



FEMA

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U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

To Whom It May Concern:

Enclosed is one copy of the Final Report for the July 29, 2009, Radiological Emergency Preparedness (REP) Partial Participation Plume Exposure Pathway Exercise for the Byron Generating Station. The State of Illinois, Ogle and Winnebago Counties, and the utility owner/operator, Exelon Nuclear, participated in this exercise. The final report was prepared by the U.S. Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA) Region V, Radiological Emergency Preparedness Program.

No Deficiencies were identified for any jurisdiction during this exercise. There were no Areas Requiring Corrective Action (ARCAs) identified for the State of Illinois.

There were no prior ARCAs identified for the State of Illinois, Ogle and Winnebago Counties needing to be resolved during this exercise.

One Area Requiring Corrective Action (ARCA) was identified each for Ogle and Winnebago County during this exercise. The ARCA identified for Ogle County was issued under Evaluation Area 5, Emergency Notification and Public Information, whereby the Ogle County EMA Director/Coordinator did not indicate to the radio station that emergency messages were to be repeated every 15 minutes in accordance with Ogle County Procedures contained in the IPRA, Byron Chapter 2 Annex 2A. This ARCA will be re-evaluated during the next Bryon exercise, scheduled for 2011.

The ARCA identified for Winnebago County was issued under Evaluation Area 1, Emergency Operations Management, whereby the Sheriff Liaison initiated a news message and reverse 911 call-out that informed the Winnebago County population located in Sub-Area 39 to evacuate to a facility not designated in the emergency plan as a reception center. This ARCA was resolved based on training that occurred on Tuesday, September 22, 2009, at the Winnebago County EOC.

A detailed discussion and corrective actions taken for these ARCAs can be found in Part IV of this Final Report.

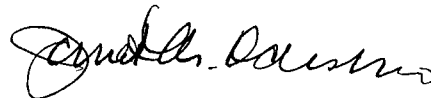
Based on the results of the July 29, 2009, exercise, the offsite radiological emergency response plans and preparedness for the State of Illinois and affected local jurisdictions site-specific to the Byron Generating Station, can be implemented and are adequate to provide reasonable assurance that appropriate 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 Generating Station, granted on October 14, 1982, remains in effect.

Copies of this Report were transmitted to the DHS/FEMA National Office, Nuclear Regulatory Commission (NRC) Region III, and the State of Illinois.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Janet M. Odesheo", written in a cursive style.

Janet M. Odesheo
Acting Regional Administrator

Enclosure (1)

Byron Station

Exercise Report - 2009-07-29

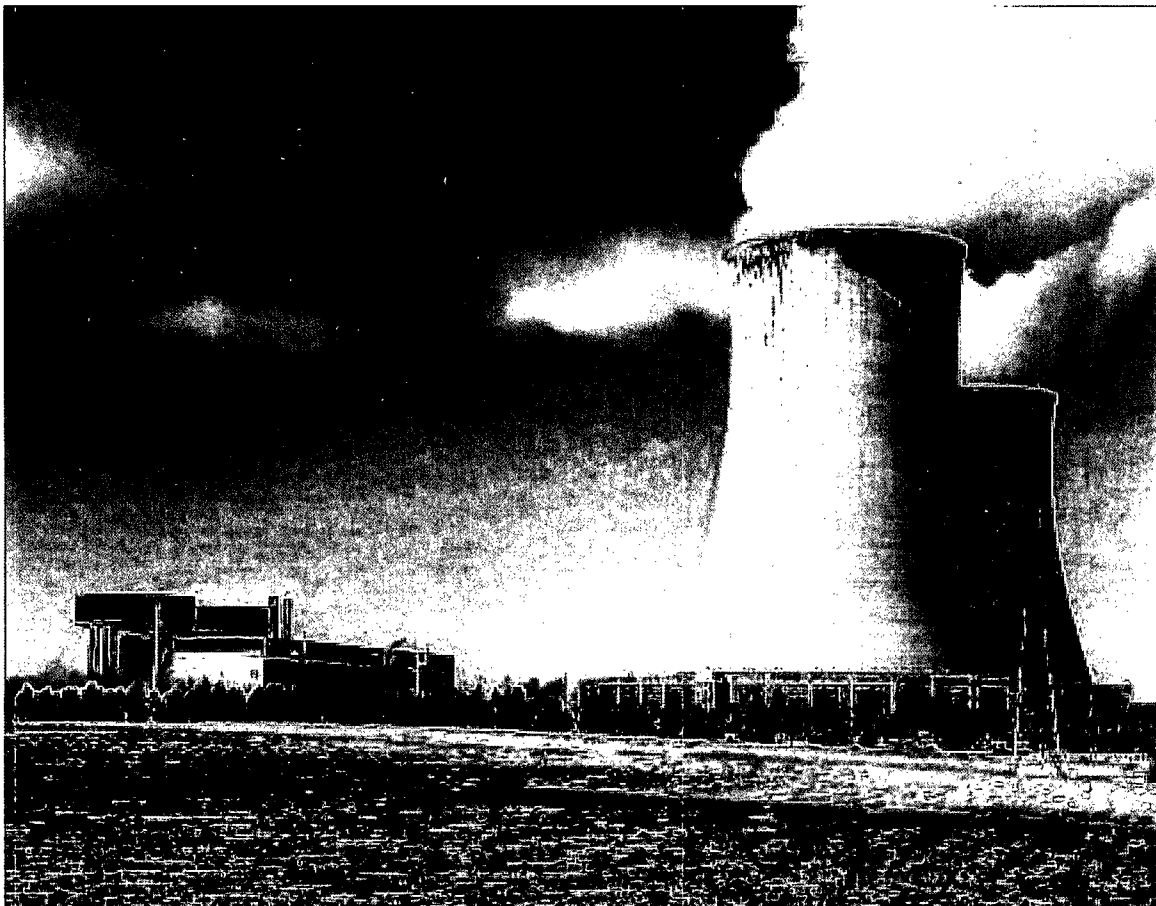
Final Report - Radiological Emergency

Preparedness (REP) Program

2009-11-02



FEMA





FEMA

Exercise Report

Byron Station

Exercise Date: 2009-07-29

Report Date: 2009-11-02

U.S. DEPARTMENT OF HOMELAND SECURITY

Federal Emergency Management Agency

REP Program

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1. Executive Summary

On July 29, 2009 a Radiological Emergency Preparedness (REP) Partial 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 June 20, 2007. 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 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. Except where noted in this report, the State and local organizations demonstrated knowledge of and adequately implemented their emergency response plans and procedures.

There were no Deficiencies identified during this exercise for the State of Illinois, Ogle nor Winnebago County. There were two Areas Requiring Corrective Actions (ARCA) identified during this exercise, one each for Ogle and Winnebago County. Ogle County received an ARCA finding under Evaluation Area 5, Emergency Notification and Public

Information. Winnebago County received an ARCA finding under Evaluation Area 1, Emergency Operations Management, which was cleared based on training that occurred on Tuesday, September 22, 2009, at the Winnebago County EOC. Section IV of this report, entitled "Exercise Evaluation and Results," presents detailed information on the ARCAs.

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 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 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 Partial Participation Plume Exposure Pathway Exercise was conducted on July 29, 2009 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 (if any) assessed during this exercise, recommended corrective actions, and the State and local governments' schedule of corrective actions, if applicable, for each identified exercise issue; and (2) descriptions of unresolved 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 July 29, 2009 REP Partial Participation Plume Exposure Pathway Exercise conducted 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 EPZ and a listing of all participating jurisdictions and functional entities that were evaluated, and a tabular presentation of the time 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

- Illinois Department of Human Services
- Illinois Department of Natural Resources
- Illinois Department of Transportation
- Illinois Emergency Management Agency
- Illinois Environmental Protection Agency
- Illinois Finance Department
- Illinois State Police
- State of Illinois Historian

Risk Jurisdictions

- Assistant Regional Superintendent of the Lee/Ogle Regional Office of Education
- City of Byron
- City of Oregon
- Federal Bureau of Investigation
- Kings Consolidated School District #144 Teacher
- Kings Consolidated School District #144 Superintendent
- Kings Consolidated School District #144 Bus Driver
- Kings Consolidated School District #144 Transportation Director
- Mutual Aid Box Alarm System

Ogle County Administrator
Ogle County Coroner
Ogle County Emergency Management Agency
Ogle County Emergency Management Agency Director
Ogle County Health Department
Ogle County Sheriff
Ogle County Sheriff's Department
Ogle County Sheriff's Dispatch Center
Ogle County Transportation Department
Regional Superintendent of Schools
Village of Davis Junction
Village of Leaf River
Village of Mount Morris
Village of Stillman Valley
Support Jurisdictions
Byron Fire Department
Byron Police Department
Winnebago County Board Members
Winnebago County ESDA
Winnebago County Public Works
Winnebago County Sheriff's Department
Private Jurisdictions
American Red Cross
Exelon Nuclear
Radio Station WRHL

3.3. Exercise Timeline

Table 1, on the following page, presents the times at which key events and activities occurred during the Byron Station REP Partial Participation Plume Exposure Pathway Exercise on July 29, 2009. Also included are times that notifications were made to the participating jurisdictions/functional entities.

Table 1 - Exercise Timeline
DATE: 2009-07-29, SITE: Byron Station, IL

| Emergency Classification Level or Event | Time Utility Declared | State EOC/SIRC | REAC | UAC | JTC | Ogle - EOC | Winnebago - EOC |
|---|-----------------------|----------------|------|------|------|------------|-----------------|
| Unusual Event | | N/A | N/A | N/A | N/A | N/A | N/A |
| Alert | 0812 | 0833 | 0833 | 0833 | 0833 | 0838 | 0900 |
| Site Area Emergency | 0933 | 0949 | 0941 | 0957 | 0934 | 0953 | 1016 |
| General Emergency | 1100 | 1120 | 1106 | 1128 | 1102 | 1128 | 1134 |
| Simulated Rad. Release Started | 1055 | 1110 | 1058 | 1128 | 1102 | 1128 | 1134 |
| Simulated Rad. Release Terminated | | N/A | N/A | N/A | N/A | N/A | N/A |
| Facility Declared Operational | | 0910 | 0851 | 0840 | 0940 | 0930 | 0942 |
| Declaration of State of Emergency | | 1236 | N/A | N/A | 1238 | 1009 | 1245 |
| Exercise Terminated | | 1240 | 1240 | 1335 | 1243 | 1335 | 1305 |
| Early Precautionary Actions: State issued a Livestock Advisory; livestock to be sheltered and placed on stored feed and water within the 10-mile EPZ. | | 1006 | 1006 | 1040 | 1027 | 1020 | 1026 |
| 1st Protective Action Decision: Evacuation of Sub-Areas 17, 19, 20, 23, 25, 27, and 39 | | 1115 | 1113 | 1118 | N/A | 1128 | 1134 |
| 1st Siren Activation | | N/A | N/A | N/A | N/A | 1132 | N/A |
| 1st EAS or EBS Message | | N/A | N/A | N/A | N/A | 1140 | N/A |
| 2nd Protective Action Decision: None required | | N/A | N/A | N/A | N/A | N/A | N/A |
| 2nd Siren Activation | | N/A | N/A | N/A | N/A | N/A | N/A |
| 2nd EAS or EBS Message | | N/A | N/A | N/A | N/A | N/A | N/A |
| KI Administration Decision: KI to Emergency Workers and Immobile Populations | | 1117 | 1118 | 1118 | N/A | 1129 | 1134 |

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 July 29, 2009 REP Partial Participation Plume Exposure Pathway Exercise conducted to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the 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.

Presented below are definitions of the terms used in this report relative to criteria demonstration status:

- Met - The status of a REP exercise Evaluation Area Criterion indicating that the participating Offsite Response Organization (ORO) demonstrated all demonstration criteria for the Evaluation Area Criterion to the level required in the extent-of-play agreement with no Deficiencies or ARCAs assessed in the current exercise and no unresolved prior ARCAs.
- Deficiency - 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.
- Area Requiring Corrective Action (ARCA) - An observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety. Listing of the demonstrated exercise criteria under which one or more ARCAs was/were assessed during the current exercise or ARCAs assessed during prior exercises remain unresolved. Included is a description of any ARCAs assessed during this exercise and the recommended corrective action to be demonstrated before or during the next biennial exercise.
- Not Demonstrated - Exercise criteria that were not demonstrated as scheduled during

this exercise and the reason(s) they were not demonstrated.

- Prior ARCAs - Resolved – Descriptions of ARCAs assessed during previous exercises that were resolved and the corrective actions demonstrated, in this exercise.
- 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.

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:

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

DATE: 2009-07-29
SITE: Byron Station, IL

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

| <p>DATE: 2009-07-29</p> <p>SITE: Byron Station, IL</p> <p>A: ARCA, D: Deficiency, M: Met, N: Not Demonstrated</p> | | DCO Briefing - ISP District 1 HQ | TACP - ISP District 1 | MEEW - Freeport HS | DEEW - Freeport HS | M&DEWE - Freeport HS | CCC - Freeport HS | Pub Reg - Freeport HS | MS-1 T - Freeport Amb Serv | MS-1 H - Freeport Memorial Hosp | Ogle - EV-2 Kings Consolidated SD |
|---|-----|----------------------------------|-----------------------|--------------------|--------------------|----------------------|-------------------|-----------------------|----------------------------|---------------------------------|-----------------------------------|
| Emergency Operations Management | | | | | | | | | | | |
| Mobilization | 1a1 | | | | | | | | | | |
| Facilities | 1b1 | | | | | | | | | | |
| Direction and Control | 1c1 | | | | | | | | | | |
| Communications Equipment | 1d1 | | | | | | N | | M | M | M |
| Equip & Supplies to support operations | 1e1 | M | M | N | N | N | | 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 | | | | | | | | | | |
| PADs for protection of special populations | 2c1 | | | | | | | | | | |
| Rad Assessment and Decision making for the Ingestion Exposure Pathway | 2d1 | | | | | | | | | | |
| Rad Assess/Decision making concerning Relocation, Reentry, and Return | 2e1 | | | | | | | | | | |
| Protective Action Implementation | | | | | | | | | | | |
| Implementation of emergency worker exposure control | 3a1 | M | M | N | N | N | | | | M | M |
| Implementation of KI decision | 3b1 | M | M | | | | | | | | M |
| Implementation of protective actions for special populations - EOCs | 3c1 | | | | | | | | | | |
| Implementation of protective actions for Schools | 3c2 | | | | | | | | | | M |
| Implementation of traffic and access control | 3d1 | | M | | | | | | | | |
| 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 | | | | | | | | | | |
| 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 | | | | | | | | | | |
| Support Operations/Facilities | | | | | | | | | | | |
| Mon / decon of evacuees and emergency workers, and registration of evacuees | 6a1 | | | M | N | | | M | | | |
| Mon / decon of emergency worker equipment | 6b1 | | | | | N | | | | | |
| Temporary care of evacuees | 6c1 | | | | | | N | | | | |
| Transportation and treatment of contaminated injured individuals | 6d1 | | | | | | | | M | M | |

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

| DATE: 2009-07-29 SITE: Byron Station, IL A: ARCA, D: Deficiency, M: Met, N: Not Demonstrated | | | Ogle - IWP | Ogle - EOC | TACP - Ogle | Ogle - EBS - WRHL | Winnebago - IWP | Winnebago - EOC | TACP - Winnebago | TACP - Byron PD | DCO Briefing - Byron PD | Winnebago City Liaison - Ogle City |
|--|-----|---|------------|------------|-------------|-------------------|-----------------|-----------------|------------------|-----------------|-------------------------|------------------------------------|
| Emergency Operations Management | | | | | | | | | | | | |
| Mobilization | 1a1 | M | M | | | | M | M | | | | |
| Facilities | 1b1 | | | | | | | | | | | |
| Direction and Control | 1c1 | | M | | | | | A | | | | M |
| Communications Equipment | 1d1 | 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 Assess/Decision making concerning Relocation, Reentry, and Return | 2e1 | | M | | | | | | | | | |
| 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 | | | | | | | | | |
| Implementation of traffic and access control | 3d1 | | M | 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 | | M | | | | | | | | | |
| 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 | | A | | 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 | | 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 | | | | | | | | | | | |

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.

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 (09 for Byron Station).
- Exercise Year – The last two digits of the year the exercise was conducted.
- Criterion Number – An alpha and two-digit number corresponding to the criteria numbers in the six Exercise Evaluation Areas described in 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. Illinois 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. 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

4.2.1.4. Unified Area Command

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.2, 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

4.2.1.5. Emergency Operations Facility

- a. MET: 1.a.1, 1.c.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

4.2.1.6. 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

4.2.1.7. Illinois State Radiological Advisor -Ogle County

- a. MET: 1.a.1, 1.c.1, 1.e.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

4.2.1.8. Illinois State Liaison - Ogle County

- a. MET: 1.c.1, 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

4.2.1.9. Illinois State Radiological Advisor - Winnebago County

- a. MET: 1.a.1, 1.c.1, 1.e.1, 2.b.2, 2.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

4.2.1.10. Illinois State Liaison - Winnebago County

- a. MET: 1.c.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. 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

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

- a. MET: 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

4.2.1.13. Monitoring of Evacuees and Emergency Workers - Freeport High School

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

4.2.1.14. Decontamination of Evacuees and Emergency Workers - Freeport High School

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

4.2.1.15. Monitoring and Decontamination of Emergency Worker Equipment - Freeport High School

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

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

4.2.1.16. Congregate Care Center - Freeport High School

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

4.2.1.17. Public Registration - Freeport High School

- a. MET: 1.e.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

4.2.1.18. Medical Services (MS-1) Transportation - Freeport Ambulance Service

- a. MET: 1.d.1, 1.e.1, 6.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

4.2.1.19. Medical Services (MS-1) Hospital - Freeport Memorial Hospital

- a. MET: 1.d.1, 1.e.1, 3.a.1, 6.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. Risk Jurisdictions

4.2.2.1. Ogle County EV-2 Interview - Kings

Consolidated 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

4.2.2.2. 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

4.2.2.3. 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, 2.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 3.f.1, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: 5.a.1.

ISSUE NO.: 09-09-5a1-A-01

CRITERION: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite officials to notify the public of an emergency situation. (10 CFR Part 50, Appendix E & NUREG-0654, E.1.,4.,5.,6.,7.)

CONDITION: The Ogle County Emergency Management Agency (EMA) Coordinator did not instruct the radio station to repeat recorded Local Radio Stations Messages every 15 minutes.

POSSIBLE CAUSE: Though the checklist for the Ogle County EMA Coordinator contained in the State Plan includes a step for this action (see Reference), a written agreement between the radio station (WRHL AM/FM), the Ogle County EMA, and the Illinois Emergency Management Agency (IEMA) does not. The written agreement documents expectations between the parties, and distinguishes in its attachments actions to be taken for "an actual emergency" (Attachment B) and for an exercise (Attachment D). Attachment B, Step 7, notes that "the Ogle County official" will confirm that WRHL should rebroadcast the recorded message "frequently (approximately every 15 minutes)"; Attachment D does not. In a simulation, perhaps the need for instructions to repeat a message that would not be broadcast was found to be unnecessary.

REFERENCE: NUREG-0654, E.5; Illinois Plan for Radiological Accidents (IPRA), Byron Chapter 2 Annex 2A - Ogle County Procedures, 24.c.3.

EFFECT: Though simulated in an exercise, running each message once could have resulted in many individuals within the 10-mile Emergency Planning Zone (EPZ) not hearing the emergency information.

RECOMMENDATION: Any agreements or procedures which attempt to replicate or expand upon information contained with IPRA and its annexes should be made consistent with the Plan. Training should emphasize the importance of utilizing procedures and checklists as two checklists contained a step to ensure the public announcement was periodically repeated.

SCHEDULE OF CORRECTIVE ACTION: Ogle County will demonstrate proper Emergency Notification of the public during the next Bryon exercise, scheduled for 2011.

- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.2.4. 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

4.2.2.5. Ogle County - Emergency Broadcast Station - WRHL

- a. MET: 1.d.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

4.2.2.6. 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

4.2.2.7. Winnebago County - Emergency Operations Center

- a. MET: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: 1.c.1.

ISSUE NO.: 09-09-1c1-A-02

CRITERION: Key personnel with functional roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible.

CONDITION: At 1142 hours, the Sheriff Representative implemented a reverse 911 call out and initiated a news message that informed the Winnebago County populous located in Sub-Area 39 to evacuate via a designated route to the Hononegah High School gym.

POSSIBLE CAUSE: Possible Cause: The Sheriff Liaison did not confer with the IEMA Liaison to validate which registration/congregate care shelter the Winnebago County population should evacuate to prior to the initiation of the reverse 911 call-out and news release.

REFERENCE: Nureg-0654, Protective Response, J.12, pg. 65
Mutual Aid/Support County Procedures, Winnebago County, Annex 2H, dated July, 2009.

Byron Appendix D, Winnebago County, Registration Centers and Congregate Care Shelters, dated July, 2009

EFFECT: The decision caused the Winnebago County population located in Sub-Area 39 to shelter at a location that did not provide radiological monitoring and decontamination capabilities. Furthermore, no effort was made to retrieve the population that had already evacuated to Hononegah High School to have them return to Jefferson High School for proper radiological monitoring.

RECOMMENDATION: The Sheriff Representative and ESDA Director/Controller should follow their checklist, plans and procedures and confer with the IEMA Liaison to validate that the identified registration center location is correct for Winnebago County population. Recommend that the EOC Senior Level Staff positions receive training on plans and procedures regarding registration/congregate care centers to familiarize themselves with their roles and responsibilities. FEMA requests that this training for the senior leadership be conducted and reported within 30 days of receipt of the draft report.

CORRECTIVE ACTION DEMONSTRATED: This ARCA was addressed by Winnebago County Emergency Management leadership during training and discussions held on September 22, 2009 at the Winnebago County EOC. Topics discussed and reinforced during the training included: importance of utilizing the emergency plan as it is written for a set area and fixed facility (Byron Generating Station); the need to coordinate response and public information with Ogle County EOC and IEMA Liaison; use of the Winnebago County EOC Emergency Plan checklists; and other important aspects of command and control. Various organizations were in attendance including: IEMA, representatives from the Winnebago County Sheriff's Office, Deputy Chief Detectives, Deputy Chief Patrol and Exelon. The Winnebago County Sheriff set a goal additional training, on a quarterly basis, will be held for Winnebago County leadership.

- c. DEFICIENCY: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

4.2.2.8. 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

4.2.2.9. Traffic and Access Control Point - Byron Police Department

- a. MET: 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

4.2.2.10. Dosimetry Control Officer Briefing - Byron Police Department

- 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

4.2.3. Support Jurisdictions

4.2.3.1. Winnebago County Liaison to Ogle County

- a. MET: 1.c.1, 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

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

| | |
|-------|--|
| ARC | American Red Cross |
| BNGS | Byron Nuclear Generating Station |
| BNPS | Byron Nuclear Power Station |
| CDE | Committed Dose Equivalent |
| CSD | Consolidated School District |
| DCO | Dosimetry Control Officer |
| DRD | Direct-Reading Dosimeter |
| EAL | Emergency Action Level |
| EBS | Emergency Broadcast System |
| ECL | Emergency Classification Level |
| EMA | Emergency Management Agency |
| EMAC | Emergency Management Agency Coordinator |
| EOC | Emergency Operations Center |
| EOF | Emergency Operations Facility |
| EPZ | Emergency Planning Zone |
| ERC | Emergency Room Communicator |
| ETE | Evacuation Time Estimate |
| EW | Emergency Workers |
| FHN | Freeport Health Network |
| FPD | Fire Protection District |
| GE | General Emergency |
| GEMS | Gaseous Effluent Monitoring System |
| GIS | Global Information System |
| HP | Health Physics |
| HPS | Health Physics Specialist |
| IAP | Incident Action Plan |
| IC | Incident Commander |
| IEMA | Illinois Emergency Management Agency |
| IEPA | Illinois Environmental Protection Agency |
| ISP | Illinois State Police |
| IWP | Initial Warning Point |
| JIC | Joint Information Center |
| LD | Luminescence Dosimeter |
| MABAS | Mutual Aid Box Alarm System |
| MRT | Medical Radiation Technician |
| NARS | Nuclear Accident Reporting System |
| NRC | Nuclear Regulatory Commission |
| ORO | Offsite Response Organization |
| PAD | Protective Action Decision |
| PAG | Protective Action Guides |
| PAR | Protective Action Recommendations |
| PDP | Personal Dosimetry Packet |
| PIO | Public Information Officer |

| | |
|------|---------------------------------------|
| PNS | Prompt Notification System |
| PRD | Permanent Record Dosimeter |
| RAC | Regional Assistance Committee |
| RAFT | Radiological Assessment Field Team |
| REAC | Radiation Emergency Assistance Center |
| REP | Radiological Emergency Preparedness |
| RS | Reactor Specialist |
| RSVP | Retired Senior Volunteer Program |
| RTF | Radiological Task Force |
| SAE | Site Area Emergency |
| SEOC | State Emergency Operating Center |
| SIRC | State Incident Response Center |
| SOP | Standard Operating Procedures |
| TACP | Traffic and Access Control Point |
| TEDE | Total Effective Dose Equivalent |
| TSC | Technical Support Center |
| UAC | Unified Area Command |

APPENDIX 2

EXERCISE EVALUATORS AND TEAM LEADERS

The following is a list of the personnel that evaluated the Byron Station REP Partial Participation Plume Exposure Pathway Exercise on July 29, 2009. The organization each evaluator represents is indicated by the following abbreviations:

DHS/FEMA Dept of Homeland Security/Federal Emergency Management Agency

ICF Consulting

| Title | Name | Organization |
|---|-----------------|--------------|
| Radiological Assistance Committee, Chairman | William E. King | DHS/FEMA |
| Exercise Director | Dwaine Warren | DHS/FEMA |
| Site Specialist | Todd M. Gemske | DHS/FEMA |

DATE: 2009-07-29, SITE: Byron Station, IL

| LOCATION | EVALUATOR | AGENCY |
|---|--|------------------------------------|
| State Initial Warning Point | Deborah Fulk | DHS/FEMA |
| State Emergency Operations Center/State of Illinois Response Center | Deborah Fulk Bruce Swiren | DHS/FEMA ICF |
| Radiological Emergency Assessment Center | Marcy Campbell Jill Leatherman | ICF ICF |
| Unified Area Command | Roger Jobe Wendy Swygert | ICF ICF |
| Emergency Operations Facility | Gary Bolender | ICF |
| Joint Information Center | William Vocke | ICF |
| Illinois State Radiological Advisor - Ogle County | Onalee Grady-Erickson | ICF |
| Illinois State Liaison - Ogle County | Debra Schneck | ICF |
| Illinois State Radiological Advisor - Winnebago County | Todd Davidson | ICF |
| Illinois State Liaison - Winnebago County | Mark E. Dalton | ICF |
| Dosimetry Control Officer's Briefing - Illinois State Police District 1 Headquarters | William Vocke | ICF |
| Traffic and Access Control Point at the Illinois State Police District 1 Headquarters | Gary Bolender | ICF |
| Monitoring of Evacuees and Emergency Workers - Freeport High School | Todd Davidson | ICF |
| Decontamination of Evacuees and Emergency Workers - Freeport High School | Louis Sosler | ICF |
| Monitoring and Decontamination of Emergency Worker Equipment - Freeport High School | Richard Smith | ICF |
| Congregate Care Center - Freeport High School | Roger Jobe | ICF |
| Public Registration - Freeport High School | Wendy Swygert | ICF |
| Medical Services (MS-1) Transportation - Freeport Ambulance Service | Louis Sosler | ICF |
| Medical Services (MS-1) Hospital - Freeport Memorial Hospital | Richard Grundstrom | ICF |
| Ogle County EV-2 Interview - Kings Consolidated School District | Debra Schneck | ICF |
| Ogle County - Initial Warning Point | Clayton Spangenberg | ICF |
| Ogle County - Emergency Operations Center | Todd Gemske Edward Golinski Onalee Grady-Erickson Debra Schneck | DHS/FEMA DHS/FEMA ICF ICF |
| Ogle County - Traffic and Access Control Point | Richard Smith | ICF |
| Ogle County - Emergency Broadcast Station - WRHL | Clayton Spangenberg | ICF |
| Winnebago County - Initial Warning Point | Wes Ryals | ICF |
| Winnebago County - Emergency Operations Center | Mark E. Dalton Todd Davidson | ICF ICF |
| Winnebago County - Traffic and Access Control Point | Wes Ryals | ICF |
| Traffic and Access Control Point - Byron Police Department | Edward Golinski | DHS/FEMA |
| Dosimetry Control Officer Briefing - Byron Police Department | Clayton Spangenberg | ICF |
| Winnebago County Liaison to Ogle County | Edward Golinski | DHS/FEMA |
| Team Leader | | |

**STATE OF ILLINOIS EXTENT OF PLAY AGREEMENT
FOR THE
BYRON STATION EXERCISE
July 29, 2009**

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 (SEOC), which houses the IEMA Communications Center (Initial Warning Point), the State of Illinois Response Center (SIRC) and the Radiological Emergency Assessment Center (REAC), will be activated. The IEMA Emergency Response Telecommunicator will implement procedures for notification of IEMA staff as defined in IEMA SOPs. The SIRC will be partially activated IEMA personnel. REAC will be fully activated. Rosters will be provided to demonstrate 24-hour staffing of the SIRC and REAC. The evaluator will not be allowed to remove the rosters.

The Unified Area Command (UAC) will be activated with State district and regional personnel at the Whiteside County Airport. Radiological Assessment Field Team (RAFT) and mobile lab will be staffed for training purposes. IEMA personnel will be prepositioned in the local area and dispatched to the County EOCs, UAC, EOF, Technical Support Center (TSC) and the JIC. FEMA will not evaluate the TSC.

An actual phone call will be made to the FEMA duty officer advising them of the situation at Byron Station. Follow up calls to FEMA will be simulated.

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

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

This criterion will not be demonstrated during this exercise.

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

The ability to direct and control emergency response activities will be demonstrated at the SIRC, REAC, the UAC and the JIC. Coordination will be demonstrated between the SIRC, the REAC, the UAC, the JIC, the EOF and the Ogle County EOC.

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), telefax, commercial telephone, cellular phone, radio] to communicate with other organizations and locations.

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

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

A DCO briefing/Traffic and Access Control (TAC) interview will be conducted by the Illinois State Police on July 28 at 1100 at the ISP District 1 Headquarters. During this event, the availability of dosimetry will be demonstrated. No more than 10% of ISP District 1 dosimetry kits will be inspected during the interview to confirm serial numbers.

EVALUATION AREA 2 - PROTECTIVE ACTION DECISION MAKING

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

The ability to make the decision to recommend the use of KI to emergency workers will be demonstrated in REAC.

A message will be injected to the Radiological Advisor in the Ogle County EOC to drive the decision to authorize exposure in excess of administrative limits.

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

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

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 SIRC and REAC. The State PAR will be transmitted to Ogle County via NARS.

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

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

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

• This criterion will not be demonstrated during this exercise.

Criterion 2.e.1: Timely 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 ISP DCO briefing/TAC interview will be conducted on July 28 at 1100 at the ISP District 1 Headquarters.

Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals (not the general public) is maintained.

This will be demonstrated during the ISP DCO briefing/TAC interview will be conducted on July 28 at 1100 at the ISP District 1 Headquarters.

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 Byron Station EPZ Traffic and Access Control procedures. The staffing of the State posts will be simulated during the exercise.

A TAC interview will be conducted in conjunction with the DOC briefing on July 28 at 1100 at the ISP District 1 Headquarters.

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 at the Ogle County EOC that will drive this demonstration. State personnel will deal with the impediment by discussing the need for equipment, and 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 not be demonstrated during this exercise.

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 not be demonstrated during this exercise.

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

This criterion will not be demonstrated during this exercise.

Criterion 4.b.1: The field teams demonstrate the capability to make appropriate measurements and to collect appropriate samples (e.g., food crops, milk, water, vegetation, and soil) to support adequate assessments and protective action decision-making.

This criterion will not be demonstrated during this exercise.

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

This criterion will not be demonstrated during this exercise.

EVALUATION AREA 5 - EMERGENCY NOTIFICATION AND PUBLIC INFORMATION

Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by current FEMA REP guidance.

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

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 SIRC, REAC, UAC and the Ogle County EOC. IEMA personnel will be present at the JIC to coordinate with the Exelon staff. Media briefings will be conducted at the JIC. A livestock advisory will be issued to the media from the JIC or the SIRC when appropriate.

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.

This criterion will be demonstrated at Freeport High School during an out of sequence inspection and interview conducted on July 28 at 1400. The following organizations will be represented at the interview: local EMA, Police and Fire Department, American Red Cross and IEMA. Evacuees will not be processed. Monitoring equipment will not be available at the interview/inspection.

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

This criterion will be demonstrated at Freeport High School during an out of sequence inspection and interview conducted on July 28 at 1400. The following organizations will be represented at the interview: local EMA, Police and Fire Department, American Red Cross and IEMA. Emergency worker equipment will not be processed. Monitoring equipment will not be available at the interview/inspection.

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.

This criterion will be demonstrated at Freeport High School during an out of sequence inspection and interview conducted on July 28 at 1400. Representatives of the American Red Cross will be present for the interview. Evacuees will not be processed. Equipment will not be available at the interview/inspection.

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

This criterion will be demonstrated during an out of sequence drill conducted at Freeport Memorial Hospital on July 28, at 9 a.m.

**OGLE COUNTY EXTENT OF PLAY AGREEMENT
FOR THE
BYRON STATION EXERCISE
July 29, 2009**

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.

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

An evaluator will be positioned at the County Sheriff's Communications Center in Oregon (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 Ogle County EOC. Coordination of decisions and emergency activities will be demonstrated between Ogle County, the SIRC, UAC and the JIC, and between the County and municipalities within the EPZ. Coordination between Ogle County and Winnebago 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.

Ogle County will use NARS, commercial telephone, cellular phone, radio and telefax 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.

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

The DCO briefing for the Ogle County deputy demonstrating traffic and access control will be conducted at the Ogle County EOC during the exercise. The DCO briefing for the Byron Police officer demonstrating traffic and access control will be conducted on July 28 (tentative) at the Byron Police Department.

EVALUATION AREA 2 - PROTECTIVE ACTION DECISION MAKING

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

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

This criterion does not apply to Ogle County.

Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy).

The State of Illinois will make protective action recommendations to Ogle County officials in the County EOC. The Ogle 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 Ogle County officials in the County EOC. The Ogle 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 Ogle 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.

The Ogle County EOC staff will demonstrate this criterion through discussions within the Ogle County EOC and with REAC and UAC as appropriate. The controller will provide break messages which will contain the predesignated State recommendation regarding relocation, re-entry and return. The Ogle County staff will discuss the State's recommendation and determine whether to follow that recommendation or another of the County's choosing. The State will participate to the extent necessary to support Ogle County.

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.

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

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

The DCO briefing for the Ogle County deputy demonstrating traffic and access control will be conducted at the Ogle County EOC during the exercise. The DCO briefing for the Byron Police officer demonstrating traffic and access control will be conducted on July 28 (tentative) at the Byron Police Department.

Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals (not the general public) is maintained.

When notified by the State of Illinois to distribute and administer KI, Ogle 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.

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

The DCO briefing for the Ogle County deputy demonstrating traffic and access control will be conducted at the Ogle County EOC during the exercise. The DCO briefing for the Byron Police officer demonstrating traffic and access control will be conducted on July 28 (tentative) at the Byron Police Department.

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

This will be demonstrated by Ogle County through the simulated implementation of the appropriate procedures. The appropriate officials will coordinate transportation and receiving facilities for 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. The evaluator will not be allowed to remove the list from the EOC.

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

Ogle 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 King's School District #144 on July 28 (tentative). The Superintendent, a Principal, a Teacher, the transportation coordinator (DCO)/bus driver and the maintenance supervisor will be present at the interview.

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

Coordination between Ogle County agencies designated to provide traffic and access control will be exhibited in the 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 Ogle 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.

A Byron Police officer will demonstrate traffic and access control procedures on July 28 (tentative) at the Byron Police Department.

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

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

Criterion 3.e.1: The ORO demonstrates the availability and appropriate use of adequate information regarding water, food supplies, milk and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of protective actions.

This criterion does not apply to Ogle County.

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

This criterion does not apply to Ogle County.

Criterion 3.f.1: Decisions regarding controlled re-entry of emergency workers and relocation and return of the public are coordinated with appropriate organizations and implemented.

This criterion will be demonstrated through discussions in the Ogle County EOC. Ogle County EOC staff will coordinate with REAC, UAC, and the JIC as appropriate. The State will participate to the extent necessary to support Ogle County.

EVALUATION AREA 4 - FIELD MEASUREMENT AND ANALYSIS

This evaluation area does not apply to Ogle County.

EVALUATION AREA 5 - EMERGENCY NOTIFICATION AND PUBLIC INFORMATION

Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by current FEMA REP guidance.

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

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

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 Ogle County.

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

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

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

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

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

EVALUATION AREA 6 - SUPPORT OPERATION/FACILITIES

This evaluation area does not apply to Ogle County.

**WINNEBAGO COUNTY EXTENT OF PLAY AGREEMENT
FOR THE
BYRON STATION EXERCISE
July 29, 2009**

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.

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

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

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

This criterion will be demonstrated during this exercise.

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

Coordination of decisions and emergency activities will be demonstrated between Winnebago County and Ogle County.

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

Winnebago County will use commercial telephone, radio and telefax to communicate with departments and agencies at other locations.

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

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

EVALUATION AREA 2 - PROTECTIVE ACTION DECISION MAKING

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

This criterion does not apply to Winnebago County.

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

This criterion does not apply to Winnebago County.

Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy).

This criterion does not apply to Winnebago County.

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

This criterion does not apply to Winnebago County.

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 Winnebago 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 does not apply to Winnebago County.

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.

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

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

Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals (not the general public) is maintained.

When notified by the State of Illinois to distribute and administer KI, Winnebago County officials will discuss the issuance of KI to emergency workers and immobile populations, as a voluntary measure. This criterion will also be demonstrated during the traffic and access control

demonstration. The DCO briefing for the deputy demonstrating traffic and access control will be conducted at the County EOC.

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 Winnebago County.

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

This criterion does not apply to Winnebago County.

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

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

A Sheriff's deputy will be available during the exercise to demonstrate the staffing of one post. The post for the demonstration will be selected by Winnebago County during the exercise based on exercise play if the scenario causes Winnebago County to staff posts. If it does not, the post will be selected by the evaluator. 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 Winnebago County EOC staff will demonstrate the capability to identify and take appropriate actions concerning impediments to evacuation. A message will be injected by the Controller that will drive this demonstration. County personnel will deal with the impediment by identifying the equipment needed, discussing its estimated time of arrival, etc. Actual contacts with resource providers will be made and logged.

Criterion 3.e.1: The ORO demonstrates the availability and appropriate use of adequate information regarding water, food supplies, milk and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of protective actions.

This criterion does not apply to Winnebago County.

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

This criterion does not apply to Winnebago County.

Criterion 3.f.1: Decisions regarding controlled re-entry of emergency workers and relocation and return of the public are coordinated with appropriate organizations and implemented.

This criterion does not apply to Winnebago County.

EVALUATION AREA 4 - FIELD MEASUREMENT AND ANALYSIS

This evaluation area does not apply to Winnebago County.

EVALUATION AREA 5 - EMERGENCY NOTIFICATION AND PUBLIC INFORMATION

Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by current FEMA REP guidance.

This criterion does not apply to Winnebago County.

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 Winnebago County.

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

This criterion does not apply to Winnebago County.

EVALUATION AREA 6 - SUPPORT OPERATION/FACILITIES

This evaluation area does not apply to Winnebago County.

**EXTENT OF PLAY AGREEMENT
FOR THE
MEDICAL SERVICES EXERCISE
July 28, 2009**

Location: Freeport Memorial Medical Center Transportation Provider: Freeport Ambulance
1045 West Stephenson
Freeport, IL 61032

Participants:

Victim (volunteer)

Lead Controller: (IEMA)

IEMA ER Monitor: Don Eastep

IEMA Ambulance Monitor: Bev Clark

IEMA Hospital Controller Kathy Allen

IEMA Ambulance Controller: Joni Estabrook

Criteria that can be re-demonstrated immediately for credit, at the discretion of the evaluator, include the following: For Transportation: 1.d.1, 3.a.1 and 6.d.1; for the Hospital, 1.d.1, 1.e.1, 3.a.1 and 6.d.1. Criteria may be re-demonstrated, as agreed by the Lead Controller and FEMA Evaluators.

EVALUATION AREA 1 - EMERGENCY OPERATIONS MANAGEMENT

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.

The Freeport Ambulance will use 2-way radios to communicate with Freeport Memorial Medical Center. Other communication systems that can be used include commercial telephone or cell phones.

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

Freeport Memorial Medical Center will adequately demonstrate the ability to support operations, with adequate resources. The availability of dosimetry and KI for hospital personnel will **not** be demonstrated during this exercise, however IEMA staff will be issued dosimetry and KI as field team members.

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.

The use of dosimetry and KI will not be demonstrated by hospital staff. IEMA staff will demonstrate appropriate use of dosimetry and KI.

For purposes of this exercise, if there is no medical need to bring equipment into and out of the treatment room, nasal swabs will be taken (swabs to be taken outside the nose to simulate taking swabs inside the nose) and passed out of the room to demonstrate movement of equipment and supplies into and out of the controlled area.

EVALUATION AREA 6.d – TRANSPORTATION AND TREATMENT OF CONTAMINATED INJURED INDIVIDUALS

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.

Freeport Ambulance will demonstrate the capability to transport contaminated, injured individuals to Freeport Memorial Medical Center in Freeport, Illinois. The ambulance crew will pick up a contaminated injured patient of Freeport Memorial Medical Center (simulating pick-up of a patient from Freeport High School Reception Center). The ambulance crew will be met by IEMA staff that will perform initial radiation monitoring, and will provide information regarding contamination levels on the patient. Freeport Ambulance will utilize universal precautions and good housekeeping practices to minimize the spread of contamination, and will focus on treating the patient's medical condition.

Freeport Ambulance will call in the information regarding the patient to Freeport Memorial Medical Center so they can prepare for receipt of a contaminated patient. IEMA personnel will accompany the patient to the hospital along with the ambulance, bringing instrumentation to provide radiation readings and guidance to the hospital.

Freeport Memorial Medical Center will implement their plan for receipt, isolation and treatment of an injured contaminated patient. Medical personnel will utilize universal precautions and good housekeeping practices to minimize the spread of contamination, and will focus on treating the patient's medical condition. Simple decontamination efforts will be demonstrated after the patient has been medically stabilized. The hospital will demonstrate procedures for limiting exposure to hospital staff, decontaminating a patient, and restricting access to the area where the patient is being treated and monitored. IEMA personnel will discuss the need to take additional samples for further radiological analysis. Hospital personnel will demonstrate their knowledge of who to call beyond IEMA for assistance in Radiological Accidents; e.g., REAC/TS.

For purposes of this exercise, another IEMA staff member will be dispatched to Freeport Memorial Medical Center with radiation detection and measurement equipment in advance of the ambulance arriving. The purpose of having two separate individuals for this exercise is to facilitate monitoring the ambulance and ambulance personnel so they are not kept out of service for an extended period of time.

The drill will conclude with the hospital representative and IEMA personnel supervising the removal of protective clothing and surveying of the emergency room and hospital personnel. IEMA will also advise on the proper procedure for release or disposal of contaminated material.

Following the conclusion of the drill, a short critique will be held.

SCENARIO INFORMATION

- ❖ Exercise Time Line
- ❖ Exercise vs Clock Time
- ❖ Narrative Summary
- ❖ Summary of Expected EALs and PARs
- ❖ Meteorology
- ❖ Release Information

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Scenario Timeline

| Unit 1 Initial Conditions | | Unit 2 Initial Conditions | |
|--|--|--|--|
| <ul style="list-style-type: none">Unit 1 at 1242 MWConfirmatory RCS sample pulled at 0715 due to higher than normal activity result on daily RCS sample result90 Days On-line @ 100% Power | | <ul style="list-style-type: none">Unit 2 at 1212 MWNo LCO Actions in progressNo major evolutions scheduled.350 Days On-line | |
| 0745 (0) | Start Scenario | | |
| 0755 (10) | Vehicle crash H2 Area (vehicle has impacted the Essential SW Cooling Tower 0A and caused visible damage to the Cooling Tower structure 0A SX fan motor) – ALERT, HA5 (HA 5.3) <ul style="list-style-type: none">Security reports vehicle impact (Control Message issued to SM) – T-Rex Mobile Crane has crashed into the 0A Essential SW Cooling TowerMain Control Board (General Services Panel) annunciators for SX CLG TWR High Speed Fan Trip 0-37-B6, SX CLG TWR Fan Gearbox Oil Press Low 0-37-D6 & SX CLG TWR Fan Vibration High 0-37-E6 alarm – SX Cooling Tower Fans 0A has been disabled by the impact & 0B has been disabled by the feed breaker trip.72 Hour LCO for 0A SX MU pump autostart / Bus 131Z de-energized –8 Hour LCONeed Engineering analysis to assess structural damageERO activation - Ops crew will respond per 1BOA-PRI-7 | | |
| ~0840 (55) | Miscellaneous Equipment Failures <ul style="list-style-type: none">[IM task] - Digital Rod Position Indicator failure on Control Rod P-6 – control rod has not moved DRPI failure[EM task] - Investigate SX Cooling Tower Fans 0A & 0B failures[MM task] - Support removal of T-Rex / respond to vehicle crash | | |
| 0925 (100) (ALERT + 90) | Failure of the Reactor Protection System – SITE AREA EMERGENCY, MS3 <ul style="list-style-type: none">1B Feedwater Reg Valve fails CLOSED – Both automatic Rx Trip & Manual Rx Trip fail.Ops Crew responds per 1BFR-S.1SG Safeties open on Turbine Trip – ONE SG safety on 1B SG remains OPEN (Control Message – Security BRE 6 reports steam blowing from one tailpipe B & C Valve House does not see any damage caused by the steam) – 1B SG faulted – depressurizes to 0 psig2 Control Rods do NOT fully insert after Rx trip breakers open – F2 & D4(Simulated) Site Assembly / Evacuation is initiated~0940 Containment Radiation (AR020 [21]) will begin to slowly increase - will rise to 2 R/hr by ~1025 | | |
| ~0945 (120) | 1B Diesel Driven Aux Feed Water Pump Failure <ul style="list-style-type: none">[MM task] – Investigate 1B AFW Pump failure – coupling problem will be identified and can be repaired | | |
| 1000 | RCS Chemistry sample High Activity <ul style="list-style-type: none">Chemistry result returned – RCS activity DE I-131 is 331 $\mu\text{Ci/gm}$ (Control Message)Loss of first Fission Product Barrier – FC2, concurrent EAL FA1 - no EAL escalation | | |
| 1055 (190) (SAE + 90) | GENERAL EMERGENCY, FG1 – 1B SG - Faulted & Ruptured - Loss of 2 FPBs with Loss or Potential Loss of 3rd FPB Loss of ALL 3 FPBs - FC2 (Loss); RC6 (Loss); CT6.1/CT6.2 (Loss) [T=0 for GE is CT6.1/CT6.2] Release in Progress <ul style="list-style-type: none">SGTR (500 gpm) in 1B SGMax PARs (Evacuate 0-5 mile radius, 10 miles downwind) Wind direction – from 240 degrees, 5 mph, Stability Class E (Subareas: Ogle 17, 19, 20, 23, 25, 27; Winnebago 39) | | |
| 1120 (215) | Concurrent RG1 when release peaks <ul style="list-style-type: none">DAPAR indicates PAGs exceeded at >5 miles - | | |
| 1245 (300) | Exercise Termination | | |

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EXERCISE VS. CLOCK TIME

This exercise will be initiated at 0745 hours on July 29th, 2009. Clock time will be used in the distribution of exercise messages except as directed by the Lead Scenario Controller.

| Exercise Time | Clock Time | Exercise Time | Clock Time |
|---------------|------------|---------------|------------|
| 0 | 0745 | 190 | 1055 |
| 10 | 0755 | 200 | 1105 |
| 20 | 0805 | 210 | 1115 |
| 30 | 0815 | 220 | 1125 |
| 40 | 0825 | 230 | 1135 |
| 50 | 0835 | 240 | 1145 |
| 60 | 0845 | 250 | 1155 |
| 70 | 0855 | 260 | 1205 |
| 80 | 0905 | 270 | 1215 |
| 90 | 0915 | 280 | 1225 |
| 100 | 0925 | 290 | 1235 |
| 110 | 0935 | 300 | 1245 |
| 120 | 0945 | | |
| 130 | 0955 | | |
| 140 | 1005 | | |
| 150 | 1015 | | |
| 160 | 1025 | | |
| 170 | 1035 | | |
| 180 | 1045 | | |

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NARRATIVE SUMMARY

NORMAL OPERATIONS

0745

The Operating Crew will be briefed and is expected to take the shift by 0745. They will be directed by turnover to continue operations at full power.

ALERT

0755 – 0924

VEHICLE CRASH WITHIN PROTECTED AREA RESULTING IN VISIBLE DAMAGE TO A STRUCTURE IN A TABLE H2 AREA

At 0755, the operating crew receives a call from security that the T-Rex Mobile Crane has crashed into the U1 Essential SW Cooling Tower (Control Message issued to SM). The report states that visual damage to the Essential Cooling Tower structure has occurred. The Ops Crew will also receive Main Control Board (General Services Panel) annunciators for SX CLG TWR High Speed Fan Trip 0-37-B6, SX CLG TWR Fan Gearbox Oil Press Low 0-37-D6 & SX CLG TWR Fan Vibration High 0-37-E6 alarm – SX Cooling Tower Fans 0A & 0B have been disabled by the impact. Bus 131Z feed breaker tripped.

Expected Response

The Shift Manager should identify that **ALERT, HA5 "Natural and destructive phenomena affecting the plant VITAL AREA,"** - HA5.3 - Vehicle crash within PROTECTED AREA boundary resulting in VISIBLE DAMAGE to any plant structures or equipment contained in a Table H2 area, or Control Room indication of degraded performance of those systems, is applicable. All appropriate notifications should be performed, and the Dialogic System should be activated. The Operating Crew may contemplate calling in extra personnel to assist with monitoring the control boards.

Ops Crew should identify a 72 Hour LCO for loss of autostart on 0A SX Makeup pump.

Bus 131Z – 8 Hour LCO

Engineering analysis will be needed to assess structural damage to the Cooling Tower.

Command and Control will be transferred in accordance with procedures to the EOF. Non-delegable responsibilities will be addressed during this turnover process.

County Liaisons will be requested and dispatched.

The Field Monitoring Teams may be dispatched (TSC/EOF).

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DRPI Failure Control Rod P-6**0840**

Control Rod P-6 Digital Rod Position Indication fails (no alarms).

Expected Response

Operating may respond per 1BOA ROD-3 or 1BOA ROD-1 and should contact IMD to investigate/repair.

SITE AREA EMERGENCY**0925 - 1054****FAILURE OF THE REACTOR PROTECTION SYSTEM**

1B Feedwater Reg Valve 1FW520 fails CLOSED. Ops crew will be unable to reopen the valve and an automatic reactor trip setpoint will be exceeded. Actuation of the manual reactor trip switches will not result in a reactor trip.

SG Safeties open on Turbine Trip – **ONE** SG Safety Relief Valve on the 1B Steam Generator remains OPEN (Control Message – Security BRE 6 reports steam blowing from one tailpipe B & C Valve House). 1B Steam Generator will depressurize to 0 psig.

When the reactor trip breakers are open two Control Rods do NOT fully insert - F2 & D4.

Expected Response

Multiple annunciators 1-15-B4 S/G 1B FLOW MISMATCH FW FLOW LOW, 1-15-B9 S/G 1B LEVEL DEVIATION HIGH LOW, and 1-15-B5 S/G 1B LEVEL LOW will alert the crew that the 1B Feedwater Reg Valve 1FW520 fails CLOSED. Ops Crew responds per 1BEP-0 REACTOR TRIP OR SAFETY INJECTION UNIT 1 or may enter 1BFR-S.1 RESPONSE TO NUCLEAR POWER GENERATION/ATWS directly. When the reactor trip breakers are open two Control Rods do NOT fully insert - F2 & D4.

Ops crew responds per 1BEP-2 to address the faulted 1B Steam Generator.

The Shift Manager/TSC should identify that **MS3 "Failure of the Reactor Protection System to complete or initiate an automatic reactor trip once a Reactor Protection System setpoint has been exceeded and manual trip was NOT successful,"** is applicable. Appropriate notifications will be made by the EOF.

PA announcements will be made and Assembly / Accountability (simulated) will be initiated.

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1B Diesel Driven Aux Feed Water Pump Failure**0945**

1B Diesel Driven Aux Feed Water Pump motor/gearbox coupling failure. Ops crew receives Main Control Board annunciator 1-3-C6 AF PUMP DIESEL TROUBLE

Expected Response

TSC/OSC should prioritize work tasks to investigate and repair the 1B Aux Feedwater pump. Operating should respond per 1-3-C6 AF PUMP DIESEL TROUBLE

RCS Chemistry Sample High Activity**1000**

U1 RCS Chemistry samples results indicate 331 (>300) $\mu\text{Ci/gm}$ DEI. This meets the threshold for Loss of the Fuel Clad - (FC2). This is a concurrent ALERT, FA1.

Expected Response

Ops crew should respond per 1BOA PRI-4 ABNORMAL PRIMARY CHEMISTRY UNIT 1 for the elevated RCS activity and identify the FC2 Loss of Fuel Clad barrier.

GENERAL EMERGENCY**1055-1245****1B SG - FAULTED & RUPTURED****Loss of 2 FPBs with Loss or Potential Loss of 3rd FPB**

The crew should identify that a rupture of the 1B Steam Generator break has occurred. ALL three fission product barriers have failed. Fuel Clad barrier FC2 (Loss) was previously identified as a failed barrier due to high RCS coolant activity sample results. Reactor Coolant System barrier RC6 (Loss) and Containment barrier CT6.1/CT6.2 (Loss) are failed due to the RUPTURED Steam Generator also being FAULTED outside of Containment and entry conditions for 1BEP-3. [T=0 for GE is CT6.1/CT6.2]

Release in Progress - A release path exists from the RCS to the Ruptured 1B Steam Generator through the failed open 1B Steam Generator Safety Valve to the environment. Release path is a monitored release via the 1B Main Steamline (MSL) radiation monitor. 1B MSL radiation monitor reading will initially rise to 4-5 mRem/hr. At 1130, 1B MSL radiation monitor will increase to a peak release of 210 mRem/hr. This peak release results in a concurrent RG1 classification.

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Expected Actions

The Operating Crew will address Steam Generator tube rupture via 1BEP-3 STEAM GENERATOR TUBE RUPTURE UNIT 1. The Emergency Director in Command and Control should declare **FG-1 "Loss of two fission product barriers AND Loss or Potential Loss of the third barrier,"** due to the Loss of ALL three fission product barriers. Appropriate notifications should be made.

The EOF should identify that Maximum PARs are applicable, and notifications of such should be made. Maximum PARs (Evacuate 0-5 mile radius, 10 miles downwind) for Wind direction from 240 degrees (into 060°), 5 mph, Stability Class E (Subareas: Ogle 17, 19, 20, 23, 25, 27; Winnebago 39).

Note: RU3 may be considered for a concurrent EAL due to high RCS coolant activity samples. An RS1 may be declared as a concurrent EAL based on DAPAR results for >100 mRem TEDE or >500 mRem CEDE. A concurrent EAL (RG1) should be declared when actual or projected Site Boundary dose > 1 Rem TEDE or > 5 Rem Thyroid.

EXERCISE TERMINATION

Exercise termination is scheduled for 1245, but at the discretion of the Lead Scenario Evaluator, Lead Scenario Controller, and State of Illinois with the concurrence of the Evaluator and Controller network, this time may be extended or advanced.

SUMMARY OF EXPECTED EALs and PARs

EALs:

| Time | EAL # | DESCRIPTION |
|-------|-------|--|
| 0755 | HA5 | ALERT – HA5, Natural and destructive phenomena affecting the plant VITAL AREA. 5.3 - Vehicle crash within PROTECTED AREA boundary resulting in VISIBLE DAMAGE to any plant structures or equipment contained in a Table H2 area, or Control Room indication of degraded performance of those systems. Table H2 Vital Areas – Containment, Auxiliary Building, Fuel Handling Building, Main Steam Tunnels, Essential Service Water Cooling Towers, Condensate Storage Tanks, RWSTs (Refueling Water Storage Tanks) |
| 0925 | MS3 | SITE AREA EMERGENCY – MS3, Failure of the Reactor Protection System to complete or initiate an automatic reactor trip once a Reactor Protection System setpoint has been exceeded and manual trip was NOT successful. |
| 1055 | FG1 | GENERAL EMERGENCY – FG1, Loss of ANY Two Barriers AND Loss or Potential of the third barrier. Loss of ALL three Barriers – FC2 (RCS Activity > 300 μ Ci/gm Dose Equivalent I-131; RC6 (Steam Generator Tube Rupture that results in entry into BEP-3); CT6.1/CT6.2 (RUPTURE S/G is also FAULTED outside of Containment OR Primary-to-Secondary leakrate >10gpm with UNISOLABLE steam release from affected S/G to the environment) |
| ~1130 | RG1 | Concurrent RG1 when release rate peaks |
| 1245 | | Anticipated Termination |

PARs: Wind from 240° (into 060°)

| Time | Event | Release | Affected Counties | Subareas |
|------|---|-----------|-------------------------|---------------------------|
| 0755 | ALERT – HA5 | None | N/A | |
| 0925 | SITE AREA EMERGENCY – MS3 | None | N/A | |
| 1055 | GENERAL EMERGENCY – FG1 – Max PARs Wind from 240° | Occurring | Ogle | 17, 19, 20, 23, 25, 27 |
| | | | Winnebago | 39 |
| 1245 | | | Anticipated Termination | |

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METEOROLOGY

When the release starts at about 1055, the meteorology parameters are:

| | |
|-----------------|---------|
| Wind from | 240° |
| Wind speed | 5.0 mph |
| Stability Class | D |
| Air temperature | 80°F |
| Precipitation | None |

RELEASE INFORMATION

The release is modeled as a ground level release via a 1B Steam Generator Safety Relief Valve Tailpipe monitored by the 1B Main Steamline radiation monitor.

The release starts at approximately 1055 when the faulted and depressurized 1B Steam Generator experiences a tube rupture. Non-filtered radioactive steam is released from the Steam Generator to the environment. The peak release occurs at approximately 1130. Dose projections for the release were developed using the DAPAR program.

DOSE PROJECTIONS

The following peak dose projections are based on the data from the 1130-1144 dose kernel found in Section 8:

Release Path: <RCS> <SG> <ENV>
 Core Damage: 5% Clad Damage
 PRF: 0.4 due to Dry SG when release starts
 Time After Shutdown: 2:00
 Release Duration: 3:05 (Weekday, Day Time)

| Distance | TEDE (Rem) | CDE (Rem) |
|----------|------------|-----------|
| SB | 1.10E+01 | 1.78E+02 |
| 2 Miles | 1.45E+01 | 2.31E+01 |
| 5 Miles | 4.33E-01 | 6.81E+00 |
| 10 Miles | 1.64E-01 | 2.58E+00 |

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