



FEMA

Mr. Jim Caldwell
Regional Administrator
U.S. Nuclear Regulatory Commission
Region III
2443 Warrenville Road
Lisle, Illinois 60542-4351

AUG - 7 2007

Dear Mr. Caldwell:

Enclosed is one copy of the Final Report for the June 20, 2007, Radiological Emergency Preparedness (REP) Full Participation Plume Exposure Pathway Exercise for the Byron Station. Under separate cover, three copies of this report are being sent to the Illinois Emergency Management Agency Disaster Assistance & Preparedness Chief, for distribution to the counties of Ogle and Winnebago along with an additional copy to the State. The State of Illinois, Ogle and Winnebago Counties, and the utility owner/operator, Exelon Corporation, participated in this exercise. The Final Exercise Report was prepared by the Department of Homeland Security, FEMA Region V REP Program staff.

There were no Deficiencies identified during this exercise. There were no Areas Requiring Corrective Action (ARCA) identified during this exercise.

Based on the results of the June 20, 2007, exercise, the offsite radiological emergency response plans and preparedness for the State of Illinois and affected local jurisdictions, site-specific to the Byron Station, can be implemented and are adequate to provide reasonable assurance that appropriate measures can be taken offsite to protect the health and safety of the public in the event of a radiological emergency at the site. Therefore, the Title 44 CFR, Part 350, approval of the offsite radiological emergency response plans and preparedness for the State of Illinois site-specific to the Byron Station, granted on September 12, 1984, will remain in effect.

If you should have any questions, please contact William King, Regional Assistance Committee Chair, FEMA Region V, at (312) 408-5575.

Sincerely,

A handwritten signature in black ink, appearing to read "Vanessa E. Quinn".

Vanessa E. Quinn
Acting Director
Technological Hazards Division
National Preparedness Directorate

Enclosure

Byron Station Exercise – June 20, 2007

Final Report – Radiological Emergency Preparedness Program

July 31, 2007



FEMA

FEMA Region V





FEMA

Final Exercise Report

Byron Station

Licensee: Exelon Nuclear

Exercise Date: June 20, 2007

Report Date: July 31, 2007

U.S Department of Homeland Security
Federal Emergency Management Agency
Region V

536 S. Clark St.
Chicago, Illinois 60605 - 1521

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1. Executive Summary

On June 20, 2007, a Radiological Emergency Preparedness (REP) Full Participation Plume Exposure Pathway Exercise was conducted for the 10-mile Emergency Planning Zone (EPZ) around the Byron Station by the U.S. Department of Homeland Security (DHS)/Federal Emergency Management Agency(FEMA). 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 DHS/FEMA's policies and guidance concerning the exercise of State and local Radiological Emergency Response Plans (RERPs) and procedures.

The most recent exercise at this site was conducted on July 20, 2005. The qualifying emergency preparedness exercise was conducted on November 15, 1983.

DHS/FEMA wishes to acknowledge the efforts of the many individuals who participated in this exercise. In the State of Illinois the risk counties of Ogle and Winnebago participated along with the State Government.

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

This Final Report contains the evaluation of the biennial exercise and the evaluation of the following out-of-sequence interviews and activities: Illinois State Police (ISP) Dosimetry Control Officers Briefing, ISP Traffic and Access Control Point at the ISP District 1 Headquarters, Protective Actions for Schools (EV-2), Monitoring and Decontamination of Evacuees and Emergency Workers, Decontamination of Emergency Worker's Equipment, Public Registration and Congregate Care Center. 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 during this exercise for the State of Illinois, or for the Counties of Ogle or Winnebago.

There were no Areas Requiring Corrective Actions identified during this exercise for the State of Illinois, or for the Counties of Ogle or Winnebago.

2. Introduction

On December 7, 1979, the President directed FEMA to assume the lead responsibility for all offsite nuclear planning and response. DHS/FEMA's 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.

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

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

Taking the lead in off-site 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 observation and evaluation of exercises of the plans and procedures conducted by State and local governments;

- Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated 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 Agriculture;
- U.S. Department of Commerce;
- U.S. Department of Energy;
- U.S. Department of Health and Human Services;
- U.S. Department of the Interior;

- U.S. Department of Transportation;
- U.S. Environmental Protection Agency;
- U.S. Food and Drug Administration; and
- U.S. Nuclear Regulatory Commission.

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

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

A REP Full Participation Plume Exposure Pathway Exercise was conducted on June 20, 2007, and evaluated by DHS/FEMA to assess the capabilities of State and local offsite emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the Byron Station. The purpose of this 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 evaluation team, with final determinations made by the DHS/FEMA Region V RAC Chairperson, and approved by the DHS/FEMA Headquarters.

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

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;
- FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual," September 1991; and
- FEMA "Radiological Emergency Preparedness: Exercise Evaluation Methodology; Notice" 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) descriptions of all Deficiencies and ARCAs assessed during this exercise, recommended corrective actions, and the State and local governments' schedule of corrective actions, if applicable, for each identified exercise issue; and (2) descriptions of unresolved ARCAs assessed during previous exercises and the status of the OROs' efforts to resolve them.

3. Exercise Overview

Contained in this section are data and basic information relevant to the June 20, 2007, REP Full Participation Plume Exposure Pathway Exercise to test the offsite emergency response capabilities in the area surrounding the Byron Station. This section of the exercise report includes a description of the 10-mile Emergency Planning Zone and 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.

3.1. EPZ Description

The Byron Station, Units 1 and 2, is located on a 1,288-acre site in Rockville Township, approximately 3.7 miles south-southwest of the City of Byron and 2.2 miles east of the Rock River in Ogle County, Illinois. The site is situated approximately in the center of the county in a predominantly agricultural area, with cash grain crops of corn and soybeans.

The plume pathway EPZ consists of a circle with the Byron Station as the center point. The EPZ extends approximately 10 miles outward in all directions from the Byron Station. In the event of a serious accident at the Byron Station, the plume exposure EPZ will be the area in which intensive efforts will be made to notify and protect residents and transient populations from exposure to radiation. This EPZ includes Ogle County, a small portion of Winnebago County and the following municipalities: Byron, Oregon, Stillman Valley, Leaf River, Mount Morris, and Davis Junction.

The population distribution in the 10-mile EPZ surrounding the Byron Station is relatively low. Based on the 2000 census, the City of Byron has a population of 2,917, Oregon has a population of 4,060, Stillman Valley has a population of 1,048, Leaf River has a population of 555, Mount Morris has a population of 3,013, and Davis Junction has a population of 491; for a total of 12,084 residents. The 10 Sub-areas (Numbered: 10, 12, 14, 17, 23, 25, 27, 28, 39 and 40) located in the Byron Station EPZ have a total population of 27,297 per the 2000 census.

Recreational facilities outside the municipalities include the 273-acre Lowden Memorial State Park located three and one-half miles southwest of the Byron Station. This park has facilities for hiking, camping, picnicking, boating and fishing. The 1,800-acre Castle

Rock State Park and Nature Preserve is located seven miles south-southwest of the Byron Station. This park has facilities for picnicking, fishing, boating, and hiking along the 600-acre Nature Preserve. The 2,225-acre Lowden-Miller State Forest is approximately six and one-half miles southwest of the Byron Station. This facility has trails for hiking (year-round), skiing (seasonal) and hunting (October to December; 40 hunters per day).

Major transportation facilities in the Byron Station EPZ are limited to Illinois Route 72, three and one-half miles north of the station, Illinois Route 2, two and one-half miles west of the station, and Illinois Route 64, four and one-half miles south of the station. Three rail lines also run through the Byron Station EPZ: the Illinois and Missouri (I & M) Rail Link line is four and one-half miles north of the station, the Burlington Northern and Santa Fe Railway Company line is five and one-half miles south of the station, and the Illinois Railnet line is nine and one-half miles east of the station.

3.2. Exercise Participants

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

State Jurisdictions

- Central Management Services
- Illinois Commerce Commission
- Illinois Department of Corrections
- Illinois Department of Human Services
- Illinois Department of Natural Resources
- Illinois Department of Transportation - Highways
- Illinois Department of Transportation - Aeronautics
- Illinois Department of Public Health
- Illinois Emergency Management Agency (IEMA)
- Illinois Environmental Protection Agency
- Illinois National Guard
- Illinois State Police (ISP)
- Office of the Attorney General (ATG)
- Office of the State Fire Marshal
- Secretary of State Police

Risk Jurisdictions

- Ogle County Board
- Ogle County - City of Byron
- Ogle County - Coroner's Office
- Ogle County - Byron Fire Department
- Ogle County - Emergency Services and Disaster Agency (ESDA)
- Ogle County - Health Department
- Ogle County - Highway Department
- Ogle County - Village of Stillman Valley
- Ogle County - Village of Mount Morris
- Ogle County - Village of Davis Junction
- Ogle County - Sheriff's Office
- Ogle County - GIS
- Ogle County - Ogle-Lee County Regional Office of Education
- Ogle County - City of Oregon
- Ogle County - Village of Leaf River
- Oregon School District
- Byron School District
- Sauk Valley Community College
- Winnebago County Board of Commissioners
- Winnebago County Administrator
- Winnebago County Sheriff's Office
- Winnebago County E-911 Operations
- Winnebago County ESDA
- Winnebago County Highway Department
- Support Jurisdictions
 - Dixon Rural Fire Protection District
 - Lee County EMA
 - Lee County Health Department
- Private Jurisdictions
 - Radio Station WRHL AM/FM, Rochelle, IL
 - Exelon Nuclear
 - American Red Cross
- Federal Jurisdictions
 - Federal Bureau of Investigation

3.3. Exercise Timeline

Table 1. Exercise Timeline

DATE AND SITE: June 20, 2007, Byron Station

Emergency Classification Level or Event	Time Utility Declared	Time That Decision Was Made or Action Was Taken						
		SIRC	REAC	UAC	EOF	Ogle County	Winnebago County	JIC
Notification of Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alert	0822	0837	0847	0852	0822	0851	0853	0835
Site Area Emergency	0947	1000	1003	1008	0947	1015	1019	0949
General Emergency	1112	1126	1126	1134	1112	1140	1220	1122
Simulated Radiation Release Started	1106	1126	1126	1134	1106	1140	1220	1115
Simulated Radiation Release Terminated	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Facility Declared Operational		0931	0935	0935	0855	0949	1020	0930
State: Declaration of State of Disaster		1133	N/A	1155	N/A	N/A	N/A	1220
Local: Declaration of State of Emergency		N/A	N/A	N/A	N/A		1155	N/A
Exercise Terminated		1330	1330	1255	1303	1335	1302	1310
1 st Early Precautionary Action Decision: Shelter Livestock - Place on Stored Feed and Protected Water		1008	1004	1008	N/A	1015	1055	1040
2 nd Early Precautionary Action Decision: Air, Rail, and Water Traffic Restrictions within 10-mile EPZ		1109	N/A	N/A	N/A	N/A	N/A	N/A
General Informational Message Decision		N/A	N/A	N/A	N/A	1024	N/A	N/A
1 st Siren Activation		N/A	N/A	N/A	N/A	1028	N/A	N/A
1 st EBS Message		N/A	N/A	N/A	N/A	1029	N/A	N/A
1 st Protective Action Recommendation - State: Evacuate Sub-Areas: 10, 17, 19, 20, 23, 25, 40		1133	N/A	N/A	N/A	N/A	N/A	N/A
1 st Protective Action Decision - County: Evacuate Sub-Areas: 10, 12, 17, 19, 20, 23, 25, 40		N/A	N/A	N/A	N/A	1154	N/A	N/A
2 nd Siren Activation		N/A	N/A	N/A	N/A	1158	N/A	N/A
2 nd EBS Message		N/A	N/A	N/A	N/A	1204	N/A	N/A
2 nd Protective Action Recommendation - State: Evacuate Sub-Areas: 10, 12, 17, 19, 20, 23, 25, 40		1233	N/A	N/A	N/A	N/A	N/A	N/A
2 nd Protective Action Decision - County: No Action Required - Action to Evacuate Sub-Area 12 Previously Taken		N/A	N/A	N/A	N/A	N/A	N/A	N/A
KI Administration Decision - REAC to RAFT: Administer KI to Emergency Workers (EWs)		N/A	1129	N/A	N/A	N/A	N/A	N/A
KI Administration Decision - State KI PAR to Counties: Administer KI to EWs & Immobile Populations		1139	N/A	N/A	N/A	1159*	N/A	N/A
KI Administration Decision - County Decision to Administer KI to EWs & Immobile Populations		N/A	N/A	N/A	N/A	1154	1209	N/A

* State Recommendation Received at County

4. Exercise Evaluation and Results

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities that participated in the June 20, 2007, REP Full Participation Plume Exposure Pathway Exercise to test the off-site emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the Byron Station.

Each jurisdiction and functional entity was evaluated based on 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.

4.1. Summary Results of Exercise Evaluation

The matrix presented in Table 2, on the following page(s), presents the status of all exercise criteria from 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 are indicated by the use of the following letters:

M - Met (No Deficiency or ARCA assessed and no unresolved ARCAs from prior exercises)

D - Deficiency assessed

A - ARCA(s) assessed or unresolved ARCA(s) from prior exercise(s)

N - Not Demonstrated (Reason explained in Section IV.B.)

Blank - Not scheduled for demonstration

Table 2 - Summary of Exercise Evaluation (3 pages)

DATE: 2007-06-20 SITE: Byron Station, IL A: ARCA, D: Deficiency, M: Met			State - IWP	State EOC/SIRC	State Public Inquiry Phone Bank	REAC	UAC	RAFT	FT - Red	FT - Yellow	FT - Blue	EOF	IT
Emergency Operations Management													
Mobilization	1a1	M	M		M		M	M	M	M	M	M	M
Facilities	1b1												
Direction and Control	1c1		M		M	M							M
Communications Equipment	1d1	M	M		M	M	M	M	M	M	M	M	M
Equip & Supplies to support operations	1e1		M		M	M	M	M	M	M	M		M
Protective Action Decision Making													
Emergency Worker Exposure Control	2a1		M		M								
Radiological Assessment and PARs	2b1		M		M								
Decisions for the Plume Phase -PADs	2b2		M		M	M							
PADs for protection of special populations	2c1		M		M								
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1												
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1												
Protective Action Implementation													
Implementation of emergency worker exposure control	3a1					M	M	M	M	M	M		
Implementation of KI decision	3b1					M	M	M	M	M	M		
Implementation of protective actions for special populations - EOCs	3c1												
Implementation of protective actions for Schools	3c2												
Implementation of traffic and access control	3d1												
Impediments to evacuation are identified and resolved	3d2												
Implementation of ingestion pathway decisions - availability/use of info	3e1												
Materials for Ingestion Pathway PADs are available	3e2												
Implementation of relocation, re-entry, and return decisions.	3f1												
Field Measurement and Analysis													
Adequate Equipment for Plume Phase Field Measurements	4a1								M	M	M		
Field Teams obtain sufficient information	4a2							M					
Field Teams Manage Sample Collection Appropriately	4a3							M	M	M	M		
Post plume phase field measurements and sampling	4b1												
Laboratory operations	4c1												
Emergency Notification and Public Info													
Activation of the prompt alert and notification system	5a1		M										
Activation of the prompt alert and notification system - Fast Breaker	5a2												
Activation of the prompt alert and notification system - Exception areas	5a3												
Emergency information and instructions for the public and the media	5b1		M	M	M	M							M
Support Operations/Facilities													
Mon / decon of evacuees and emergency workers, and registration of evacuees	6a1												
Mon / decon of emergency worker equipment	6b1												
Temporary care of evacuees	6c1												
Transportation and treatment of contaminated injured individuals	6d1												

Table 2 - Summary of Exercise Evaluation (Continued, page 2/3)

DATE: 2007-06-20 SITE: Byron Station, IL A: ARCA, D: Deficiency, M: Met			IL State Rad Advisor - Ogle County	IL State Union - Ogle County	IL State Rad Advisor - Winnebago County	IL State Union - Winnebago County	DCO Briefing - ISP District 1 HQ	TACP - ISP District 1	MEFW - Sauk Valley Community College	DEEW - Sauk Valley Community College	MA&DEWE - Sauk Valley Community College	Pub Reg - Sauk Valley Community College
Emergency Operations Management												
Mobilization	1a1	M	M	M	M							
Facilities	1b1											
Direction and Control	1c1	M		M								
Communications Equipment	1d1		M		M		M	M	M	M		M
Equip & Supplies to support operations	1e1					M	M	M	M	M	M	M
Protective Action Decision Making												
Emergency Worker Exposure Control	2a1											
Radiological Assessment and PARs	2b1											
Decisions for the Plume Phase -PADs	2b2	M	M									
PADs for protection of special populations	2c1	M	M									
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1											
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1											
Protective Action Implementation												
Implementation of emergency worker exposure control	3a1	M		M		M	M	M	M	M	M	M
Implementation of KI decision	3b1					M	M					
Implementation of protective actions for special populations - EOCs	3c1											
Implementation of protective actions for Schools	3c2											
Implementation of traffic and access control	3d1		M		M		M					
Impediments to evacuation are identified and resolved	3d2		M		M							
Implementation of ingestion pathway decisions - availability/use of info	3e1											
Materials for Ingestion Pathway PADs are available	3e2											
Implementation of relocation, re-entry, and return decisions.	3f1											
Field Measurement and Analysis												
Adequate Equipment for Plume Phase Field Measurements	4a1											
Field Teams obtain sufficient information	4a2											
Field Teams Manage Sample Collection Appropriately	4a3											
Post plume phase field measurements and sampling	4b1											
Laboratory operations	4c1											
Emergency Notification and Public Info												
Activation of the prompt alert and notification system	5a1											
Activation of the prompt alert and notification system - Fast Breaker	5a2											
Activation of the prompt alert and notification system - Exception areas	5a3											
Emergency information and instructions for the public and the media	5b1	M	M									
Support Operations/Facilities												
Mon / decon of evacuees and emergency workers, and registration of evacuees	6a1								M	M		M
Mon / decon of emergency worker equipment	6b1										M	
Temporary care of evacuees	6c1											

Table 2 - Summary of Exercise Evaluation (Continued, page 3/3)

DATE: 2007-06-20 SITE: Byron Station, IL A: ARCA, D: Deficiency, M: Met		CCC - Sauk Valley Community College	Ogle County - IWP	Ogle County - EOC	Ogle County - TACP	Ogle County - EHS	Ogle Co. - EV-2 Byron SD	Ogle County - EV-2 Oregon SD	Winnebago County - IWP	Winnebago County - EOC	Winnebago County - TACP
Emergency Operations Management											
Mobilization	1a1		M	M					M	M	
Facilities	1b1									M	
Direction and Control	1c1			M						M	
Communications Equipment	1d1		M	M	M	M	M	M	M	M	M
Equip & Supplies to support operations	1e1			M	M		M	M		M	M
Protective Action Decision Making											
Emergency Worker Exposure Control	2a1										
Radiological Assessment and PARs	2b1										
Decisions for the Plume Phase -PADs	2b2			M							
PADs for protection of special populations	2c1			M							
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1										
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1										
Protective Action Implementation											
Implementation of emergency worker exposure control	3a1			M	M		M	M		M	M
Implementation of KI decision	3b1			M	M		M	M		M	M
Implementation of protective actions for special populations - EOCs	3c1			M							
Implementation of protective actions for Schools	3c2			M			M	M			
Implementation of traffic and access control	3d1			M	M					M	M
Impediments to evacuation are identified and resolved	3d2			M						M	
Implementation of ingestion pathway decisions - availability/use of info	3e1										
Materials for Ingestion Pathway PADs are available	3e2										
Implementation of relocation, re-entry, and return decisions,	3f1										
Field Measurement and Analysis											
Adequate Equipment for Plume Phase Field Measurements	4a1										
Field Teams obtain sufficient information	4a2										
Field Teams Manage Sample Collection Appropriately	4a3										
Post plume phase field measurements and sampling	4b1										
Laboratory operations	4c1										
Emergency Notification and Public Info											
Activation of the prompt alert and notification system	5a1			M		M					
Activation of the prompt alert and notification system - Fast Breaker	5a2										
Activation of the prompt alert and notification system - Exception areas	5a3										
Emergency information and instructions for the public and the media	5b1			M							
Support Operations/Facilities											
Mon / decon of evacuees and emergency workers, and registration of evacuees	6a1										
Mon / decon of emergency worker equipment	6b1										
Temporary care of evacuees	6c1	M									
Transportation and treatment of contaminated injured individuals	6d1										

4.2. 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 are definitions of the terms used in this subsection relative to criteria 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 was assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.
- **Area Requiring Corrective Action** - 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 that were not demonstrated as scheduled during this exercise and the reason(s) they were not demonstrated.
- **Prior ARCAs - Resolved** - Descriptions of ARCAs assessed during previous exercises that were resolved in this exercise and the corrective actions demonstrated.
- **Prior ARCAs - Unresolved** - Descriptions of ARCAs assessed during prior exercises that were not resolved in this exercise. Included is the reason the ARCA remains unresolved and recommended corrective actions to be demonstrated before or during the next biennial exercise.

The following are definitions of the two types of exercise issues that maybe 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."

The DHS 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 Regions and site-specific exercise reports within each Region. It also is used to expedite tracking of exercise issues on a nationwide basis.

The identifying number of 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 Code.

- 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. Planning Issues are reported to the State(s) via a letter from the Regional Director. Therefore, standardized issue numbers are not assigned to Planning Issues.

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

4.2.1. State Jurisdictions

4.2.1.1. State Initial Warning Point

- a. MET: 1.a.1, 1.d.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.2. State Emergency Operations Center/State of Illinois Response Center

- a. MET: 1.a.1, 1.c.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. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.3. Public Inquiry Phone Bank

- a. MET: 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.4. Radiological Emergency Assessment Center

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2, 2.c.1, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.5. Unified Area Command

- a. MET: 1.c.1, 1.d.1, 1.e.1, 2.b.2, 3.a.1, 3.b.1, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.6. Radiological Assessment Field Team

- a. MET: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 4.a.2, 4.a.3.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.7. Field Team - Red

- a. MET: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 4.a.1, 4.a.3.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.8. Field Team - Yellow

- a. MET: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 4.a.1, 4.a.3.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.9. Field Team - Blue

- a. MET: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 4.a.1, 4.a.3.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.10. Emergency Operations Facility

- a. MET: 1.a.1, 1.d.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.11. Joint Information Center

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.12. Illinois State Radiological Advisor -Ogle County

- a. MET: 1.a.1, 1.c.1, 2.b.2, 2.c.1, 3.a.1, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.13. Illinois State Liaison - Ogle County

- a. MET: 1.a.1, 1.d.1, 2.b.2, 2.c.1, 3.d.1, 3.d.2, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.14. Illinois State Radiological Advisor - Winnebago County

- a. MET: 1.a.1, 1.c.1, 3.a.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.15. Illinois State Liaison - Winnebago County

- a. MET: 1.a.1, 1.d.1, 3.d.1, 3.d.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.16. Dosimetry Control Officer's Briefing - Illinois State Police District 1 Headquarters

- a. MET: 1.e.1, 3.a.1, 3.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.17. Traffic and Access Control Point at the Illinois State Police District 1 Headquarters

- a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.18. Monitoring of Evacuees and Emergency Workers - Sauk Valley Community College

- a. MET: 1.d.1, 1.e.1, 3.a.1, 6.a.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.19. Decontamination of Evacuees and Emergency Workers - Sauk Valley Community College

- a. MET: 1.d.1, 1.e.1, 3.a.1, 6.a.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.20. Monitoring and Decontamination of Emergency Worker's Equipment - Sauk Valley Community College

- a. MET: 1.e.1, 3.a.1, 6.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.21. Public Registration - Sauk Valley

Community College

- a. MET: 1.d.1, 1.e.1, 3.a.1, 6.a.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.1.22. Congregate Care Center - Sauk Valley

Community College

- a. MET: 6.c.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.2. Risk Jurisdictions

4.2.2.1. Ogle County - Initial Warning Point

- a. MET: 1.a.1, 1.d.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None

- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.2.2. Ogle County - Emergency Operations Center

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.2.3. Ogle County - Traffic and Access Control Point

- a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.2.4. Ogle County - Emergency Broadcasting Station - WRHL

- a. MET: 1.d.1, 5.a.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.2.5. Ogle County - EV-2 Interview - Byron School District

- a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.2.6. Ogle County - EV-2 Interview - Oregon

School District

- a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.2.7. Winnebago County - Initial Warning Point

- a. MET: 1.a.1, 1.d.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.2.8. Winnebago County - Emergency Operations

Center

- a. MET: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.2.9. Winnebago County - Traffic and Access Control Point

- a. MET: 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

ARC	American Red Cross
ARCA	Area Requiring Corrective Action
ARES	Amateur Radio Emergency Service
BS	Byron Station
CCC	Congregate Care Center
DC	Dosimetry Coordinator
DCO	Dosimetry Control Officer
EAL	Emergency Action Level
EAS	Emergency Alert System
EBS	Emergency Broadcasting System
ECL	Emergency Classification Level
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPZ	Emergency Planning Zone
ESDA	Emergency Services Disaster Agency
FEMA	Federal Emergency Management Agency
FPD	Fire Protection District
GE	General Emergency
GPS	Geographical Positioning System
IC	Incident Commander
IEMA	Illinois Emergency Management Agency
ISP	Illinois State Police
IWP	Initial Warning Point
JIC	Joint Information Center
LD	Luminescent Dosimeter
LEADS	Law Enforcement Agency Data System
NARS	Nuclear Accident Reporting System
NRC	Nuclear Regulatory Commission
PAD	Protective Action Decision
PAR	Protective Action Recommendation
RAC	Regional Assistance Committee
RAFT	Radiological Assessment Field Team
RDS	Regional District Superintendent
REAC	Radiological Emergency Assessment Center
REP	Radiological Emergency Preparedness
RO	Radiological Officer
RPCC	Radiological Preparedness Coordinating Committee
RRC	Radiological Response Chief
RTF	Radiological Task Force
SAE	Site Area Emergency
SAM	Site Area Manager
SCC	SIRC Communications Center
SEOC	State Emergency Operations Center

SIRC	State Incident Response Center
TEDE	Total Effective Dose Equivalent
UAC	Unified Area Command
UHF	Ultra High Frequency
VHF	Very High Frequency
WEM	Wisconsin Emergency Management

APPENDIX 2

EXERCISE EVALUATORS AND TEAM LEADERS

The following is a list of the personnel who evaluated the Byron Station REP Full Participation Plume Exposure Pathway exercise on June 20, 2007. Evaluator Team Leaders are indicated by an asterisk "*" before their names. The organization which each evaluator represents is indicated by the following abbreviations:

DHS Department of Homeland Security
ICF ICF Consulting

<u>TITLE</u>	<u>NAME</u>	<u>ORGANIZATION</u>
Radiological Assistance Committee, Chairman	William E. King	DHS/FEMA
Exercise Director	Gary Naskrent	DHS/FEMA
Site Specialist	Delwyn Kinsley	DHS/FEMA

DATE: 2007-06-20, SITE: Byron Station, IL

LOCATION	EVALUATOR	AGENCY
State Initial Warning Point	Carl Bebrich	DHS/FEMA
State Emergency Operations Center/State of Illinois Response Center	Carl Bebrich Clark Cofer *Harral Logaras	DHS/FEMA ICF DHS/FEMA
Public Inquiry Phone Bank	Clark Cofer	ICF
Radiological Emergency Assessment Center	Paul Cormier Harry Harrison *Harral Logaras	ICF ICF DHS/FEMA
Unified Area Command	Louis Sosler Richard Wessman	ICF ICF
Radiological Assessment Field Team	Ronald Biernacki *Harral Logaras	ICF DHS/FEMA
Field Team - Red	*Harral Logaras Richard Smith	DHS/FEMA ICF
Field Team - Yellow	*Harral Logaras Richard Watts	DHS/FEMA ICF
Field Team - Blue	Sonia Eischen *Harral Logaras	ICF DHS/FEMA
Emergency Operations Facility	Richard Grundstrom	ICF
Joint Information Center	Michael Meshenberg	ICF
Illinois State Radiological Advisor -Ogle County	Thomas Essig Jim Gibbons Carolyn Sturghill	ICF DHS/FEMA DHS/FEMA
Illinois State Liaison - Ogle County	Thomas Essig Jim Gibbons Carolyn Sturghill	ICF DHS/FEMA DHS/FEMA
Illinois State Radiological Advisor - Winnebago County	Clinton Crackel Raymond Wood	DHS/FEMA ICF
Illinois State Liaison - Winnebago County	Chad Johnston Raymond Wood	DHS/FEMA ICF
Dosimetry Control Officer's Briefing - Illinois State Police District 1 Headquarters	Michael Meshenberg	ICF
Traffic and Access Control Point at the Illinois State Police District 1 Headquarters	*Harral Logaras Richard Watts	DHS/FEMA ICF
Monitoring of Evacuees and Emergency Workers - Sauk Valley Community College	Richard Wessman	ICF
Decontamination of Evacuees and Emergency Workers - Sauk Valley Community College	Thomas Essig	ICF
Monitoring and Decontamination of Emergency Worker's Equipment - Sauk Valley Community College	Sonia Eischen	ICF
Public Registration - Sauk Valley Community College	Paul Cormier	ICF
Congregate Care Center - Sauk Valley Community College	Harry Harrison	ICF
Ogle County - Initial Warning Point	John Rice	DHS/FEMA
Ogle County - Emergency Operations Center	Thomas Essig Jim Gibbons *Carolyn Sturghill	ICF DHS/FEMA DHS/FEMA
Ogle County - Traffic and Access Control Point	John Rice	DHS/FEMA
Ogle County - Emergency Broadcasting Station - WRHL	Todd Davidson	ICF
Ogle County - EV-2 Interview - Byron School District	*Carolyn Sturghill	DHS/FEMA
Ogle County - EV-2 Interview - Oregon School District	Chad Johnston	DHS/FEMA
Winnebago County - Initial Warning Point	Chad Johnston	DHS/FEMA

Winnebago County - Emergency Operations Center	*Clinton Crackel Raymond Wood	DHS/FEMA ICF
Winnebago County - Traffic and Access Control Point	Chad Johnston	DHS/FEMA
* Team Leader		

APPENDIX 3

EXERCISE CRITERIA AND EXTENT-OF-PLAY AGREEMENT

This appendix lists the exercise criteria, which were scheduled for demonstration in the Byron Station REP Full Participation Plume Exposure Pathway Exercise on June 20, 2007, and the off-site extent-of-play agreement approved by FEMA on June 5, 2007.

The exercise criteria, contained in the FEMA "Radiological Emergency Preparedness Exercise Evaluation Methodology; Notice," as published in the Federal Register Notice/Vol 67, dated April 25, 2002, 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 population groups 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 measurements 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.

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 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.

APPENDIX 4

EXERCISE SCENARIO

This appendix contains a summary of the simulated sequence of events – Exercise Scenario -- which was used as the basis for invoking emergency response actions by Offsite Response Organizations in the Byron Station REP Full Participation Plume Exposure Pathway exercise on June 20, 2007.

This exercise scenario was submitted by the State of Illinois and Exelon Nuclear and approved by DHS/FEMA Region V June 5, 2007.

During the exercise, controllers from the State of Illinois gave "inject messages," containing scenario events and/or relevant data to those persons or locations who would normally receive notification of such events. These inject messages were the method used for invoking response actions by OROs.

OFFSITE EXERCISE TIMELINE

June 20, 2007

<u>Approx. Time</u>	<u>Event/Anticipated Response</u>
0750	Initial conditions/weather forecast message to players.
0805	An Alert is declared at Byron Station.
0820	Exelon notifies the IEMA Telecommunicator of the ALERT via NARS. IEMA Telecommunicator verifies the NARS message. An IEMA Duty Officer contacts the Byron Station Shift Engineer. IEMA Telecommunicator notifies IEMA personnel of the ALERT per SOP. IEMA may activate the State of Illinois Response Center (SIRC) and Radiological Emergency Assessment Center (REAC), if appropriate. IEMA may dispatch liaisons to the County EOCs, Unified Area Command (UAC), Radiological Assessment Field Team (RAFT) Staging Area, Joint Information Center (JIC), Technical Support Center (TSC) and Emergency Operations Facility (EOF), if appropriate. IEMA notifies Governor's Office of the ALERT. (Simulated) IEMA Telecommunicator notifies appropriate State agencies of the ALERT. IEMA notifies DHS/FEMA of the ALERT. (Simulated)
0835	IEMA Telecommunicator notifies Ogle County of the ALERT via NARS. County telecommunicator completes and verifies the NARS message. County telecommunicator notifies Ogle County officials, Winnebago County and municipalities of the ALERT per SOP. Winnebago County and municipal telecommunicators complete and verify the NARS message.

Winnebago County and municipal telecommunicators notify officials of the ALERT per SOP.

The counties and municipalities may activate the EOCs, if appropriate.

<u>Approx. Time</u>	<u>Event/Anticipated Response</u>
0935	A SITE AREA EMERGENCY is declared at Byron Station.
0950	Exelon notifies the IEMA Telecommunicator of the SITE AREA EMERGENCY via NARS.
	IEMA Telecommunicator verifies the NARS message.
	REAC contacts the Byron Station Shift Engineer.
	SIRC is activated if not previously activated.
	SIRC notifies the Governor's Office and requests that a representative report to the State EOC. (Simulated)
	State dispatches liaisons to the County EOCs, UAC, RAFT, JIC, TSC and EOF, if not previously dispatched.
	SIRC notifies DHS/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
	- IDHS
	- IDOA
	- Office of the State Fire Marshal
	- others as appropriate
	REAC contacts Federal agencies. (Simulated)

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

REAC provides an update to the JIC.

1005 IEMA notifies Ogle County of the SITE AREA EMERGENCY via NARS.

County telecommunicator completes and verifies the NARS message.

County telecommunicators notify Ogle County officials, Winnebago County and municipalities of the SITE AREA EMERGENCY per SOP.

Ogle County implements public notification procedures, if appropriate. (Simulated)

Winnebago County and municipal telecommunicators complete and verify the NARS message.

Winnebago County and municipal telecommunicators notify officials per SOP.

County and municipal EOCs are activated if not previously activated.

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

Approx.
Time

Event/Anticipated Response

1105 A GENERAL EMERGENCY is declared at Byron Station.

1120 Exelon notifies the IEMA Telecommunicator of the GENERAL EMERGENCY via NARS. Protective actions are recommended.

IEMA Telecommunicator verifies the NARS message.

The SIRC and REAC evaluate the protective action recommendation.

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

SIRC staff is advised of the situation.

SIRC advises UAC, the County EOC liaisons and JIC staff of the situation.

SIRC notifies DHS/FEMA of conditions. (Simulated)

REAC provides an update to the SIRC and County EOC liaisons.

REAC provides an update to the JIC.

1135 SIRC notifies Ogle County of the GENERAL EMERGENCY and the recommended protective actions via NARS.

County telecommunicator completes and verifies the NARS message.

County telecommunicator notifies Ogle County officials, Winnebago County and municipalities per SOP.

Ogle County implements public notification procedures and traffic and access control per SOPs, as applicable.

Winnebago County and municipal telecommunicators complete and verify and the NARS message.

Winnebago County and municipal telecommunicators notify EOC staff.

1210 The GENERAL EMERGENCY continues at Byron Station. A wind shift has occurred.

1225 Exelon notifies the IEMA Telecommunicator of the wind shift via NARS. Additional protective action are recommended.

IEMA Telecommunicator verifies the NARS message.

The SIRC and REAC evaluate the protective action recommendation.

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

SIRC staff is advised of the situation.

SIRC advises UAC, the County EOC liaisons and JIC staff of the situation.

SIRC notifies DHS/FEMA of conditions. (Simulated)

REAC provides an update to the SIRC and County EOC liaisons.

REAC provides an update to the JIC.

1240 SIRC notifies Ogle County of the wind shift and the recommended protective actions via NARS.

County telecommunicator completes and verifies the NARS message.

County telecommunicator advises Ogle County officials, Winnebago County and municipalities per SOP.

Ogle County implements public notification procedures and traffic and access control per SOPs, as applicable.

Winnebago County and municipal telecommunicators complete and verify and the NARS message.

Winnebago County and municipal telecommunicators advise EOC staff.

1315 Terminate exercise play.