



**FEMA**

**JUL 8 2011**

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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 After Action Report / Improvement Plan for the March 1, 2011, Radiological Emergency Preparedness (REP) Partial Participation Plume Exposure Pathway Exercise for the D.C. Cook Nuclear Power Plant. Two copies were provided for the State of Michigan and one copy was provided for Berrien County. The State of Michigan, Berrien County, and the utility owner/operator, American Electric Power, 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.

No Areas Requiring Corrective Actions (ARCAs) were identified for any jurisdiction during this exercise.

There were three Planning Issues unresolved during this exercise for the State of Michigan.

The first Planning Issue Number, 15-11-6a1-P-01, was issued under Criterion 6.a.1 – "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." Contamination may have been spread and dosimetry may have been contaminated by the emergency workers gloved hands being contaminated without frisking. Recommend revising procedure to ensure the monitoring of hands or that they re-glove after opening potentially contaminated tailgates and handling potentially contaminated equipment and samples.

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The second Planning Issue Number, 15-11-3a1-P-02, was issued under Criterion 3.a.1 – “OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with plans and procedures.” Emergency workers periodically and at the end of each mission read and record dosimeter reading. Appendix F of the Michigan Nuclear Facility Emergency Management Plan states that the administrative dose limit is 1 rem per day and 3 rem per emergency Total Effective Dose Equivalent (TEDE) (footnote b). Electronic Personal Dosimeters and Direct-Reading Dosimeters only approximate the Deep Dose Equivalent component of TEDE. No EPD/DRD correction factor for TEDE is given. If a DRD reading of 1 R or an EPD reading of 1 rem is indicated on the device, the individuals TEDE may actually be several rem due to the Committed Effective Dose Equivalent component not indicated by the dosimetry.

The third Planning Issue Number, 15-11-4a3-P-03, was issued under Criterion 4.a.3 – “Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected.” Teams must 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. The HPRT Standard Operating Procedure (SOP) specified air sampler volume to be collected at six cubic feet, run time of three minutes at two cubic feet per minute does not meet the minimum volume of ten cubic feet required to detect the presence of radioiodine concentrations as low as  $10^{-7}$  Ci/cc. The HPRT SOP also does not address purging the air sampler prior to disassembly and analysis. The counting system may not be sensitive enough to detect radioiodines as low as  $10^{-7}$  Ci/cc when the total volume collected is less than 10-cubic feet. The net count may cause a gross overestimation of the calculated thyroid dose due to the presence of noble gases remaining in the sample cartridge if the air sample is not purged prior to analysis.

There were no Planning Issues identified for Berrien County.

Based on the results of the March 1, 2011 exercise, the offsite radiological emergency response plans and preparedness for the State of Michigan and affected local jurisdictions, site-specific to the D.C. Cook Nuclear Power Plant, 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 Michigan site-specific to the D.C. Cook Nuclear Power Plant, granted on December 4, 1980, remains in effect.

Copies of this Report have been provided to the DHS/FEMA National Office, Nuclear Regulatory Commission (NRC) Region III, and the State of Michigan.

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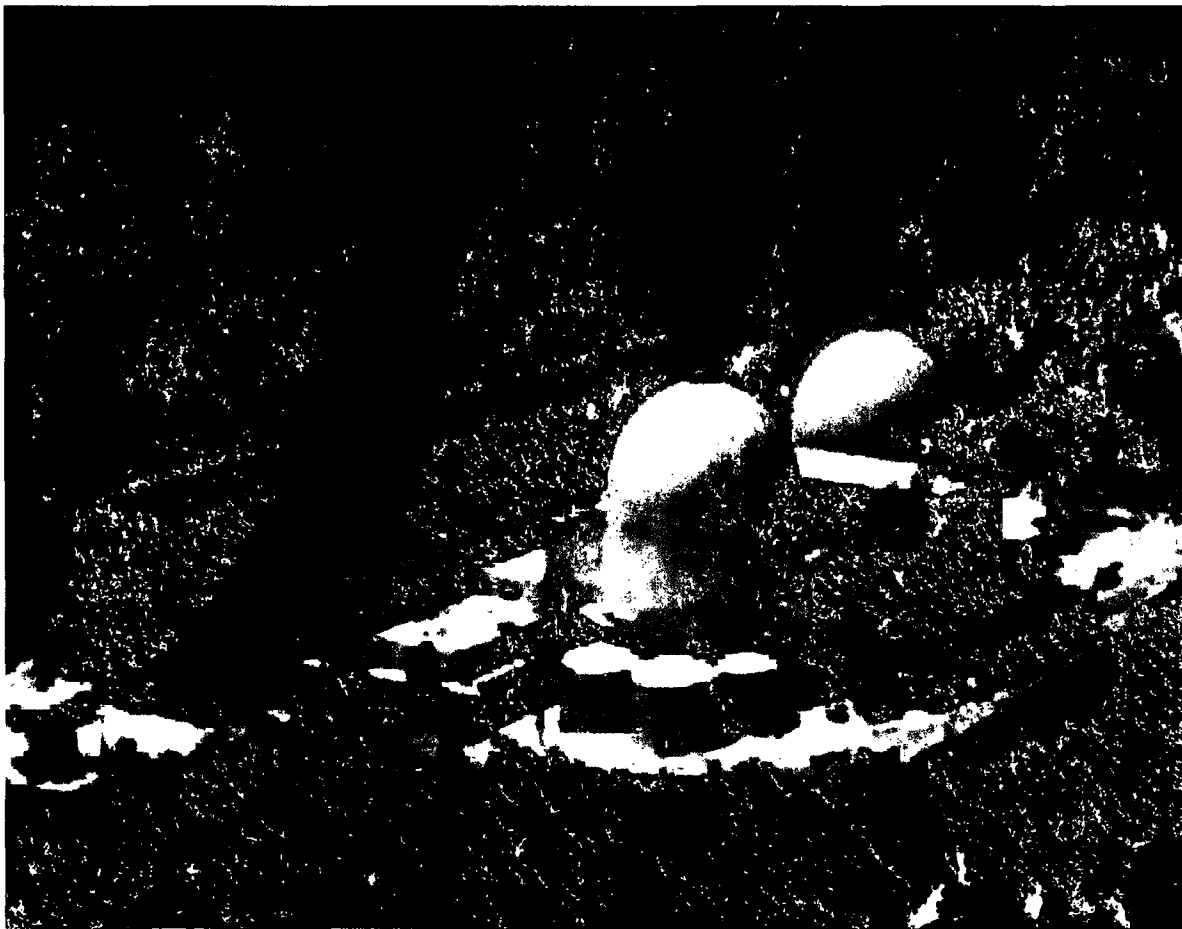
If you have any questions, please contact William E. King, Chairman, Regional Assistance Committee, DHS/FEMA, Region V, at (312) 408-5575.

Sincerely,

A handwritten signature in black ink, appearing to read "Andrew Velasquez III". The signature is fluid and cursive, with a distinct "III" at the end.

Andrew Velasquez III  
Regional Administrator

Enclosure (1)



D.C. Cook Nuclear Plant

# After Action Report/ Improvement Plan

Exercise Date - March 01, 2011

Radiological Emergency Preparedness (REP) Program



**FEMA**

*Published June 10, 2011*

**Unclassified**  
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

D.C. Cook Nuclear Plant

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# D.C. Cook Nuclear Plant After Action Report/Improvement Plan

*Published June 10, 2011*

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## EXECUTIVE SUMMARY

On March 1, 2011, a Radiological Emergency Preparedness (REP) Partial Participation Plume Exposure Pathway Exercise was conducted in the 10-mile Emergency Planning Zone (EPZ) around the D.C. Cook Nuclear Plant by the U.S. Department of Homeland Security, Federal Emergency Management Agency (DHS/FEMA), Region V. The purpose of this 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 September 19, 2009. Qualifying emergency preparedness exercises were conducted on July 16, 1985, and August 8-9, 1989.

FEMA wishes to acknowledge the efforts of the many individuals in the State of Michigan and Berrien County who participated in the exercise.

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

This Final After Action Report (AAR) contains the evaluation of the biennial exercise and the evaluation of the following out-of-sequence interviews and activities:

State of Michigan: Michigan Department of Natural Resources and Environment: Evacuee Monitoring, Decontamination, and Registration; Evacuee Vehicle Monitoring and Decontamination; Emergency Worker Monitoring and Decontamination; Emergency Worker Equipment/Vehicle Monitoring and Decontamination.

Berrien County: Congregate Care Center; Evacuee Monitoring, Decontamination, and Registration; Evacuee Vehicle Monitoring and Decontamination; Emergency Worker Monitoring and Decontamination; Emergency Worker Equipment/Vehicle Monitoring and Decontamination; School Interviews (EV-2).

Except where noted in this report, the State and local organizations demonstrated knowledge of

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and adequately implemented their emergency response plans and procedures.

## INTRODUCTION - EXERCISE BASIS

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 Title 44 of the Code of Federal Regulations (CFR) Parts 350 "Review and Approval of State and Local Radiological Emergency Plans and Preparedness", 351 "Radiological Emergency Planning and Preparedness" and 352 "Commercial Nuclear Power Plants: Emergency Preparedness Planning" (Commonly referred to as 44 CFR 350 through 352). These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

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

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- 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 D. C. Cook Nuclear Plant to FEMA Region V by the State of Michigan and involved local jurisdictions occurred on January 23, 1986. Formal approval of these RERPs was granted by FEMA to the State of Michigan on June 15, 1987, under 44 CFR 350.

A REP Partial Participation Plume Exposure Pathway Exercise was conducted in the 10-mile EPZ around the D.C. Cook Nuclear Plant on March 1, 2011, by DHS/FEMA Region V, to assess the capabilities of State and local emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the D.C. Cook Nuclear Plant. The purpose of this exercise report is to present the exercise results and findings on the performance of the off-site response organizations (ORO) during a simulated radiological emergency.

The findings presented in this AAR/IP are based on the evaluations of the Federal evaluation team, with final determinations made by the DHS/FEMA Region V RAC Chairperson, and approved by the DHS/FEMA Headquarters.

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

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;
- FEMA-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 1 of this report, entitled "Exercise Overview", presents information pertaining to the team that planned and coordinated the exercise. This section also provides listing of all participating jurisdictions and functional entities that were evaluated.

Section 2 of this report, entitled "Exercise Design Summary", contains the purpose and design of the exercise, a description of the plume pathway EPZ and presents basic information and data relevant to the exercise scenario.

Section 3 of this report, entitled "Analysis of Capabilities," presents detailed information on the demonstration of applicable exercise criteria at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues-only format. This section also contains: (1) descriptions of all 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.

Section 4 of this report, entitled "Conclusion" presents the DHS/FEMA summary of overall exercise conduct and results as evaluated against the requirements of 44 CFR 350.

#### EMERGENCY PLANNING ZONE (EPZ) DESCRIPTION

The D. C. Cook Nuclear Plant is located in the State of Michigan, Berrien County, in the City of Bridgman on the eastern shore of Lake Michigan.

The eastern half of the primary 10-mile EPZ lies entirely within Berrien County. The following jurisdictions are located within the EPZ: Baroda Township, Baroda Village, City of Benton Harbor, Benton Township, City of Bridgman, City of Buchanan, Buchanan Township, Chikaming Township, Lake Township, Lincoln Township, Stevensville, Cronoko Township, Village of Berrien Springs, Royalton Township, City of St. Joseph, St Joseph Township, Village of Shoreham, Sodus Township, and Weesaw Township. The western half of the EPZ extends into Lake Michigan in an approximate 10-mile radius.

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Within the 10-mile EPZ, located on Lake Michigan, are summer resorts offering camping facilities, light housekeeping cottages, tourist attractions, and the Warren Dunes State Park, which has a capacity of 22,000 people. The area has a population that varies from season to season. The permanent population is estimated to be over 80,000 people. Seasonal fresh fruit and vegetable farming and processing takes place during the spring, summer, and fall months. A portion of the large seasonal work force is Spanish-speaking. Lake Michigan is the cooling water source for the plant. Transportation facilities include the CSX Railroad.

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## **SECTION 1: EXERCISE OVERVIEW**

### **1.1 Exercise Details**

**Exercise Name**

D.C. Cook Nuclear Plant

**Type of Exercise**

Plume

**Exercise Date**

March 01, 2011

**Program**

Department of Homeland Security/FEMA Radiological Emergency Preparedness  
Program

**Scenario Type**

Radiological Emergency

### **1.2 Exercise Planning Team Leadership**

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## 1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the D.C. Cook Nuclear Plant exercise:

State Jurisdictions

- American Red Cross
- Berrien County Area Agency on Aging
- Berrien County Chief Executive
- Berrien County Chief of Staff
- Berrien County Civilian Emergency Response Team
- Berrien County Department of Human Services
- Berrien County Emergency Management Coordinator
- Berrien County Emergency Operations Center
- Berrien County Fire Services
- Berrien County Public Information Officer
- Berrien County Public Safety Communication Dispatch
- Berrien County Public Safety Communication Dispatch Center
- Berrien County Sheriff's Department
- Berrien Township Fire Department
- D. C. Cook Nuclear Power Plant Representative
- Eau Claire Fire Department
- Eau Claire High School
- Lake Shore Public Schools
- Lakeshore Public Schools Superintendant
- Michigan Attorney General Representative
- Michigan Department of Corrections
- Michigan Department of Finance
- Michigan Department of Health and Human Services
- Michigan Department of Military Affairs
- Michigan Department of Natural Resources
- Michigan Department of Natural Resources and Environment
- Michigan Department of State
- Michigan Department Transportation
- Michigan State Department of Emergency Management and Homeland Security

Michigan State Fire Marshall  
Michigan State Police  
National Weather Service  
Office of Services to the Aging  
Radio Amateur Civil Emergency Services (RACES).  
River Valley School District  
River Valley School District Superintendant  
State of Michigan Governor's Representative  
State of Michigan Liaison  
U. S. Nuclear Regulatory Commission  
WSJM Radion Station

## **SECTION 2: EXERCISE DESIGN SUMMARY**

### **2.1 Exercise Purpose and Design**

The DHS/FEMA Region V Office evaluated the D.C. Cook Nuclear Power Plant (DCCNPP) Radiological Emergency Preparedness (REP) Partial Participation Plume Exposure Pathway Exercise conducted on March 1, 2011, to assess the capabilities of local emergency preparedness organizations in implementing their Radiological Emergency Response Plans (RERP) and procedures to protect the public health and safety during a radiological emergency involving the DCCNPP. The purpose of this After Action Report (AAR) is to present the results and findings on the performance of the Offsite Response Organizations (OROs) during a simulated radiological emergency.

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

Exercise objectives and identified Capabilities/REP Criteria selected to be demonstrated are discussed in Appendix E "Exercise Plan."

### **2.3 Scenario Summary**

Appendix F "Scenario Details," contains a summary of the Exercise Scenario, a simulated sequence of events that was used as the basis for invoking emergency response actions by Offsite Response Organizations (OROs) in the D.C. Cook Nuclear Power Plant REP Partial Participation Plume Exposure Pathway exercise on March 1, 2011. Results of a technical review of the scenario, submitted by the State of Michigan and Indiana Michigan Power Company on January 4, 2011, indicated that the scenario was adequate to support demonstration of Department of Homeland Security's requirements, as well as criteria selected by the OROs provided in the State's November 10, 2010, extent-of-play submission. DHS/FEMA Region V accepted this exercise scenario on February, 2011. During the exercise, in addition to information and data provided through the QCS onsite scenario, controllers from the State of Michigan provided "inject messages" containing scenario events and/or relevant data to those persons or locations who would normally receive notification of such events. These inject messages were the method used for invoking additional specific response actions by OROs.

## SECTION 3: ANALYSIS OF CAPABILITIES

### 3.1 Exercise Evaluation and Results

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities that participated in the March 11, 2011, REP Partial Participation Plume Exposure Pathway Exercise conducted to test the offsite emergency response capabilities of State and local governments in the Emergency Planning Zone (EPZ) surrounding the D.C. Cook Nuclear Power Plant.

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 agreements used in this exercise are found in Appendix E "Exercise Plan" of this report.

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

- **M – Met:** The status of a REP exercise Evaluation Area Criterion indicating that the participating 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.
- **D – 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.
- **A – 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.
- **P – Plan Issue –** An observed or identified inadequacy in the ORO's emergency plan or implementing procedures, rather than in the ORO's performance.
- **N – Not Demonstrated –** Exercise criteria that were not demonstrated as scheduled during this exercise and the reason(s) they were not demonstrated.
- **Prior ARCAs - Resolved –** Descriptions of ARCAs assessed during previous exercises that

were

resolved and the corrective actions demonstrated, in this exercise.

- Prior ARCAs - Unresolved – Descriptions of ARCAs assessed during prior exercises that were not resolved in this exercise. Included is the reason the ARCA remains unresolved and recommended corrective actions to be demonstrated before or during the next exercise.

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

The matrix presented in Table 3.1, on the following pages, 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. The criterion status box is blank if it was not scheduled for demonstration.

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

The DHS has developed a standardized system for numbering exercise issues. 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, ARCAs, and Plan Issues includes the following elements, with each element separated by a hyphen (-).

- Plant Site Identifier – A two-digit number, corresponding to the Utility Billable Plant Site Code (15 for D.C. Cook Nuclear Power Plant).
- 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, P = Plan Issue).
- Exercise Identification Number – A separate two or three-digit indexing number assigned to each issue identified in the exercise.

Table 3.1 - Summary of Exercise Evaluation (2 pages)

DATE: 2011-03-01 SITE: D.C. Cook Nuclear Plant, MI  M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		MI-INP---	MI-SEOC---	MI--TSG--	MI-FTC---	MI-JIC---	MI-EOC BER-StLias--	MI--MDNRE FT1 --	MI--MDNRE FT2 --	MI-FTC--DosBrief-	MI-FTC--TACP-	MI-Eau Claire HS-EvMD-MDNRE Rep	MI-Benton Twmsp-EwMD-MDNRE Rep	MI-CntyHL JIC-BER	BER-INP---
Emergency Operations Management															
Mobilization	1a1	M	M	M	M	M		M	M						M
Facilities	1b1														
Direction and Control	1c1		M			M						M	M		
Communications Equipment	1d1	M	M	M	M	M		M	M		M	M	M		M
Equip & Supplies to support operations	1e1		M	M	M	M		M	M		M	M	M		
Protective Action Decision Making															
Emergency Worker Exposure Control	2a1		M	M	M		M								
Radiological Assessment and PARs	2b1			M	M		M								
Decisions for the Plume Phase - PADs	2b2		M	M	M										
PADs for protection of special populations	2c1		M	M											
Rad Assessment and Decision making for Ingestion Pathway	2d1														
Rad Assess/Decision making concerning Relocation, Reentry, and Return	2e1														
Protective Action Implementation															
Implementation of emergency worker exposure control	3a1							M	P	M	M	M	M		
Implementation of KI decision	3b1		M					M	M	M	M				
Implementation of protective actions for special populations - EOCs	3c1														
Implementation of protective actions for Schools	3c2														
Implementation of traffic and access control	3d1		M								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							M	M						
Field Teams obtain sufficient information	4a2														
Field Teams Manage Sample Collection Appropriately	4a3							M	P						
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		P				M								
Activation of the prompt alert and notification system - Fast Breaker	5a2														
Activation of the prompt alert and notification system - Exception areas	5a3														
Emergency information and instructions for the public and the media	5b1					M	M							M	
Support Operations/Facilities															
Mon/Decon of evacuees and EWs and registration of evacuees	6a1				P							M	M		

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Mon/Decon of EW worker equipment	6b1				M							M			
Temporary care of evacuees	6c1														
Transportation and treatment of contaminated injured individuals	6d1														

Table 3.1 - Summary of Exercise Evaluation (Continued. page 2/2)

<p>DATE: 2011-03-01 SITE: D.C. Cook Nuclear Plant, MI</p> <p>M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated</p>		BER-EOC---	BER--PIO/Lias--	BER-EAS-WSJM---	BER-Eau Claire HS--CCC-	BER-Eau Claire HS--EvMDV-	BER-Eau Claire HS--EvWMDR-	BER-Eau Claire High School-Registration	BER---TACP-	BER-Benton Twosp FD-EWD	BER-Benton Twosp FD-EWM	BER-Benton Twosp FD-EWMDV	BER--Lakeshore PS-EV2-	BER-RvrValley HS-EV2
Emergency Operations Management														
Mobilization	1a1	M	M											
Facilities	1b1													
Direction and Control	1c1	M			M	M	M	M		M	M	M		
Communications Equipment	1d1	M	M		M	M	M	M	M	M	M	M	M	M
Equip & Supplies to support operations	1e1	M	M			M	M	M	M	M	M	M	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	M												
Rad Assessment and Decision making for Ingestion Pathway	2d1													
Rad Assess/Decision making concerning Relocation, Reentry, and Return	2e1													
Protective Action Implementation														
Implementation of emergency worker exposure control	3a1					M	M	M	M	M	M	M	M	M
Implementation of KI decision	3b1								M				M	M
Implementation of protective actions for special populations - EOCs	3c1	M												
Implementation of protective actions for Schools	3c2	M											M	M
Implementation of traffic and access control	3d1	M							M					
Impediments to evacuation are identified and resolved	3d2	M												
Implementation of ingestion pathway decisions - availability/use of info	3e1													
Materials for Ingestion Pathway PADs are available	3e2													
Implementation of relocation, re-entry, and return decisions	3f1													
Field Measurement and Analysis														
Adequate Equipment for Plume Phase Field Measurements	4a1													
Field Teams obtain sufficient information	4a2													
Field Teams Manage Sample Collection Appropriately	4a3													
Post plume phase field measurements and sampling	4b1													
Laboratory operations	4c1													
Emergency Notification and Public Info														
Activation of the prompt alert and notification system	5a1	M		M										
Activation of the prompt alert and notification system - Fast Breaker	5a2													
Activation of the prompt alert and notification system - Exception areas	5a3													
Emergency information and instructions for the public and the media	5b1	M	M											
Support Operations/Facilities														
Mon/Decon of evacuees and EWs and registration of evacuees	6a1					M	M	M		M	M			



**Unclassified**  
**Radiological Emergency Preparedness Program (REP)**

After Action Report/Improvement Plan

D.C. Cook Nuclear Plant

Mon/Decon of EW worker equipment	6b1												M		
Temporary care of evacuees	6c1				M										
Transportation and treatment of contaminated injured individuals	6d1														

### **3.3 Criteria Evaluation Summaries**

#### **3.3.1 Michigan Jurisdictions**

##### **3.3.1.1 State of Michigan - Initial Notification Point**

The State of Michigan State Police Michigan Intelligence Operations Center located in Lansing, MI, demonstrated the Target Capability of Emergency Operations Center Management as the State of Michigan Initial Notification Point for radiological incidents occurring at D.C. Cook Nuclear Power Plant (DCCNPP). The MSP Communications Officer used appropriate procedures to accurately record information received from the DCCNPP and to relay that information to the Operations Senior Duty Officer. A variety of primary and back-up communications systems were demonstrated during the exercise.

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

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

##### **3.3.1.2 State of Michigan - State Emergency Operations Center**

The State of Michigan State Emergency Operations Center (SEOC) demonstrated the Target Capability of Emergency Operations Center Management including the use of effective procedures to alert, notify and mobilize emergency personnel and activate facilities in a timely manner. The SEOC provided sufficient multi-agency coordination in response to the simulated incident at the D. C. Cook Nuclear Power Plant (DCCNPP) by promptly activating and operating for the duration of the exercise. The SEOC was managed efficiently and effectively, completed a full activation and notification, and was staffed to a fully operational level. The SEOC provided timely and effective management and direction and control through the use of briefings, information posted on SEOC monitors and the "SMART" Message System to notify SEOC personnel. The State of Michigan uses E-Team system to track, organize and maintain a

chronological record of events. The SEOC coordinated with the risk counties and other state agencies to synchronize decision making and dissemination of public information regarding the situation at the DCCNPP.

This ARCA is assigned to FERMI II and will be redemonstrated during the FERMI II Exercise in 2012.

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

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

ISSUE NO.: 23-10-5a1-P-01

ISSUE: The process between the State and Monroe and Wayne Counties appears to be cumbersome, and as a result the time of the Protective Action Order at 1036 hours through the completion of the EAS broadcast at 1102 hours was 26 minutes. The various coordination steps between the State, two Counties, the EAS development, the delivery to the radio station and siren activation was not completed in a timely manner.

REASON UNRESOLVED: This issue will not be cleared during this exercise it will be addressed during the Fermi II exercise in 2012..

### **3.3.1.3 State of Michigan - Technical Support Group**

The State of Michigan Technical Support Group (TSG) demonstrated the Target Capability of Emergency Operations Center Management by promptly activating and providing multi-agency coordination for the duration of the Radiological Emergency Preparedness Exercise at the D. C. Cook Nuclear Power Plant (DCCNPP). The TSG provided timely and effective management and direction and control through the use of briefings, information posted on SEOC monitors and the

E-Team system to track, organize and maintain a chronological record of events. The TSG coordinated with the risk counties and other state agencies to synchronize decision making and dissemination of public information regarding the situation at the DCCNPP.

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

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

#### **3.3.1.4 State of Michigan - Field Team Center**

The State of Michigan Field Team Center (FTC) demonstrated the Target Capability of Emergency Operations Center Management by promptly activating and providing multi-agency coordination for the duration of the Radiological Emergency Preparedness Exercise at the D. C. Cook Nuclear Power Plant (DCCNPP). The FTC provided timely and effective management and direction and control through the use of briefings, and recording events on the E-Team system to track, organize and maintain a chronological record.

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

- a. MET: 1.a.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2, 6.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: 6.a.1.

ISSUE NO.: 15-11-6a1-P-01

CRITERION: 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. (NUREG-0654, J.10.h.,

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K.5.b)

CONDITION: Contamination may have been spread contamination and dosimetry may have been contaminated by the emergency workers gloved hands.

POSSIBLE CAUSE: Per procedures, the emergency workers upon exiting their vehicle at the WDC were issued clean gloves. Then they opened the back of the truck and transferred samples and equipment to monitoring station 2. Then they removed dosimetry and transferred the dosimetry into a clean plastic bag at the dosimetry drop off station three without monitoring their hands or change gloves after opening a potentially contaminated tailgate on the truck and handling potentially contaminated equipment and samples. They then removed dosimetry with the same gloved hands as opening the tailgate and handling equipment and samples that may have been contaminated.

REFERENCE: Michigan Department of Environmental Quality, 2010 State Worker Decontamination Center (WDC), Standard Operating Procedure (SOP)

Nureg 0654 J,10.h; J.12; K.5.a

EFFECT: Contamination may have been spread especially to dosimetry by the emergency worker's gloves after handling potentially contaminated equipment and supplies and opening a potentially contaminated tailgate.

RECOMMENDATION: Revise procedures to monitored hands and re-gloved after opening potentially contaminated tailgates and handling potentially contaminated equipment and samples.

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

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### **3.3.1.5 State of Michigan - Joint Information Center**

The Joint Information Center(JIC) was efficiently managed and coordinated with other public information organizations. The JIC is located in the American Electric Power (AEP) nuclear generation group headquarters. Locating the JIC within the plant headquarters facilitates quick mobilization of public information participants. Utility staff assigned this responsibility received digital pager notification that an "Alert" had been declared and immediately initiated actions to establish the Emergency News Center (ENC), a function that serves to coordinate and disseminate information prior to formal activation of the JIC. During the D. C. Cook Nuclear Power Plant(DCCNPP) Radiological Emergency Preparedness Exercise, both the D.C. Cook Nuclear Plant Media Center Manager and the lead Michigan Emergency Management and Homeland Security Division (EMHSD) Public Information Officer (PIO) successfully demonstrated the ability to direct and control the Emergency News Center (ENC) and the Joint Information Center (JIC) response activities relating to their specific responsibilities. Direction and control of this function is two-phased.

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

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

ISSUE NO.: 44-08-5b1-A-1

ISSUE: Two News Releases were issued with incorrect and/or incomplete information. One contained the wrong emergency classification level. Both did not include all of the information that was contained in the Agricultural Advisories.

CORRECTIVE ACTION DEMONSTRATED: The JIC successfully cleared an outstanding ARCA that identified conflicting information provided to the public. The information provided to the public in the news releases was more complete, accurate, timely, and useful than past exercise demonstrations. The JIC effectively

demonstrated a quality control process that involved a comprehensive review by all key staff members before it was disseminated via print or through media briefings.

g. PRIOR ISSUES - UNRESOLVED: None

#### **3.3.1.6 State of Michigan - Berrien County Emergency Operations Center - State Liaison**

The State of Michigan Liaison to the Berrien County Emergency Operations Center provided efficient multi-agency coordination during the D. C. Cook Nuclear Power Plant (DCCNPP) REP Exercise by promptly mobilizing to the County EOC, providing expert assistance and coordinating direct communications with the State of Michigan EOC. The State Liaison provided effective management, direction and control through the use of briefings and information provided from the SEOC. Additionally, the State Liaison coordinated with other jurisdictions and counties to facilitate information sharing between state and local agencies, synchronize decision-making and ensure that a consistent message was relayed to public.

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

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

#### **3.3.1.7 State of Michigan - Michigan Department of Natural Resources and Environment Field Team 1**

The State of Michigan Field Team 1 demonstrated the Target Capability of Weapons of Mass Destruction (WMD) and Hazardous Materials (HazMat) / REP Response and Decontamination by making and recording required ambient radiation measurements and collecting radioiodine and particulate samples. The Field Teams were equipped with a sampling vehicle which carried the team and its equipment including maps, instrumentation, supplies, a communications radio and a cell phone. Communications were established and maintained with the Field Team Center and both sampling instructions and results were communicated by radio. Field Team members

were issued appropriate personal protective equipment, dosimetry, potassium iodide (KI), received appropriate training and instructions, and demonstrated thorough knowledge of radiological sampling and exposure management procedures.

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

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

#### **3.3.1.8 State of Michigan - Michigan Department of Natural Resources and Environment Field Team 2**

The State of Michigan Field Team 2 demonstrated the Target Capability of Weapons of Mass Destruction (WMD) and Hazardous Materials (HazMat) / REP Response and Decontamination by making and recording required ambient radiation measurements and collecting radioiodine and particulate samples. The Field Teams were equipped with a sampling vehicle which carried the team and its equipment including maps, instrumentation, supplies, a communications radio and a cell phone. Communications were established and maintained with the Field Team Center and both sampling instructions and results were communicated by radio. Field Team members were issued appropriate personal protective equipment, dosimetry, potassium iodide (KI), received appropriate training and instructions, and demonstrated thorough knowledge of radiological sampling and exposure management procedures.

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

- a. MET: 1.a.1, 1.d.1, 1.e.1, 3.b.1, 4.a.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: 3.a.1, 4.a.3.



CRITERION: OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers IAW plans and procedures. Emergency workers periodically and at the end of each mission read and record dosimeter reading. (NUREG-0654, K.3)

CONDITION: The Administrative Dose Limit of 1 rem per day and Administrative Total per Emergency of 3 rem are Total Effective Dose Equivalent (TEDE) limits, as indicated by footnote b of the Michigan Nuclear Facility Emergency Management Plan (NFEMP), Appendix F: Emergency Worker Dose Information. No Electronic Personal Dosimeter (EPD) or Direct-Reading Dosimeter (DRD) correction factors to TEDE are stated in the plans or procedures.

POSSIBLE CAUSE: Planners may not have been aware that TEDE is the sum of the external Deep Dose Equivalent (DDE) and the Committed Effective Dose Equivalent (CEDE), and that EPDs and DRDs only approximate the DDE component of TEDE with no indication possible for CEDE.

REFERENCE: The Michigan Nuclear Facility Emergency Management Plan (NFEMP), Appendix F: Emergency Worker Dose Information.

NUREG-0654/FEMA REP-1, revision 1 criterion K.4. states that, "Each State and local organization shall establish the decision chain for authorizing emergency workers to incur exposures in excess of EPA General Public Protective Action Guides (i.e. EPA PAGs for emergency workers and lifesaving activities).

FEMA Memorandum July 25, 1994, "Environmental protection Agency's (EPA) Manual of Protective Action Guides (PAGs) and Protective Actions for Nuclear Incidents (EPA 400-R-92-001) addressing implementation of TEDE dose limits for emergency workers.

EFFECT: Appendix F of the NFEMP states that the administrative dose limit is 1 rem per day and 3 rem per emergency TEDE (footnote b). EPDs and DRDs only approximate the DDE component of TEDE. No EPD/DRD correction factor for TEDE is given. If a DRD reading of 1 R or an EPD reading of 1 rem is indicated on

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the device, the individual's TEDE may actually be several rem due to the CEDE component not indicated by the dosimetry.

RECOMMENDATION: Change Appendix F to indicate that the Administrative Limit is an exposure limit (e.g. 1 R) approximating the DDE component of TEDE.

ISSUE NO.: 15-11-4a3-P-03

CRITERION: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams must 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. (NUREG-0654, I.8., 9., 11)

CONDITION: The HPRT SOP specified air sampler volume to be collected (six cubic feet, run time of three minutes at two cubic feet per minute) does not meet the minimum volume of ten cubic feet required to detect the presence of radioiodine concentrations as low as  $10^{-7}$  Ci/cc. The HPRT SOP also does not address purging the air sampler prior to disassembly and analysis.

POSSIBLE CAUSE: Planners may not have been aware of the FEMA REP-2 requirement for minimum air sample volume and the requirement for purging the air sample cartridge prior to analysis.

REFERENCE: The Michigan Department of Environmental Quality, 2010 Health Physics Response Team (HPRT) Standard Operating Procedures (SOP), page 3, indicates that the HPRT is to "run the sampler long enough to process 6 cu. ft. of air through the sampler."

The Michigan Department of Environmental Quality, 2010 Health Physics Response Team (HPRT) Standard Operating Procedures (SOP), page 4, does not indicate the need to purge the air sampler prior to analysis.

NUREG-0654/FEMA REP-1, revision 1 criterion I.9. states that, "Each organization

shall have the capability to detect and measure radioiodine concentrations in air in the plume exposure EPZ as low as  $10^{-7}$  Ci/cc (microcuries per cubic centimeter) under field conditions. Interference from the presence of noble gases and background radiation shall not decrease the stated minimum detectable activity.”

FEMA REP-2, revision 2 Guidance on Offsite Emergency Radiation Systems Phase I – Airborne Release, page 4-20 states that,” The air sampling time may be varied according to the plume exposure rate, i.e. higher exposure rate shorter sampling time. However, care must be exercised to not increase the required radioiodine detection level by taking too small of an air sample,” and page D-13 states that, “A minimum sample volume of 10-cubic feet should be collected, e.g. sample at a flow rate of two cubic feet per minute for five minutes.”

Footnote a - page D-13 “Other flow rates and sampling times may be used, however, the user must be aware of the limitations of the adsorber media and choose the optimum sampling conditions, e.g., the adsorber collection efficiency decreases with an increase in flow rate.”

FEMA REP-2, revision 2, page D-13 indicates that, “After the air sample has been collected, the field monitoring team should immediately move to a low background location outside of the plume. At this location, the adsorber medium cartridge should be purged and both the particulate filter and adsorber cartridge should be countedb.”

Footnote b - “Purging refers to passing “clean” air through the adsorber medium cartridge to remove fission product noble gases which are entrained in the void spaces within the adsorber medium. These noble gas molecules are not attached to the adsorbent medium and they are easily removed by passing a few void volumes of clean air through the cartridge. The purge may be accomplished by simply turning the air sampler on for a few seconds, or if there is a concern about the effects of naturally occurring radon, a simple purging apparatus can be made which utilizes a small cylinder of aged compressed air as the purge air supply. Purging the adsorber medium cartridge can reduce the percentage of retained noble gases by a factor of 50 or more.”

EFFECT: The counting system may not be sensitive enough to detect radioiodines as

low as 10<sup>-7</sup> Ci/cc when the total volume collected is less than 10-cubic feet. The net count may cause a gross overestimation of the calculated thyroid dose due to the presence of noble gases remaining in the sample cartridge if the air sample is not purged prior to analysis.

**RECOMMENDATION:** Increase the sample time to five minutes. Purge the air sampler for a few seconds in a low background area prior to analysis.

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

#### **3.3.1.9 State of Michigan - Field Team Center - Dosimetry Briefing**

The State of Michigan Field Team Center Coordinator (FTCC) demonstrated the Target Capability of conducting Dosimetry Briefings and ensured the Health Physics Response Teams (HPRT) were issued appropriate dosimetry and adequately managed radiological exposure control in accordance with plans and procedures. The FTCC also conducted thorough briefings that the HPRT personnel were adequately notified of their responsibilities and procedures of exposure control.

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

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

#### **3.3.1.10 State of Michigan - Field Team Center - Traffic and Access Control Post**

The State of Michigan demonstrated the Target Capability of Emergency Public Safety and Security Response through interview which included the distribution of dosimetry, emergency worker radiological exposure management, and the capability to implement Traffic and Access Control Posts (TACPs) within the 10-mile Emergency Planning Zone. During the interview, the

Deputy demonstrated thorough knowledge of the provisions of the Emergency Operations Plan related to the establishment of TCPs in addition to the use of appropriate dosimetry procedures, documentation and communications equipment including portable radios, cell phones and mobile data terminals.

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

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

#### **3.3.1.11 State of Michigan - Eau Claire High School - Evacuee Monitoring and Decontamination - MDNRE Representative**

The Benton Township Fire Department demonstrated appropriate Evacuee Monitoring and Decontamination. A member of the Michigan Department of Natural Resources and Environment (MDNRE) was dispatched to the Evacuee Decontamination Center to act as an advisor in supporting direction and control and to assist the Survey and Decontamination Commander. The MDEQ primary function included conducting operational checks on portal monitors and other radiological survey equipment. The fire department personnel conducted successful monitoring and decontamination of evacuees.

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

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

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### **3.3.1.12 State of Michigan - Benton Township Fire Department - Emergency Worker Monitoring and Decontamination - MDNRE Representative**

The Benton Township Fire Department demonstrated appropriate Emergency Worker Monitoring and Decontamination. A member of the Michigan Department of Natural Resources and Environment (MDNRE) was dispatched to the Emergency Worker Decontamination Center to act as and advisor in supporting direction and control and to assist the Survey and Decontamination Commander. The MDNRE primary function included conducting operational checks on portal monitors and other radiological survey equipment. The fire department personnel conducted successful monitoring and decontamination of emergency workers.

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

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

### **3.3.1.13 State Of Michigan - County Hotline - Berrien County**

The State of Michigan representatives in Berrien County, functioning as members of the Joint Information Center (JIC) team, established and maintained an effective communication link (Hotline) between the JIC and representatives at the Emergency Operations Center (EOC) in Berrien County. Representatives from the Berrien County arrived at the JIC, and subsequently became part of the JIC team. They quickly reviewed the Standard Operating Procedures (SOP) specific to their responsibility to function as members of the Berrien County Hotline, listened attentive to media, and conveyed details back to Berrien County, effective representing the interests and concerns of Berrien County.

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

- a. MET: 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None

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

### **3.3.2 Risk Jurisdictions**

#### **3.3.2.1 Berrien County - Initial Notification Point**

The Berrien County Initial Warning Point, located in the Berrien County Sheriff's Dispatch Center, demonstrated the Target Capability of Emergency Operations Center Management. The IWP used effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. Dispatchers were familiar with their nuclear incident notification procedures. There are redundant communication systems available at the Dispatch Center, and both primary and backup systems were used effectively during this exercise.

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

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

#### **3.3.2.2 Berrien County - Emergency Operations Center**

The Berrien County Emergency Operations Center (EOC) demonstrated the Target Capability of Emergency Operations Center Management by activities including the use of effective procedures to alert, notify and mobilize emergency personnel and activate facilities in a timely manner. The focus always remained on the primary objective, which is protecting the public health and safety of those who live and work in local communities. The Berrien County Emergency Management Agency Director fully demonstrated the decision-making process involving appropriate factors and necessary coordination when making Protective Action

Decisions. Direction and control for the overall response effort of the Berrien County EOC was successfully demonstrated by the Berrien County Board Chairperson and the EMA Director.

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

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

#### **3.3.2.3 Berrien County - Personnel in the Joint Information Center**

The Berrien County Public Information Officer (PIO) demonstrated the Target Capability of Providing Emergency Public Information through the County Public Information Officers PIO at the Joint Information Center (JIC). Effective procedures were used to alert, notify, and mobilize personnel and activate the facility in a timely manner. Key personnel with leadership roles provided direction and control. Emergency information and instructions were presented to the public and the news media in a timely manner.

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

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

#### **3.3.2.4 Berrien County - Emergency Alert System Radio Station WSJM**

Berrien County demonstrated the Target Capability of Emergency Public Information and Warning associated with primary alerting and notification of the public was completed in a timely manner. Following the decision by County emergency management officials to notify the public of an emergency situation at the D.C. Cook Nuclear Power Plant, Radio Station WSJM



(94.9 FM) personnel demonstrated a thorough understanding of their equipment, the EAS process and executed their duties in a timely and professional manner. Radio Station WSJM is an alternate to the primary EAS Station.

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

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

### **3.3.2.5 Berrien County - Eau Claire High School - Congregate Care Center**

Berrien County demonstrated the Target Capability of Congregate Care Center (CCC) at the Eau Claire High School, Eau Claire, Michigan. As part of the D.C. Cook Nuclear Power Plant Radiological Emergency Preparedness Exercise, the American Red Cross (ARC) demonstrated the capability to provide resources and trained personnel to evacuees. The ARC responsible for CCC activities in Berrien County, successfully demonstrated that the CCC has the resources to provide services and accommodations consistent with ARC planning guidelines.

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

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

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### **3.3.2.6 Berrien County - Eau Claire High School - Evacuee Monitoring and Decontamination of Vehicles**

Berrien County demonstrated the Target Capability for Evacuee Monitoring and Decontamination of Vehicles. Berrien County established adequate facilities, resources, and trained personnel to provide monitoring of evacuees and emergency workers.

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

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

### **3.3.2.7 Berrien County - Eau Claire High School - Evacuee/Emergency Worker Monitoring and Decontamination, Registration of Evacuees**

Berrien County demonstrated the Target Capability for Evacuee and Emergency Worker Monitoring, Decontamination, and Registration of Evacuees. Berrien County established adequate facilities, resources, and trained personnel to provide monitoring, decontamination, registration of evacuees and emergency workers.

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

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

### **3.3.2.8 Berrien County - Eau Claire High School - Public Registration**

Berrien County demonstrated the Target Capability for Public Registration. Berrien County had the capability to establish adequate facilities, resources, and trained personnel to provide registration of evacuees.

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

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

### **3.3.2.9 Berrien County - Traffic and Access Control Post**

The Berrien County Sheriff's Department demonstrated the Target Capability of Emergency Public Safety and Security Response through interview which included the distribution of dosimetry, emergency worker radiological exposure management, and the capability to implement Traffic and Access Control Posts (TACPs) within the 10-mile Emergency Planning Zone. During the interview, the Deputy demonstrated knowledge of the provisions of the Emergency Operations Plan related to the establishment of TACPs in addition to the use of the appropriate dosimetry procedures, documentation and communication equipment including portable radios, cell phones and mobile data terminals. This included the provision of dosimetry and the ability to manage emergency worker radiological exposure including the decision to implement KI.

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

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

- g. PRIOR ISSUES - UNRESOLVED: None

### **3.3.2.10 Berrien County - Benton Township Fire Department - Emergency Worker Decontamination**

Berrien County demonstrated the Target Capability for Emergency Worker Decontamination. Berrien County established adequate facilities, resources, and trained personnel to provide decontamination for emergency workers.

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

- a. MET: 1.c.1, 1.d.1, 1.e.1, 3.a.1, 6.a.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: 6.a.1.

ISSUE NO.: 15-11-6a1-A-04

CRITERION: 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. (NUREG-0654, J.10.h., K.5.b)

CONDITION: The complete body survey conducted in the Emergency Worker Survey Station #5 took less than one minute to complete which could have resulted mis-identification of radiation contamination on the emergency worker.

POSSIBLE CAUSE: The complete body survey was conducted too quickly because the surveyor did not properly follow the technique described in the procedure.

REFERENCE: NUREG-0654, K. Radiological Exposure Control, 5.b

Berrien County Radiological Emergency Procedures for Emergency Worker Decontamination Centers, dated February 2011, page 14, Part B, CD V 700-Station 3- Emergency Worker Survey Station, line 6.

EFFECT: Mis-identification of radiological contamination due to inadequate survey technique on a individual could have resulted unnecessary dose to the emergency worker.

**CORRECTIVE ACTION DEMONSTRATED:** A time out was taken by the Controller where she conducted a re-training of the Station #5 surveyor by reviewing the posted procedure on the wall. After the training, the surveyor successfully conducted a radiological survey as described in the Berrien County Radiological Emergency Procedures for Emergency Worker Decontamination Centers.

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

#### **3.3.2.11 Berrien County - Benton Township Fire Department - Emergency Worker Monitoring**

Berrien County demonstrated the Target Capability for Emergency Worker Monitoring. Berrien County established adequate facilities, resources, and trained personnel to provide monitoring for emergency workers.

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

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

#### **3.3.2.12 Berrien County - Benton Township Fire Department - Emergency Worker Equipment and Vehicle Monitoring and Decontamination**

Berrien County demonstrated the Target Capability for Emergency Worker Monitoring and Decontamination of Equipment and Vehicles. Berrien County had adequate procedures and resources for accomplishment of monitoring and decontamination of emergency worker equipment including vehicles.

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

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

#### **3.3.2.13 Berrien County - Lakeshore Public Schools - Evacuation School**

Berrien County demonstrated the Target Capability of Citizen Evacuation and Shelter-in-Place for school children. The Lakeshore Public Schools District representative described plans and procedures to safely evacuate students from the D.C. Cook Nuclear Power Plant Emergency Planning Zone and reunite them with their families. The school district demonstrated sufficient personnel, current contact information, emergency worker dosimetry, and communications capabilities to notify families and guardians regarding how to reunite with evacuated students.

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

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

#### **3.3.2.14 Berrien County - River Valley High School - EV-2 Interview**

Berrien County demonstrated the Target Capability of Citizen Evacuation and Shelter-in-Place for school children. The River Valley School District representative described plans and procedures to safely evacuate students from the D.C. Cook Nuclear Power Plant Emergency Planning Zone and reunite them with their families. The school district demonstrated sufficient personnel, current contact information, emergency worker dosimetry, and communications capabilities to notify families and guardians regarding how to reunite with evacuated students.

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

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

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## SECTION 4: CONCLUSION

No Deficiencies were identified for any jurisdiction during this exercise.

There was no Area Requiring Corrective Action (ARCA) identified for the State of Michigan during this exercise.

There was one prior ARCA for the State of Michigan identified during the August 19, 2008, Palisades Nuclear Power Plant REP Exercise, ARCA Number 44-08-5b1-A-1 Criterion 5.b.1 –Emergency Notification and Public Information, whereby two news releases were issued with incorrect and/or incomplete information. This ARCA was successfully redemonstrated during this exercise.

There were three Planning Issues identified during the exercise for the State of Michigan.

The first Planning Issue Number 15-11-6a1-P-01 was issued under Criterion 6.a.1 – 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.

The second Planning Issue Number 15-11-3a1-P-02 was issued under Criterion 3.a.1 – OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers IAW plans and procedures. Emergency workers periodically and at the end of each mission read and record dosimeter reading.

The third Planning Issue Number 15-11-4a3-P-03 was issued under Criterion 4.a.3 – Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams must 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.

There was one ARCA identified during the exercise for Berrien County. The ARCA identified for Berrien County was under Criterion 6.a.1 – 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 ARCA was



successfully redemonstrated during this exercise.

Based on the results of the March 1, 2011, exercise, the offsite radiological emergency response plans and preparedness for the State of Michigan and affected local jurisdictions, site-specific to the D.C. Cook Nuclear Power Plant, 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 Michigan site-specific to the D.C. Cook Nuclear Power Plant, granted on July 16, 1985, remain in effect.

## APPENDIX A: IMPROVEMENT PLAN

<b>Issue Number: 15-11-6a1-P-01</b>		<b>Criterion: 6a1</b>
<b>ISSUE:</b> Contamination may have been spread contamination and dosimetry may have been contaminated by the emergency workers gloved hands.		
<b>RECOMMENDATION:</b> Revise procedures to monitored hands and re-gloved after opening potentially contaminated tailgates and handling potentially contaminated equipment and samples.		
<b>CORRECTIVE ACTION DESCRIPTION:</b> This process will be reviewed and adjusted, as necessary, to ensure that the procedures address contamination control for the hands of emergency workers and their associated dosimetry.		
<b>CAPABILITY:</b> Responder Safety and Health	<b>PRIMARY RESPONSIBLE AGENCY:</b> Michigan Department of Natural Resources and Environmental	
<b>CAPABILITY ELEMENT:</b> Planning	<b>START DATE:</b> 2011-05-25	
<b>AGENCY POC:</b> Ken Yale 517-241-1278	<b>ESTIMATED COMPLETION DATE:</b> 2012-05-25	

<b>Issue Number: 15-11-3a1-P-02</b>		<b>Criterion: 3a1</b>
<b>ISSUE:</b> The Administrative Dose Limit of 1 rem per day and Administrative Total per Emergency of 3 rem are Total Effective Dose Equivalent (TEDE) limits, as indicated by footnote b of the Michigan Nuclear Facility Emergency Management Plan (NFEMP), Appendix F: Emergency Worker Dose Information. No Electronic Personal Dosimeter (EPD) or Direct-Reading Dosimeter (DRD) correction factors to TEDE are stated in the plans or procedures.		
<b>RECOMMENDATION:</b> Change Appendix F to indicate that the Administrative Limit is an exposure limit (e.g. 1 R) approximating the DDE component of TEDE.		
<b>CORRECTIVE ACTION DESCRIPTION:</b> This process will be reviewed and adjusted, as necessary, to ensure that the plans and procedures properly address the management of radiological exposure to emergency workers.		
<b>CAPABILITY:</b> Responder Safety and Health	<b>PRIMARY RESPONSIBLE AGENCY:</b> Michigan Department of Natural Resources and Environment	
<b>CAPABILITY ELEMENT:</b> Planning	<b>START DATE:</b> 2011-05-25	
<b>AGENCY POC:</b> Ken Yale 517-241-1278	<b>ESTIMATED COMPLETION DATE:</b> 2012-05-25	

<b>Issue Number: 15-11-4a3-P-03</b>		<b>Criterion: 4a3</b>
<b>ISSUE:</b> The HPRT SOP specified air sampler volume to be collected (six cubic feet, run time of three minutes at two cubic feet per minute) does not meet the minimum volume of ten cubic feet required to detect the presence of radioiodine concentrations as low as 10-7 Ci/cc. The HPRT SOP also does not address purging the air sampler prior to disassembly and analysis.		
<b>RECOMMENDATION:</b> Increase the sample time to five minutes. Purge the air sampler for a few seconds in a low background area prior to analysis.		
<b>CORRECTIVE ACTION DESCRIPTION:</b> This process will be reviewed and plans and procedures adjusted as necessary to ensure that ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected in the appropriate manner.		
<b>CAPABILITY:</b> Responder Safety and Health	<b>PRIMARY RESPONSIBLE AGENCY:</b> Michigan Department of Natural Resources and Environment	
<b>CAPABILITY ELEMENT:</b> Training	<b>START DATE:</b> 2011-05-25	
<b>AGENCY POC:</b> Ken Yale 517-241-1278	<b>ESTIMATED COMPLETION DATE:</b> 2012-05-25	

Issue Number: 23-10-5a1-P-01		Criterion: 5a1
ISSUE: The process between the State and Monroe and Wayne Counties appears to be cumbersome, and as a result the time of the Protective Action Order at 1036 hours through the completion of the EAS broadcast at 1102 hours was 26 minutes. The various coordination steps between the State, two Counties, the EAS development, the delivery to the radio station and siren activation was not completed in a timely manner.		
RECOMMENDATION: Refine or develop a process which clearly defines the county's plans, whereby the development and delivery of the EAS message and siren activation would be completed in a timelier manner, thus insuring a prompt delivery of the notification of a Protective Action Order to the public.		
CORRECTIVE ACTION DESCRIPTION: Prior issue carried forward from Fermi II exercise. This process will be reviewed and adjusted as necessary to ensure that the Protective Action Orders are delivered in a timely fashion, thus allowing the counties to activate sirens and deliver the EAS message for the best possible protection of the public.		
CAPABILITY: Emergency Public Information and Warning	PRIMARY RESPONSIBLE AGENCY: Michigan State Police Emergency Management and Homeland Security Division	
CAPABILITY ELEMENT: Organization and Leadership	START DATE: 2010-08-19	
AGENCY POC: James R. Porcello 517-336-6435	ESTIMATED COMPLETION DATE: 2012-08-21	

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## APPENDIX B: EXERCISE TIMELINE

Table 1, on the following page, presents the times at which key events and activities occurred during the D.C. Cook Nuclear Power Plant REP Partial Participation Plume Exposure Pathway exercise conducted on March 1, 2011. Also included are times notifications were made to the participating jurisdictions/functional entities.

**Table 1 - Exercise Timeline**  
**DATE: 2011-03-01, SITE: D.C. Cook Nuclear Plant, MI**

Emergency Classification Level or Event	Time Utility Declared	MI-SEOC---	MI-JIC---	BER-EOC---
Unusual Event	0815	0823	N/A	0825
Alert	0835	0848	0846	0848
Site Area Emergency	0940	0944	0944	0948
General Emergency	1057	1101	1108	1103
Simulated Rad. Release Started	1048	N/A	N/A	N/A
Simulated Rad. Release Terminated		N/A	N/A	N/A
Facility Declared Operational		0948	1022	0955
Declaration of Local State of Emergency for Berrien County		N/A	N/A	N/A
Declaration of State of Disaster for Berrien County		1020	N/A	N/A
Exercise Termination		1315	1328	1317
Agricultural Advisory #1: The Michigan Department of Agricultural Advisory: All livestock are to be sheltered and placed on stored feed and water within the Protective Action Areas 1, 3, and 5.		1000	1045	1014
Agricultural Advisory #2: The Michigan Department of Agricultural Advisory: For all fruit and vegetable growers and distributors; farmers, gardeners and produce stand operators; and animal owners within the Protective Action Areas 1,2, 3, and 5		1105	1145	1111
Agricultural Advisory #3: The Michigan Department of Agricultural Embargo Order: For all food, farm crops, produce, livestock, poultry, animal feed, dairy products, meat, and other livestock product in Protective Action Areas 1 and 3.		1145	1225	1150
Early Precautionary Action Order: The State issued air, water and rail traffic within 5/10 miles of D.C. Cook restricted.		1114	1145	1114
Early Precautionary Action Order: Evacuate Schools and/or Special Populations.		N/A	1045	1000
Protective Action Order #1: Evacuation of Protective Action Areas 1 and 3 to include 5-mile Radius for Marine Traffic		1114	1145	1114
Siren Activation:		N/A	N/A	1120
EAS Message:		N/A	N/A	1123
Protective Action Order #2: Evacuation of Protective Action Areas 1, 2, 3, and 5 to include 10-mile Radius for Marine Traffic		1230	1310	1230
Siren Activation:		N/A	N/A	1236
EAS Message:		N/A	N/A	1239
KI Administration Emergency Workers in a 10-mile Radius		1105	N/A	1105
KI Administration All Persons in a 10-mile Radius		1107	N/A	1117

## APPENDIX C: EXERCISE EVALUATORS AND TEAM LEADERS

The following is a list of the personnel that evaluated the D.C. Cook Nuclear Power Plant REP Partial Participation Plume Exposure Pathway Exercise on March 1, 2011. The list includes the evaluation team leadership and all evaluators. 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
Exercise Officer	Gary Naskrent	DHS/FEMA
Site Specialist	Edward Diaz	DHS/FEMA
Team Leader - Michigan	James King	DHS/FEMA
Team Leader - Berrien County	Edward Diaz	DHS/FEMA

Unclassified  
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

D.C. Cook Nuclear Plant

DATE: 2011-03-01, SITE: D.C. Cook Nuclear Plant, MI

LOCATION	EVALUATOR	AGENCY
State of Michigan - Initial Notification Point	Deborah Fulk	DHS/FEMA
State of Michigan - State Emergency Operations Center	Deborah Fulk Kara Scott	DHS/FEMA DHS/FEMA
State of Michigan - Technical Support Group	Thomas Essig	ICF
State of Michigan - Field Team Center	Richard Grundstrom Jill Leatherman	ICF ICF
State of Michigan - Joint Information Center	John Simpson	DHS/FEMA
State of Michigan - Berrien County Emergency Operations Center - State Liaison	Edward Diaz Carolyn Sturghill	DHS/FEMA DHS/FEMA
State of Michigan - Michigan Department of Natural Resources and Environment Field Team 1	Richard Smith	ICF
State of Michigan - Michigan Department of Natural Resources and Environment Field Team 2	John Wills	ICF
State of Michigan - Field Team Center - Dosimetry Briefing	John Wills	ICF
State of Michigan - Field Team Center - Traffic and Access Control Post	Karl Rabenhorst	DHS/FEMA
State of Michigan - Eau Claire High School - Evacuee Monitoring and Decontamination - MDNRE Representative	Kerris Bates	DHS/FEMA
State of Michigan - Benton Township Fire Department - Emergency Worker Monitoring and Decontamination - MDNRE Representative	Christopher Bellone	DHS/FEMA
State Of Michigan - County Hotline - Berrien County	John Simpson	DHS/FEMA
Berrien County - Initial Notification Point	Clinton Crackel	DHS/FEMA
Berrien County - Emergency Operations Center	*Edward Diaz Patricia Mason Carolyn Sturghill	DHS/FEMA FEMA (2) DHS/FEMA
Berrien County - Personnel in the Joint Information Center	John Simpson	DHS/FEMA
Berrien County - Emergency Alert System Radio Station WSJM	Delwyn Kinsley	DHS/FEMA
Berrien County - Eau Claire High School - Congregate Care Center	Thomas Essig	ICF
Berrien County - Eau Claire High School - Evacuee Monitoring and Decontamination of Vehicles	Delwyn Kinsley	DHS/FEMA
Berrien County - Eau Claire High School - Evacuee/Emergency Worker Monitoring and Decontamination, Registration of Evacuees	Kerris Bates	DHS/FEMA
Berrien County - Eau Claire High School - Public Registration	Carl Bebrich	DHS/FEMA
Berrien County - Traffic and Access Control Post	Clinton Crackel	DHS/FEMA
Berrien County - Benton Township Fire Department - Emergency Worker Decontamination	Christopher Bellone	DHS/FEMA
Berrien County - Benton Township Fire Department - Emergency Worker Monitoring	Carolyn Sturghill	DHS/FEMA
Berrien County - Benton Township Fire Department - Emergency Worker Equipment and Vehicle Monitoring and Decontamination	Jill Leatherman	ICF
Berrien County - Lakeshore Public Schools - Evacuation School	Delwyn Kinsley	DHS/FEMA
Berrien County - River Valley High School - EV-2 Interview	Carl Bebrich	DHS/FEMA
* Team Leader		

## APPENDIX D: ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
AAR	After Action Report
AEP	American Electric Power
ALARA	As Low As Reasonably Achievable
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
ARES	Amateur Radio Emergency Services
BCEM	Berrien County Emergency Management
BCEMC	Berrien County Emergency Management Coordinator
BCEOC	Berrien County Emergency Operations Center
BCEWS	Berrien County Early Warning System
BCPSCDC	Berrien County Public Safety Communication Dispatch Center
BCSO	Berrien County Sheriff's Office
CAD	Computer Aided Dispatch
CCC	Congregate Care Center
CDE	Committed Dose Equivalent
DRD	Direct- Reading Dosimeter
EAL	Emergency Action Level
EAS	Emergency Alert System
ECL	Emergency Classification Level
EMA	Emergency Management Agency
EMC	Emergency Management Coordinator
EMS	Emergency Medical Services
ENC	Emergency News Center
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPD	Electronic Personal Dosimeter
EPZ	Emergency Planning Zone
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FRA	Federal Railroad Administration
FTC	Field Team Center
FTCC	Field Team Center Coordinator
GE	General Emergency
GIS	Geospatial Information System



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Radiological Emergency Preparedness Program (REP)

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D.C. Cook Nuclear Plant

GPS	Global Positioning System
HP	Health Physicist
HPRT	Health Physics Response Team
HPS	Health Physics Support
IC	Incident Commander
INP	Initial Notification Point
JIC	Joint Information Center
LEIN	Law Enforcement Information Network
LPSD	Lakeshore Public School District
MARS	Military Affiliated Radio System
MIOC	Michigan Intelligence Operations Center
MSP	Michigan State Police
NFEMP	Nuclear Facilities Emergency Management Plan
NRC	Nuclear Regulatory Commission
ORO	Offsite Response Organization
PAA	Protective Action Areas
PAG	Protective Action Guide
PAO	Protective Action Order
PAR	Protective Action Recommendation
PIO	Public Information Officer
PPE	Personal Protective Equipment
PRD	Permanent Record Dosimeter
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Services
RAP	Radiological Assistance Program
RDL	Radiological Decontamination Leader
REP	Radiological Emergency Preparedness
RESA	Regional Educational Service Agency
RTL	Registration Team Leader
SAE	Site Area Emergency
SEOC	State Emergency Operations Center
SOP	Standard Operating Procedure
TEDE	Total Effective Dose Equivalent
TS	Transportation Supervisor
TSG	Technical Support Group
WDC	Worker Decontamination Center

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## APPENDIX E: EXERCISE PLAN

This appendix lists the exercise criteria, which were scheduled for demonstration in the D.C. Cook Nuclear Power Plant Radiological Emergency Preparedness Partial Participation Plume Exposure Pathway Exercise on March 1, 2011, and the offsite extent-of-play agreement accepted by DHS/FEMA Region V on February 2, 2011. The exercise criteria, contained in the FEMA "Radiological Emergency Preparedness Exercise Evaluation Methodology; Notice," as published in the Federal Register Notice/Vol. 67, dated April 25, 2002, represent a functional translation of the planning standards and evaluation criteria of NUREG-0654/FEMA-REP-1, Rev1, "Criteria for the Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980. Because the exercise criteria are intended for use at all nuclear power plant sites, and because of variations among offsite plans and procedures, an extent-of-play agreement is prepared by the State and accepted by DHS/FEMA to provide evaluators with guidance on expected actual demonstration of the criteria.

**ENCLOSURE – 7**  
**SUMMARY OF PREVIOUS EXERCISE FINDINGS**  
**D.C. COOK NUCLEAR POWER PLANT REP EXERCISE**  
**Week of February 28, 2011**

**STATE OF MICHIGAN EXTENT-OF-PLAY AGREEMENT**

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

**Evaluation Area 1 - Emergency Operations Management**

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

**State of Michigan**

1. The State Emergency Operations Center (SEOC) and Field Team Center will be fully activated. State personnel reporting to the SEOC will be mobilized in accordance with procedures.
2. State personnel reporting to the county EOCs and FTC will be pre-positioned and will report when mobilized by the SEOC.
3. State personnel reporting to the Joint Information Center (JIC) will be pre-positioned and will begin participation after the arrival of Berrien County JIC personnel.
4. State personnel involved in out of sequence demonstrations will be pre-staged.
5. A roster will be provided to demonstrate 24-hour staffing.

**Berrien County**

1. The Berrien County EOC will be activated and mobilized in accordance with procedures.
2. Berrien County JIC personnel will be mobilized in accordance with procedures.
3. All personnel involved in out of sequence demonstrations will be pre-positioned.
4. A roster will be provided to demonstrate 24-hour staffing of the county EOC.

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

**State of Michigan**

1. The State Emergency Operations Center (SEOC) is maintained in operational readiness and set up will not be demonstrated.
2. The Field Team Center will be partially set up on Monday afternoon, February 28<sup>th</sup> and the balance of operations set up on Tuesday, March 1<sup>st</sup>. The facility set up will be evaluated on March 1<sup>st</sup> only.

**Berrien County**

1. The Berrien County Emergency Operations Center (BCEOC) is maintained in operational readiness and set up will not be demonstrated.

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**ENCLOSURE – 7**  
**SUMMARY OF PREVIOUS EXERCISE FINDINGS**  
**D.C. COOK NUCLEAR POWER PLANT REP EXERCISE**  
**Week of February 28, 2011**

**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.

State of Michigan and Berrien County

1. This criterion will be demonstrated at the SEOC, county EOC, FTC, and JIC.

**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.

State of Michigan and Berrien County

1. This criterion will be demonstrated by the SEOC, county EOC, FTC, JIC, and the Public Reception/Emergency Worker Decontamination Centers, and Access Control. If both the primary and back-up systems fail, this objective may be demonstrated by successful use of an alternate method of communication.

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

State of Michigan and Berrien County

1. Equipment, maps, displays, and other supplies will be demonstrated to support emergency operations at the SEOC, JIC, FTC and county EOC and out of sequence events.
2. Personnel involved in traffic and access control points will demonstrate knowledge of where to secure traffic control equipment.
3. Potassium iodide and dosimeters are stored at the county.
4. Additional supplies of potassium iodide are stored at the MSP/EMHSD office in Lansing. These supplies are meant to augment the counties' supplies.
5. Additional dosimetry is stored at Michigan Department of Natural Resources and Environment (MDNRE) office in Lansing. These supplies are meant to augment the county supplies.
6. MDNRE maintains supplies of potassium iodide and dosimeters for use by its personnel.
7. Documentation related to emergency worker KI shelf life extension is maintained by MSP/EMHSD and will be provided to FEMA at the Pre-Exercise Briefing along with instrument calibration data.

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**ENCLOSURE – 7**  
**SUMMARY OF PREVIOUS EXERCISE FINDINGS**  
**D.C. COOK NUCLEAR POWER PLANT REP EXERCISE**  
**Week of February 28, 2011**

**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.

State of Michigan

1. The ability to make the decision to recommend the use of KI to emergency workers will be demonstrated by the SEOC.
2. Authorization to exceed state exposure limits will be demonstrated. If the scenario does not provide an opportunity to demonstrate these items, a controller inject will be issued to demonstrate the ability to perform these actions.

Berrien County

This criterion does not apply.

Note: This criterion may be re-demonstrated as approved on a case-by-case basis by the Chairman of the Regional Assistance Committee.

**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.

State of Michigan

1. The Technical Support Group in the SEOC will evaluate licensee and FTC provided information and complete an independent analysis of scenario data.
2. Dose assessment evaluation will be conducted in the SEOC and/or the FTC as appropriate.

Berrien County

This criterion does not apply.

Note: This criterion may be re-demonstrated as approved on a case-by-case basis by the Chairman of the Regional Assistance Committee.

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**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 it is ORO policy).

State of Michigan

1. This criterion will be demonstrated by the Incident Management Group in the SEOC in conjunction with applicable support staff including the Technical Support Group and MDCH.
2. The Potassium Iodide (KI) policy will be demonstrated at the General Emergency declaration through a press release at the JIC and through SEOC discussion.

Berrien County

This criterion does not apply.

Note: This criterion may be re-demonstrated as approved on a case-by-case basis by the Chairman of the Regional Assistance Committee.

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

State of Michigan

1. This criterion will be demonstrated by the Incident Management Group in the SEOC in conjunction with applicable support staff, through the decision to recommend the use of KI to institutionalized persons that cannot be evacuated.

Berrien County

1. Lists of transportation dependent and special needs populations are kept by the county. No personnel will be moved. No phone calls to transportation dependent persons will be made. Simulation of calls will be logged as such.
2. Equipment lists and rosters will be available in the county EOC.
3. The School Services Representatives in the Berrien County EOC will make phone contact with affected school districts if schools are in session. No scenario information will be discussed during these calls.

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

This criterion will not be demonstrated during this exercise.

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**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.

**State of Michigan**

1. This criterion will be demonstrated by the State of Michigan at the Field Team Center.

The briefing on dosimeters and KI use for the State of Michigan access control demonstration will be at the FTC.

**Berrien County**

1. Berrien County will demonstrate this criterion out of sequence at the Public Reception/Emergency Worker Decontamination Centers.
2. Berrien County will demonstrate this criterion at the access control point when emergency workers are issued dosimeters.

Note: This criterion may be re-demonstrated immediately for credit, at the discretion of the evaluator.

**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.

**State of Michigan**

1. The State will demonstrate this objective at the Field Team Center and through decision-making and directives to implement appropriate Protective Action Orders.

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Berrien County

1. This criterion will be demonstrated during the traffic and access control demonstrations for Berrien County. Response personnel will demonstrate knowledge of when it is appropriate to take KI, but not actually ingest it.
2. KI will be distributed to emergency workers in Berrien County along with their dosimetry.

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

State of Michigan

This criterion will not be demonstrated by the state.

Berrien County

1. This criterion will be demonstrated in the EOC via staff discussions that may include evacuation of hospitals, nursing homes, correctional facilities, mobility impaired individuals, and transportation dependent. These discussions will be documented in situation logs.
2. Actual contacts to special population groups will not be made. Simulation of calls will be logged as such.
3. Berrien County will contact a minimum of four providers of transportation services, which may include public transit authorities, school systems for buses, ambulance services, or fire/rescue services. An endeavor will be made to contact a third of the total number of transportation providers. There will be no discussion of scenario information during these calls.

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

State of Michigan

This criterion will not be demonstrated by the state.

Berrien County

1. This criterion will be demonstrated by Berrien County EOC as driven by the scenario. If schools are not in session, the FEMA evaluator will conduct an interview with the schools representative in the county EOC.
2. Two EV-2 interviews will be conducted in Berrien County. Refer to the Table of Exercise Demonstrations for specific times and locations.



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

State of Michigan

1. This criterion will be demonstrated by the SEOC through the restriction of air, rail, and waterway access.
2. The state will demonstrate one access control point. Demonstration locations will be determined during the exercise at a time agreed upon by FEMA evaluator and the Exercise Controller at the FTC.
3. Staffing of all other access and traffic control points will be simulated.

Berrien County

1. Decisions related to traffic and access control will be demonstrated in the Berrien County EOC. Berrien County demonstration locations will be determined during the exercise at a time agreed upon by the FEMA evaluator, the Exercise Controller, and the county emergency management coordinator.
2. Staffing of all other access and traffic control points will be simulated.

Note: This criterion may be re-demonstrated immediately for credit, at the discretion of the evaluator.

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

State of Michigan

This criterion will not be demonstrated by the state.

Berrien County

1. This will be demonstrated through discussions at the county EOC. Messages will be injected by Exercise Controllers to drive these demonstrations. Personnel will deal with the impediments by discussing the need for equipment, discussing its estimated time of arrival, etc. If the impediment posed involves road closures that would have been known to exercise participants during the course of normal operations, this information will be provided to the players as part of the initial conditions for the exercise. All contacts, actual or simulated will be logged.

Note: This criterion may be re-demonstrated immediately for credit, at the discretion of the evaluator.

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**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.

**State of Michigan**

1. This criterion will be demonstrated during this exercise at the Field Team Center by State personnel. Two field teams will demonstrate this criterion.
2. Field teams will have instruments capable of measuring gamma exposure rates and detecting the presence of beta radiation. These instruments will be capable of measuring a range of activity and exposure consistent with the intended use of the instrument and the State's plans and procedures, including radiological protection/exposure control of team members and detection of activity on air sample collection media. All instruments, including air sampling flow meters, will be operated, maintained, and calibrated in accordance with the manufacturer's recommendations. A label indicating such calibration will be on each instrument or verifiable by other means. An appropriate radioactive check source will be used to verify proper operational response for each radiation measurement instrument (less than 1R/hr) and for high range instruments when available.

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Berrien County

This criterion does not apply.

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

State of Michigan

1. This criterion will be demonstrated during this exercise at the Field Team Center by the State.
2. Field measurements will be taken to help characterize the release and to support the adequacy of implemented protective actions or to be a factor in modifying protective actions. Teams will be directed to take measurements in such locations, at such times to provide information sufficient to characterize the plume impacts.

Berrien County

This criterion does not apply.

**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.

State of Michigan

1. This criterion will be demonstrated during this exercise at the Field Team Center by State personnel. Two field teams will demonstrate the capability to report measurements and field data pertaining to the measurement of airborne radioiodine and particulates to the Field Team Center Coordinator (FTCC).

Berrien County

This criterion does not apply.

**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.

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**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.

**State of Michigan**

1. The State will provide information to the county for release in the Emergency Alert System messages.

**Berrien County**

1. The Berrien County Public Safety Communication Center is the primary activation point for the Alert Notification System. Berrien County also activates the Emergency Alert System. An interview with WSJM personnel will be conducted by DHS/FEMA following transmittal of EAS messages.

Note: This criterion may be re-demonstrated as approved on a case-by-case basis by the Chairman of the Regional Assistance Committee.

**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.

The D.C. Cook EPZ does not contain any DHS/FEMA approved exception areas. This criterion will not be demonstrated during this exercise.

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

State of Michigan and Berrien County

1. This will be demonstrated at the JIC via dissemination of Emergency Alert System announcements in coordination with the SEOC and Berrien County EOC. All media briefings will be conducted at the JIC.
2. AEP Indiana Michigan will operate a public inquiry hotline during the exercise by personnel based at the Buchanan Office Building. Trending is performed by the Public Inquiry Coordinator, who identifies trends and ensures appropriate information, is provided to the public inquiry operators and the JIC for inclusion in media briefings.

Note: ARCA No. 44-08-5b1-A-1 remains open for the State of Michigan: "Two news releases were issued with incorrect and / or incomplete information. One contained the wrong emergency classification level. Both did not include all of the information that was contained in the Agricultural Advisories."

Note: This criterion may be re-demonstrated as approved on a case-by-case basis by the Chairman of the Regional Assistance Committee.

**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.

State of Michigan

1. State level emergency worker decontamination will be demonstrated at the Field Team Center.
2. State DNRE HP personnel will provide assistance as requested during county Public Reception/Emergency Worker decontamination center demonstrations.

Berrien County

1. Berrien County will fully demonstrate separate emergency worker and public reception/decontamination center out-of-sequence from the exercise.
2. Public reception centers will demonstrate 1/3 of the monitoring teams required to monitor 20% of the population allocated to that facility within a 12-hour period. One team will monitor six individuals.

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Note: The decontamination and washing of vehicles will be simulated.

Note: This criterion may be re-demonstrated immediately for credit, at the discretion of the evaluator.

**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.

State of Michigan

1. State of Michigan personnel will only demonstrate this criterion at the State Field Team Center. State emergency equipment and vehicles will be monitored and decontaminated as appropriate.

Berrien County

1. Berrien County will fully demonstrate emergency worker/equipment decontamination center out of sequence with the exercise.

Note: The decontamination and washing of vehicles will be simulated.

Note: This criterion may be re-demonstrated immediately for credit, at the discretion of the evaluator.

**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.

State of Michigan

This criterion does not apply.

Berrien County

1. Berrien County will fully demonstrate a congregate care center out of sequence with the exercise. This facility will be set up in advance of the demonstration. Personnel operating the center will not go through alert, mobilization, activation, or shift changes.

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Note: This criterion may be re-demonstrated immediately for credit, at the discretion of the evaluator.

**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.

Note: This criterion will be demonstrated during the MS-1 exercise. A date for this criterion will be determined.

Note: This criterion may be re-demonstrated immediately for credit, at the discretion of the evaluator.

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