommunicators complete and verify the NARS message. County Telecommunicators notify County officials and municipalities of the ALERT per SOP. The counties may activate the EOC, if appropriate. Municipal Telecommunicators complete and verify the NARS message.

Approx.  
Time

Event/Anticipated Response

Municipal Telecommunicators notify officials of the ALERT per SOP.

0930 A SITE AREA EMERGENCY is declared at Braidwood Station.

0945 Exelon notifies IEMA Telecommunicator of the SITE AREA EMERGENCY via NARS.

IEMA Telecommunicator verifies the NARS message.

REAC contacts the Braidwood Station Shift Engineer.

State EOC is activated if not previously activated.

IEMA notifies Governor's Office and requests that a representative report to the State EOC. (Simulated)

State dispatches liaisons to the County EOCs, Unified Area Command (UAC), RAFT, JIC, TSC, and EOF, if not previously dispatched.

State EOC notifies FEMA of conditions. (Simulated)

IEMA notifies State agencies (Simulated):

- Illinois State Police
- IDOT/Division of Highways
- IDOT/Division of Aeronautics
- IDNR
- Illinois National Guard
- ICC
- American Red Cross
- IDPH
- IEPA
- IDOC
- Office of the State Fire Marshal
- others as appropriate

REAC contacts Federal agencies. (Simulated)

REAC provides an update to the State EOC and County EOC Liaisons.

REAC provides an update to the JIC.

1000 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.

Approx.  
Time

Event/Anticipated Response

County EOCs are activated if not previously activated.

Counties implement public notification procedures, if appropriate. (Simulated)

Municipal Telecommunicators complete and verify the NARS message.

Municipal Telecommunicators notify officials per SOP.

Dosimetry is issued to emergency personnel, EOC staff and exposure records are completed.

1050 A GENERAL EMERGENCY is declared at Braidwood Station.

1105 Exelon notifies IEMA Telecommunicator of the GENERAL EMERGENCY via NARS. Protective actions are recommended.

IEMA Telecommunicator verifies the NARS message.

The State EOC and REAC evaluate the protective action recommendation.

A recommendation is made to the Governor. The Governor recommends that protective actions be implemented.

State EOC staff is advised of the situation.

State EOC advises Unified Area Command (UAC), the County EOC liaisons, EOF liaison and JIC staff of the situation.

State EOC notifies FEMA of conditions. (Simulated)

REAC provides an update to the State EOC Liaison and the county EOC Liaisons.

REAC provides an update to the State EOC and the County EOC Liaisons

REAC provides an update to the JIC.

1120 State EOC notifies EPZ counties of the GENERAL EMERGENCY and the recommended protective actions via NARS.

County Telecommunicators complete and verify the NARS message

County Telecommunicators notify County officials, and municipalities per SOP.

County implements public notification procedures, traffic, and access control per SOP's, as applicable

