



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

Exercise Date – October 27, 2015

Radiological Emergency Preparedness (REP) Program



FEMA

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EXECUTIVE SUMMARY

On October 27, 2015, a Radiological Emergency Preparedness (REP) Full-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 June 24, 2013. Qualifying emergency preparedness exercises were conducted on July 16, 1985, and August 8-9, 1989.

Department of Homeland Security/Federal Emergency Management Agency 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 After Action Report (AAR) contains the evaluation of the biennial exercise and the evaluation of the following out-of-sequence interviews and activities:

- Emergency Worker Equipment/Vehicle Monitoring and Decontamination
- Emergency Worker Monitoring and Decontamination
- Evacuee Vehicle Monitoring and Decontamination
- Evacuee Monitoring, Decontamination, Registration and Congregate Care
- Protective Actions for Schools (EV-2)
- Medical Service Drills (MS-1)

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

No Level One Findings identified for the State of Michigan or Berrien County during this exercise.

No Level Two Findings were identified for the State of Michigan or Berrien County during this exercise.

There were five Plan issues identified for the State of Michigan and one for Berrien County which Berrien County is in process of clearing.

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.

The DHS/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 including:
 - U.S. Department of Agriculture;
 - U.S. Department of Commerce;
 - U.S. Department of Energy;
 - U.S. Department of Health and Human Services;
 - U.S. Department of the Interior;
 - U.S. Department of Transportation;
 - U.S. Environmental Protection Agency;
 - U.S. Food and Drug Administration; and
 - U.S. Nuclear Regulatory Commission.

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

Formal submission of the RERPs for the 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.

The REP Full Participation Plume Exposure Pathway Exercise was conducted in the 10-mile EPZ around the D.C. Cook Nuclear Plant on June 4, 2013, 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 regarding 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 Radiological Emergency Preparedness: Exercise Evaluation Methodology, as published in the FEMA Radiological Emergency Preparedness Manual, dated January 2015 , which supersedes 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 a 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 regarding 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 for a 10-mile radius.

Within the 10-mile EPZ, located on the eastern shore of 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 permanent population estimated to be over 80,000 people which varies from seasonally. 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.

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name

Plume 2015-10-27

Type of Exercise

Plume

Exercise Date

October 27, 2015

Program

Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type

Minimal or No Release

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
- Michigan State Police Department of Emergency Management
- Michigan Department of Environmental Quality
- Michigan State Fire Marshall
- Michigan Department of Human Services
- Michigan Department of Natural Resources
- Michigan Department of Military Affairs
- Michigan Department of Corrections

Risk Jurisdictions

- Berrien County

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

The DHS/FEMA Region V Office evaluated the D.C. Cook Nuclear Plant (DCCNP) Radiological Emergency Preparedness (REP) Full-Participation Plume Exposure Pathway Exercise conducted on October 27, 2015, 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 an incident involving the DCCNP which precipitated a radiological emergency.

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 D “Exercise Plan.”

2.3 Scenario Summary

Appendix E “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 Full Participation Plume Exposure Pathway exercise on October 27, 2015. Results of a technical review of the scenario, submitted by the State of Michigan and Indiana Michigan Power Company on August 27, 2015, 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 June 17, 2015, extent-of-play submission. DHS/FEMA Region V accepted this exercise scenario on September 25, 2015.

During the exercise, information and data was provided through the DCCNP onsite scenario. Additionally, 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 October 27, 2015, REP Full-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 the FEMA Radiological Emergency Preparedness Program Manual," dated January, 2015. Detailed information on the exercise criteria and the extent-of-play agreements used in this exercise are found in Appendix D "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 Level one or Level two Findings were assessed in the current exercise and no unresolved prior ARCA's.
- **L1 - LEVEL ONE FINDING -** An observed or identified inadequacy of organizational performance in an exercise that could cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant.
- **L2 - LEVEL TWO FINDING –** An observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety. Listing of the demonstrated exercise criteria under which one or more Level Two Finding was/were assessed during the current exercise or assessed during prior exercises remaining unresolved. Included is a description of any Level Two Finding 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 Level Two Finding - Resolved – Descriptions of Level Two Findings assessed during previous exercises that were resolved and the corrective actions demonstrated, in this exercise.
- Prior Level Two Finding - Unresolved – Descriptions of Level Two Findings assessed during prior exercises that were not resolved in this exercise. Included is the reason the Level Two Finding 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 the DHS/FEMA Radiological Emergency Preparedness Program Manual," dated January 2015, which were scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. The criterion status box is blank if it was not scheduled for demonstration. This subsection provides information on the evaluation of each participating jurisdiction and functional entity in a jurisdiction-based, issues-only format.

The DHS/FEMA has developed a standardized system for numbering exercise issues. This system is used to achieve consistency in numbering exercise issues among DHS 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 for Findings and 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 – (L1 = Level One Finding, L2= Level Two Finding, P = Plan Issue).
- Exercise Identification Number – A separate two or three-digit indexing number assigned to each issue identified in the exercise.

Tables 3.1 - Summary of Exercise Evaluation

Table 3.1a - Exercise Evaluation by Classification

Date: 10/27/2015 Site: D.C. Cook Nuclear Plant			
Location Abbreviation	Criteria Title	Criteria	Classification
BER-EOC-	Equipment and Supplies to Support Operations	1e1	P
BER-Lakeland CH Niles-MS1F-	EW Exposure Control Implementation	3a1	P
BER-Lakeland RMC-MS1F-	EW Exposure Control Implementation	3a1	P
MI-FMT1	EW Exposure Control Implementation	3a1	P
MI-FMT1	Field Team Operations	4a3	P
MI-SEOC TSG	Equipment and Supplies to Support Operations	1e1	P

Table 3.1b – Exercise Evaluation – Criteria Not Demonstrated

Date: 10/27/2015 Site: D.C. Cook Nuclear Plant		
Location Abbreviation	Criteria Title	Criteria

Table 3.1c – Exercise Evaluation – Criteria Met

Date: 10/27/2015 Site: D.C. Cook Nuclear Plant		
Location Abbreviation	Criteria Title	Criteria
BER-Berrien Springs HS-EW V&E M&D-	EW Monitoring & Decontamination6b1	6b1
BER-Berrien Springs HS-EW V&E M&D-	EW Exposure Control Implementation	3a1
BER-Berrien Springs HS-EW V&E M&D-	Equipment and Supplies to Support Operations	1e1
BER-Berrien Springs HS-EW V&E M&D-	Communications Equipment	1d1
BER-Berrien Springs HS-EW V&E M&D-	Direction and Control	1c1
BER-Bridgman PS-EV2-	Equipment and Supplies to Support Operations	1e1
BER-Bridgman PS-EV2-	KI Public/Institutionalized	3b1
BER-Bridgman PS-EV2-	PAD Implementation Schools	3c2
BER-Bridgman PS-EV2-	EW Exposure Control Implementation	3a1
BER-Bridgman PS-EV2-	Communications Equipment	1d1
BER-DosBrief-MSP TACP	EW Exposure Control Implementation	3a1
BER-DosBrief-MSP TACP	Equipment and Supplies to Support Operations	1e1
BER-DosBrief-MSP TACP	Communications Equipment	1d1
BER-EAS-WCXT-	Initial Alert & Notification	5a1
BER-EAS-WCXT-	Communications Equipment	1d1

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BER-EAS-WCXT-	Equipment and Supplies to Support Operations	1e1
BER-EOC-	Initial Alert & Notification	5a1
BER-EOC-	Subsequent Information & Instructions	5b1
BER-EOC-	Impediments	3d2
BER-EOC-	TACP Establishment	3d1
BER-EOC-	PAD Implementation Disabled/Functional Needs	3c1
BER-EOC-	EW Exposure Control Implementation	3a1
BER-EOC-	PADs for Disabled/Functional Needs	2c1
BER-EOC-	PADs	2b2
BER-EOC-	Equipment and Supplies to Support Operations	1e1
BER-EOC-	Communications Equipment	1d1
BER-EOC-	PARs	2b1
BER-EOC-	Direction and Control	1c1
BER-EOC-	Mobilization	1a1
BER-INP-	Mobilization	1a1
BER-INP-	Communications Equipment	1d1
BER-JIC-Co PIO-DCCNP	Subsequent Information & Instructions	5b1
BER-JIC-Co PIO-DCCNP	Communications Equipment	1d1
BER-JIC-Co PIO-DCCNP	Direction and Control	1c1
BER-JIC-PubInq-DCCNP	Equipment and Supplies to Support Operations	1e1
BER-JIC-PubInq-DCCNP	Communications Equipment	1d1
BER-JIC-PubInq-DCCNP	Direction and Control	1c1
BER-JIC-PubInq-DCCNP	Mobilization	1a1
BER-JIC-PubInq-DCCNP	Subsequent Information & Instructions	5b1
BER-Lakeland CH Niles-MS1F-	Contaminated Injured Transport & Care	6d1
BER-Lakeland CH Niles-MS1F-	EW Exposure Control Implementation	3a1
BER-Lakeland CH Niles-MS1F-	Equipment and Supplies to Support Operations	1e1
BER-Lakeland CH Niles-MS1F-	Communications Equipment	1d1
BER-Lakeland RMC-MS1F-	Contaminated Injured Transport & Care	6d1
BER-Lakeland RMC-MS1F-	Equipment and Supplies to Support Operations	1e1
BER-Lakeland RMC-MS1F-	Communications Equipment	1d1
BER-Medic 1 Amb-MS1T-	Contaminated Injured Transport & Care	6d1
BER-Medic 1 Amb-MS1T-	EW Exposure Control Implementation	3a1
BER-Medic 1 Amb-MS1T-	Equipment and Supplies to Support Operations	1e1
BER-Medic 1 Amb-MS1T-	Communications Equipment	1d1
BER-New Buffalo HS-CCC-	Equipment and Supplies to Support Operations	1e1
BER-New Buffalo HS-CCC-	Congregate Care	6c1
BER-New Buffalo HS-CCC-	Communications Equipment	1d1
BER-New Buffalo HS-CCC-	Direction and Control	1c1

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BER-New Buffalo HS-EvMD-	Reception Center Operations	6a1
BER-New Buffalo HS-EvMD-	EW Exposure Control Implementation	3a1
BER-New Buffalo HS-EvMD-	Equipment and Supplies to Support Operations	1e1
BER-New Buffalo HS-EvMD-	Communications Equipment	1d1
BER-New Buffalo HS-EvMD-	Direction and Control	1c1
BER-SMCAS-MS1T	Contaminated Injured Transport & Care	6d1
BER-SMCAS-MS1T	EW Exposure Control Implementation	3a1
BER-SMCAS-MS1T	Equipment and Supplies to Support Operations	1e1
BER-SMCAS-MS1T	Communications Equipment	1d1
BER-TACP-	Equipment and Supplies to Support Operations	1e1
BER-TACP-	TACP Establishment	3d1
BER-TACP-	EW Exposure Control Implementation	3a1
BER-TACP-	Communications Equipment	1d1
MI-EOC BER-StLias-	Subsequent Information & Instructions	5b1
MI-EOC BER-StLias-	Initial Alert & Notification	5a1
MI-EOC BER-StLias-	PADs	2b2
MI-EOC BER-StLias-	Direction and Control	1c1
MI-EOC BER-StLias-	Mobilization	1a1
MI-FMT1	Field Team Operations	4a3
MI-FMT1	Field Team Management	4a2
MI-FMT1	EW Exposure Control Implementation	3a1
MI-FMT1	Direction and Control	1c1
MI-FMT1	Equipment and Supplies to Support Operations	1e1
MI-FMT1	Mobilization	1a1
MI-FMT1	Communications Equipment	1d1
MI-FMT2	Field Team Operations	4a3
MI-FMT2	Field Team Management	4a2
MI-FMT2	EW Exposure Control Implementation	3a1
MI-FMT2	Equipment and Supplies to Support Operations	1e1
MI-FMT2	Communications Equipment	1d1
MI-FMT2	Direction and Control	1c1
MI-FMT2	Mobilization	1a1
MI-FTC-DosBrief-MDOT Coloma	EW Exposure Control Implementation	3a1
MI-FTC-DosBrief-MDOT Coloma	Equipment and Supplies to Support Operations	1e1
MI-FTC-DosBrief-MDOT Coloma	Communications Equipment	1d1
MI-FTC-DosBrief-MDOT Coloma	Direction and Control	1c1

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MI-FTC-DosBrief-MDOT Coloma	Mobilization	1a1
MI-JIC-DCCNP	Equipment and Supplies to Support Operations	1e1
MI-JIC-DCCNP	Communications Equipment	1d1
MI-JIC-DCCNP	Direction and Control	1c1
MI-JIC-DCCNP	Mobilization	1a1
MI-JIC-DCCNP	Subsequent Information & Instructions	5b1
MI-JIC-PubInq-DCCNP	Subsequent Information & Instructions	5b1
MI-JIC-PubInq-DCCNP	Equipment and Supplies to Support Operations	1e1
MI-JIC-PubInq-DCCNP	Communications Equipment	1d1
MI-JIC-PubInq-DCCNP	Direction and Control	1c1
MI-JIC-PubInq-DCCNP	Mobilization	1a1
MI-MSP MIOC-INP	Equipment and Supplies to Support Operations	1e1
MI-MSP MIOC-INP	Communications Equipment	1d1
MI-MSP MIOC-INP	Mobilization	1a1
MI-SEOC	Subsequent Information & Instructions	5b1
MI-SEOC	TACP Establishment	3d1
MI-SEOC	KI Public/Institutionalized	3b1
MI-SEOC	PADs for Disabled/Functional Needs	2c1
MI-SEOC	PADs	2b2
MI-SEOC	PARs	2b1
MI-SEOC	EW Exposure Control Decisions	2a1
MI-SEOC	Equipment and Supplies to Support Operations	1e1
MI-SEOC	Communications Equipment	1d1
MI-SEOC	Direction and Control	1c1
MI-SEOC	Mobilization	1a1
MI-SEOC TSG	PADs for Disabled/Functional Needs	2c1
MI-SEOC TSG	PADs	2b2
MI-SEOC TSG	PARs	2b1
MI-SEOC TSG	EW Exposure Control Decisions	2a1
MI-SEOC TSG	Equipment and Supplies to Support Operations	1e1
MI-SEOC TSG	Communications Equipment	1d1
MI-SEOC TSG	Direction and Control	1c1
MI-SEOC TSG	Mobilization	1a1
MSP-TACP-SEOC	TACP Establishment	3d1
MSP-TACP-SEOC	EW Exposure Control Implementation	3a1
MSP-TACP-SEOC	Equipment and Supplies to Support Operations	1e1
MSP-TACP-SEOC	Communications Equipment	1d1

3.3 Criteria Evaluation Summaries

3.3.1 State Jurisdictions

3.3.1.1 Berrien EOC - State Liaison

3.3.1.2 Dosimetry Briefing - Michigan State Police TACP

3.3.1.3 Field Team Center - Michigan Department of Transportation - Dosimetry Briefing

3.3.1.4 Initial Notification Point

3.3.1.5 JIC - DCCNP

3.3.1.6 JIC - Public Inquiry- DCCNP

3.3.1.7 Lakeland Regional Medical Center St Joseph - Medical Service - T - MDEQ

3.3.1.8 State Emergency Operations Center

3.3.1.9 State Field Monitoring Team #1

3.3.1.10 State Field Monitoring Team #2

3.3.1.11 State of Michigan Access Control -SEOC

3.3.1.12 Technical Support Group

In summary, the status of DHS/FEMA criteria for the State jurisdiction is as follows:

- a. LEVEL 1 FINDINGS: NONE
- b. LEVEL 2 FINDINGS: NONE
- c. PLAN ISSUES:

LOCATION: State Field Monitoring Team #1

ISSUE NO: 15-15-3a1-P-1

CRITERION: ORO's Issue proper dosimetry and KI and procedures and manage radiological exposure to emergency workers in accordance with plans and procedures.

CONDITION: The Michigan Department of Environmental Quality (MDEQ) Health Physic Response Team (HPRT) No. 1 Guidance Document Final (7/29/15) indicated that the Canberra MiniRadiac alarms were set at 1,000 mR/hr (low dose rate), 10,000 mR/hr (high dose rate), 800 mR/hr (low dose), and 2,500 mR/hr (high dose). The Guidance Document Final 1 (10/27/15) indicated that the alarms were set at 1,000 mR/hr (low dose rate), 10,000 mR/hr (high dose rate), 800 mR (low dose), and 2,500 mR (high dose). The NFEMP Update October 2015 Staff Briefing document indicated and the Field Team

Center Coordinator stated during his briefing that the MiniRadiac will alarm at 800 mR. The NFEMP Attachments document (7/27/15) Attachment 4 indicates that notification should take place at 100 mR, 1 R was the administrative limit for 5 rem TEDE dose limit, 2 R for 10 rem, and 5 R for 25 rem. The Decontamination Section used a computer and infrared interface to program the MiniRadiacs to alarm at 1,000 mR/hr (low dose rate), 3,000 mR/hr (high dose rate), 100 mR (low dose), and 1,000 mR (high dose).

POSSIBLE CAUSE: Procedures, attachments, and the plan revisions used for the exercise were not submitted to FEMA 90-days before the exercise per the REP Program Manual and were not coordinated.

REFERENCE: NUREG-0654, criterion K.
REP Program Manual (July 2015), page 110
MDEQ Guidance Document Final (7/29/15)
MDEQ Guidance Document Final 1 (10/27/15)
NFEMP Attachments (Attachment 4)
NFEMP Update October 2015 Staff Briefing

EFFECT: Upon interview with the HPRT No. 1 Team Leader, she indicated that she was under the impression that the MiniRadiac would have alarmed at 800 mR. The low dose alarm would have alarmed at 100 mR, which would have been used to remind the team to notify the Field Team Coordinator, but the high dose alarm would not have activated until reaching 1,000 mR (the administrative limit for field team operations). The team would still have needed to egress the area and proceed to decontamination, thereby causing team members to actually exceed the 1,000 mR administrative limit.

LOCATION: State Field Monitoring Team #1
ISSUE NO: 15-15-4a3-P-1

CRITERION: Ambient radiation measurements are made and recorded at appropriate locations.

CONDITION: The Michigan Department of Environmental Quality (MDEQ) Health Physic Response Team (HPRT) No. 1 procedures were not specific in indicating that the open beta window reading obtained at one meter above the ground should be oriented upwards to avoid detecting beta contribution from ground deposition.

POSSIBLE CAUSE: Procedure writer was not aware of the recommendation to point the open beta window of the detector facing upwards for the one meter above the ground reading.

REFERENCE: NUREG-0654, criterion H and I.

REP Program Manual (July 2015), page 72, 78, 79

FEMA REP-2, rev. 2 Guidance on Offsite Emergency Radiation Measurement Systems Phase 1 – Airborne Release, page ix

MDEQ Nuclear Power Plant/Radiological Emergency Response Standard Operating Guide – Field Monitoring Team document

EFFECT: Four conditions may exist in relation to a release and field monitoring teams. Air sampling is only warranted when teams are immersed in the plume. Gamma radiation can travel significant distances in air. Beta radiation range rule of thumb – 12 feet distance of travel in air per MeV beta energy. Obtaining a beta reading with the open beta window facing the ground may detect beta from deposition, misleading the team into thinking they were immersed. If an air sample was obtained while the team was not immersed, subsequent analysis of the air sample cartridge for radioiodine may lead decision-makers into believing there was no significant radioiodine in the plume. Open beta window reading obtained at 3 feet should face UPWARDS and open beta window reading obtained at 6 inches should face DOWNWARDS.

LOCATION: Technical Support Group

ISSUE NO: 15-15-1e1-P-1

CRITERION: Equipment and Supplies to Support Operations.

CONDITION: During the D. C. Cook Nuclear Plant (DCCNP) Radiological Emergency Preparedness (REP) Exercise on Tuesday, October 27, 2015, it was noted that job books kept at the Michigan State Emergency Operations Center (SEOC) were not being maintained with current procedures. Numbered, labeled folders for each work function were kept on a cart near the entrance to the SEOC. These folders are marked “Not to be removed from the EOC,” and are intended to be used as references by individuals arriving to perform specified functions in the event of SEOC activation.

Specifically noted was that the folder for the Technical Support Group was not current. This folder referred to the positions of “Health Physicist” and “Health Physicist Liaison.” In practice, the Department of Environmental Quality staffs the positions of “State Health Physicist” and “Operational Health Physicist.” These positions may or may not align with the positions named in the folder.

POSSIBLE CAUSE: Apparently, there is confusion over who is responsible to maintain these folders in the EOC. They are marked Michigan State Police and the using organizations seemed unaware that the folders exist.

REFERENCE: NUREG-0654/FEMA-REP-1, rev. 1, p 29.

EFFECT: Obsolete procedures could cause confusion and affect the operation if SEOC staff arrive for an actual emergency without bringing current instructions with them.

NOTE: This Plan Issue is scheduled to be closed in February 2016 pending receipt of updated procedures currently under review at the State of Michigan.

- d. PRIOR ISSUES – RESOLVED: NONE
- e. PRIOR ISSUES – UNRESOLVED: NONE

3.3.2 Risk Jurisdictions

3.3.2.1 Bridgman Public Schools - Evacuation School

3.3.2.2 Emergency Alert System Radio Station WCXT

3.3.2.3 Emergency Operations Center

3.3.2.4 Initial Notification Point

3.3.2.5 JIC - County PIO - DCCNP

3.3.2.6 JIC - Public Inquiry - DCCNP

3.3.2.7 New Buffalo HS - Congregate Care Center

3.3.2.8 Southern Michigan Ambulance Service MS-1 T

3.3.2.9 TACP

In summary, the status of DHS/FEMA criteria for the Risk jurisdiction is as follows:

- a. LEVEL 1 FINDINGS: NONE
- b. LEVEL 2 FINDINGS: NONE
- c. PLAN ISSUES:

LOCATION: Emergency Operations Center

ISSUE NO: 15-15-1e1-P-1

CRITERION: Equipment and Supplies to Support Operations

CONDITION: The electronic dosimeters did not alarm at the Administrative Dose Limit of 1 rem (1000 mrem) for all activities.

POSSIBLE CAUSE: The Mirion Corporation model DMC 3000 electronic dosimeters had a low dose alarm setting of 2000 mrem (2 rem).

REFERENCE: NUREG-0654/FEMA-REP-1: H.7
Michigan Emergency Management Plan, Nuclear / Radiological Incident Annex
Berrien County Emergency Operations Plan, Appendix 1, Annex E: Radiological Protection

EFFECT: Emergency workers utilizing the electronic dosimeters could be unaware for a period of time that they had reached the Administrative Dose limit of 1 rem (1000 mrem) for all activities because their electronic dosimeters would not alarm until 2000 mrem.

- d. PRIOR ISSUES – RESOLVED: NONE

- e. PRIOR ISSUES – UNRESOLVED: NONE

3.3.3 Support Jurisdictions

3.3.3.1 Berrien Springs MS - EW Vehicle and Eq Mon, Decon

3.3.3.2 New Buffalo HS - Evac Mon, Decon

In summary, the status of DHS/FEMA criteria for the Support jurisdiction is as follows:

- a. LEVEL 1 FINDINGS: NONE
- b. LEVEL 2 FINDINGS: NONE
- c. PLAN ISSUES: NONE
- d. PRIOR ISSUES – RESOLVED: NONE
- e. PRIOR ISSUES – UNRESOLVED: NONE

3.3.4 Private Jurisdictions

3.3.4.1 Lakeland Community Hospital Niles - Medical Services - F

3.3.4.2 Lakeland Regional Medical Center - Medical Services - F

3.3.4.3 Medic 1 Ambulance - Medical Service - T

In summary, the status of DHS/FEMA criteria for the Private jurisdiction is as follows:

- a. LEVEL 1 FINDINGS: NONE
- b. LEVEL 2 FINDINGS: NONE
- c. PLAN ISSUE:

LOCATION: Lakeland Regional Medical Center - Medical Services - F

ISSUE NO: 15-15-3a1-P-1

CRITERION: EW Exposure Control Implementation

CONDITION: The Lakeland Community Hospital (LCH) Decontamination and Treatment of the Radioactively Contaminated Patient(s) Plan (and Berrien County Emergency Medical Services radiological emergency response plans) presume that Radiation Protect (RP) and/or Health Physicist (HP) technician functions will be performed by either D.C. Cook Nuclear Plant (DCCNP) or Michigan Department of Environmental Quality (MDEQ) personnel. In an actual emergency involving a radiologically contaminated plume being released from the DCCNP, it is extremely unlikely that either DCCNP or MDEQ will have adequate resources to fulfill all of their own 24-hour manpower requirements and those of all the various Off-Site Response Organizations.

POSSIBLE CAUSE: The existing LCH Treatment of the Radioactively Contaminated Patient(s) Plan is an industrial medical emergency response plan intended for a single or small number of utility employees being treated for occupational injuries sustained while working in radiologically contaminated areas of the plant.

REFERENCE: NUREG-0654 / FEMA-REP-1, Planning Standards K.3.a, b; K.4 and FEMA P-1028, REP Program Manual, Assessment Area 3, Criterion: 3.a.1.

EFFECT: While appearing to satisfy exercise demonstration purposes, the existing plans and procedures do not address the operational realities of a major off-site radiological emergency response. During an actual emergency resulting in an off-site radiological release, the first priorities of both Utility RP and MDEQ HP technicians would be to provide radiological protection for on-site emergency responders working to contain the release and to provide both on-site and off-site field teams to identify the magnitude and nature of the radiological threat to the public. Although highly qualified and extremely capable, they won't be available to provide radiological screening and/or decontamination for every member of the general public who becomes ill or sustains an injury in a potentially radiologically contaminated area.

LOCATION: Lakeland Community Hospital Niles - Medical Services - F

ISSUE NO: 15-15-3a1-P-1

CRITERION: EW Exposure Control Implementation

CONDITION: The Lakeland Community Hospital (LCH) Decontamination and Treatment of the Radioactively Contaminated Patient(s) Plan (and Berrien County Emergency Medical Services radiological emergency response plans) presume that Radiation Protect (RP) and/or Health Physicist (HP) technician functions will be performed by either D.C. Cook Nuclear Plant (DCCNP) or Michigan Department of Environmental Quality (MDEQ) personnel. In an actual emergency involving a radiologically contaminated plume being released from the DCCNP, it is extremely unlikely that either DCCNP or MDEQ will have adequate resources to fulfill all of their own 24-hour manpower requirements and those of all the various Off-Site Response Organizations.

POSSIBLE CAUSE: The existing LCH Treatment of the Radioactively Contaminated Patient(s) Plan is an industrial medical emergency response plan intended for a single or small number of utility employees being treated for occupational injuries sustained while working in radiologically contaminated areas of the plant.

REFERENCE: NUREG-0654 / FEMA-REP-1, Planning Standards K.3.a, b; K.4 and FEMA P-1028, REP Program Manual, Assessment Area 3, Criterion: 3.a.1.

EFFECT: While appearing to satisfy exercise demonstration purposes, the existing plans and procedures do not address the operational realities of a major off-site radiological emergency response. During an actual emergency resulting in an off-site radiological release, the first priorities of both Utility RP and MDEQ HP technicians would be to provide radiological protection for on-site emergency responders working to contain the release and to provide both on-site and off-site field teams to identify the magnitude and nature of the radiological threat to the public. Although highly qualified and extremely capable, they won't be available to provide radiological screening and/or decontamination for every member of the general public who becomes ill or sustains an injury in a potentially radiologically contaminated area.

- d. PRIOR ISSUES – RESOLVED: NONE
- e. PRIOR ISSUES – UNRESOLVED: NONE

3.3.5 Federal Jurisdictions

In summary, the status of DHS/FEMA criteria for the Federal jurisdiction is as follows:

- a. LEVEL 1 FINDINGS: NONE
- b. LEVEL 2 FINDINGS: NONE
- c. PLAN ISSUES: NONE
- d. PRIOR ISSUES – RESOLVED: NONE
- e. PRIOR ISSUES – UNRESOLVED: NONE

SECTION 4: CONCLUSION

There were no Level one findings during this exercise.

There were no Level two findings during this exercise

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There was five Plan issues for the state of Michigan

There was one Plan issue for Berrien County, which is in process of being cleared.

Based on the results of the October 27, 2015, 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

No improvement plan added.

APPENDIX B: LESSONS LEARNED

No lessons learned entered.

APPENDIX C: BEST PRACTICES

No best practices entered.

APPENDIX D: 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 Full Participation Plume Exposure Pathway exercise conducted on October 27, 2015. Also included are times notifications were made to the participating jurisdictions/functional entities.

DATE: 10/27/2015, SITE: D.C. Cook Nuclear Plant

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken			
		State of Michigan SEOC	State of Michigan TSG	Michigan JIC	Berrien County EOC
Unusual Event	8:02	8:26	N/A	N/A	8:12
Alert	8:43	8:46	9:03	N/A	8:45
Site Area Emergency	9:58	10:07	10:07	10:04	10:13
General Emergency	11:14	11:25	11:25	11:36	11:27
Simulated Radiation Release Started	11:14	11:25	11:25	11:14	11:14
Simulated Radiation Release Terminated	N/A	N/A	N/A	N/A	N/A
Facility Declared Operational		9:36	9:36	11:02	9:19
Ag advisory		10:08	10:08	10:08	10:08
Air, Water and Rail		11:46	11:46	11:50	11:48
Declaration of State Emergency		10:02	10:02	10:02	10:01
Exercise Terminated		13:45	13:45	13:52	13:45
Early Informational Message- DC Cook Notice of Incident		10:09	10:09	N/A	N/A
1st Early Precautionary/Protective Action State Dist KI to Spec Populations		10:09	10:09	N/A	N/A
1st Protective Action Recommendation		11:40	11:40	N/A	11:40
1st Protection Action Decision: Evacuate PAA's 1,3,6:		11:36	11:36	11:50	11:40
1st Siren Activation		N/A	N/A	N/A	11:43
1st EAS Message		N/A	N/A	N/A	11:59
2nd Protective Action Recommendation: evac PAA's 1,3,5 & 6 to 5 mi		12:45	12:45	12:45	12:45
2nd Protective Action Decision:		12:56	12:56	12:56	12:56
2nd Siren Activation		N/A	N/A	N/A	13:06
2nd EAS Message		N/A	N/A	N/A	13:09
KI Administration Decision:		11:38	11:38	11:36	11:44

APPENDIX E: EXERCISE EVALUATORS AND TEAM LEADERS

DATE: 10/27/2015, SITE: D.C. Cook Nuclear Plant

LOCATION	TEAM LEADER	AGENCY
Berrien EOC - State Liaison	Karl Rabenhorst	FEMA Region 5
Berrien Springs MS - EW Vehicle and Eq Mon, Decon	Todd Gemske	FEMA Region 5
Bridgman Public Schools - Evacuation School	Todd Gemske	FEMA Region 5
Dosimetry Briefing - Michigan State Police TACP	Todd Gemske	FEMA Region 5
Emergency Alert System Radio Station WCXT	Todd Gemske	FEMA Region 5
Emergency Operations Center	Todd Gemske	FEMA Region 5
Field Team Center - Michigan Department of Transportation - Dosimetry Briefing	Karl Rabenhorst	FEMA Region 5
Initial Notification Point	Karl Rabenhorst	FEMA Region 5
Initial Notification Point	Todd Gemske	FEMA Region 5
JIC - County PIO - DCCNP	Todd Gemske	FEMA Region 5
JIC - DCCNP	Karl Rabenhorst	FEMA Region 5
JIC - Public Inquiry - DCCNP	Todd Gemske	FEMA Region 5
JIC - Public Inquiry - DCCNP	Karl Rabenhorst	FEMA Region 5
Lakeland Community Hospital Niles - Medical Services - F	James King	FEMA Region 5
Lakeland Regional Medical Center - Medical Services - F	James King	FEMA Region 5
Lakeland Regional Medical Center St Joseph - Medical Service - T - MDEQ	James King	FEMA Region 5
Medic 1 Ambulance - Medical Service - T	James King	FEMA Region 5
New Buffalo HS - Congregate Care Center	Todd Gemske	FEMA Region 5
New Buffalo HS - Evac Mon, Decon	Todd Gemske	FEMA Region 5
Southern Michigan Ambulance Service MS-1 T	James King	FEMA Region 5
State Emergency Operations Center	Karl Rabenhorst	FEMA Region 5
State Field Monitoring Team #1	Karl Rabenhorst	FEMA Region 5
State Field Monitoring Team #2	Karl Rabenhorst	FEMA Region 5
State of Michigan Access Control -SEOC	Karl Rabenhorst	FEMA Region 5
TACP	Todd Gemske	FEMA Region 5
Technical Support Group	Karl Rabenhorst	FEMA Region 5

LOCATION	EVALUATOR	AGENCY
Berrien EOC - State Liaison	Todd Gemske	FEMA Region 5
Berrien Springs MS - EW Vehicle and Eq Mon, Decon	Carl Bebrich	FEMA Region 5
Bridgman Public Schools - Evacuation School	James King	FEMA Region 5

Unclassified
Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

D.C. Cook Nuclear Plant

Dosimetry Briefing - Michigan State Police TACP	James King	FEMA Region 5
Emergency Alert System Radio Station WCXT	James King	FEMA Region 5
Emergency Operations Center	Cheryl Weaver	ICFI
Emergency Operations Center	Kerris Bates	FEMA HQ
Emergency Operations Center	Thomas Murray	FEMA HQ
Field Team Center - Michigan Department of Transportation - Dosimetry Briefing	Paul Ward	FEMA HQ
Initial Notification Point	Christopher Bellone	FEMA HQ
Initial Notification Point	Thomas Murray	FEMA HQ
JIC - County PIO - DCCNP	Patricia Mason	FEMA Region 5
JIC - DCCNP	Patricia Mason	FEMA Region 5
JIC - Public Inquiry - DCCNP	James King	FEMA Region 5
JIC - Public Inquiry- DCCNP	Janet Hlavaty-LaPosa	FEMA Region 10
Lakeland Community Hospital Niles - Medical Services - F	Karl Rabenhorst	FEMA Region 5
Lakeland Regional Medical Center - Medical Services - F	Karl Rabenhorst	FEMA Region 5
Medic 1 Ambulance - Medical Service - T	James King	FEMA Region 5
New Buffalo HS - Congregate Care Center	Janet Hlavaty-LaPosa	FEMA Region 10
New Buffalo HS - Evac Mon, Decon	David Ortman	FEMA Region 5
Southern Michigan Ambulance Service MS-1 T	James King	FEMA Region 5
State Emergency Operations Center	Clinton Crackel	FEMA Region 5
State Emergency Operations Center	Bonnie Sheffield	FEMA Region 8
State Emergency Operations Center	Christopher Bellone	FEMA HQ
State Field Monitoring Team #1	John Wills	ICFI
State Field Monitoring Team #2	Richard Smith	ICFI
State of Michigan Access Control -SEOC	Edward Diaz	FEMA Region 5
TACP	John Price	FEMA Region 3
Technical Support Group	Michael Howe	FEMA HQ

APPENDIX F: ACRONYMS AND ABBREVIATIONS

Acronym	Description
ARC	American Red Cross
CCC	Congregate Care Center
DCCNP	D. C. Cook Nuclear Plant
MSP	Michigan State Police
RPT	Radiological Protection Technician
SEOC	State Emergency Operations Center

APPENDIX G: EXTENT OF PLAY

This appendix lists the exercise criteria, which were scheduled for demonstration in the D.C. Cook Nuclear Power Plant Radiological Emergency Preparedness Full Participation Plume Exposure Pathway Exercise on October 27, 2015 and the offsite extent-of-play agreement accepted by DHS/FEMA Region V on September 8, 2015. The exercise criteria, contained in the FEMA “REP Program Manual dated January 2015.”

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.

DC Cook REP Exercise Objectives

October 27, 2015

Extent of Play Agreements for

Berrien County and
the State of Michigan

Criteria:

Criteria that will be demonstrated during this exercise and can be re-demonstrated immediately for credit, at the decision of the evaluator, include the following:

3.a.1, 3.b.1, 3.c.1, 3.d.1, 6.a.1, 6.b.2, 6.c.1, 6.d.1

Criteria that may be re-demonstrated, as approved on a case-by-case basis by the Chairman of the Radiological Preparedness Coordinating Committee, include the following: 2.a.1, 2.b.1, 2.b.2, 3.d.2, 5.a.1, 5.b.1

Criteria that are not evaluated for this exercise include the following: 3.e.1, 3.e.2, 3.f.1, 4.b.1, 4.c.1, 5.a.3, 5.a.4

Evaluation Area 1 - Emergency Operations Management

Criterion 1.a.1: Offsite Response Organizations (ORO)s 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), MSP Operations/Michigan Intelligence Operations Center (MIOC), State Worker Decontamination Center (WDC) and Field Team Center (FTC) will be activated. State personnel reporting to the SEOC will be mobilized in accordance with procedures.
2. State personnel reporting to the county Emergency Operation Center (EOC) will be pre-staged and will report when mobilized by the SEOC (approximately 15-20 minutes after play).
3. State personnel reporting to the FTC and WDC will be pre-staged and will begin at the time determined by the scenario and controller injects (approximately 30 minutes after the request for the FTC).
4. State personnel reporting to the Joint Information Center (JIC) will be pre-staged and will begin participation after the arrival of Berrien County JIC personnel.
5. If state personnel are involved in out of sequence demonstrations they will be pre-staged.
6. 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. EOC Staff will be pre-assembled in an area of the building and will report to the EOC through a staggered release of resources from an assembly area.
2. Berrien County JIC personnel will be pre-staged and will report at the time determined by the scenario and controller injects (approximately 15-20 minutes after play).
3. All personnel involved in out of sequence demonstrations will be pre-staged.
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 SEOC is maintained in operational readiness and set up will not be demonstrated for evaluation.
2. The FTC and WDC facility layout and adequacy of equipment/supplies will be evaluated on Tuesday, October 27th, 2015. However, the facility and equipment will be pre-staged and set up on Monday, October 26th, 2015.
3. The JIC is maintained in operational readiness and set up will not be demonstrated for evaluation.

Berrien County

1. The EOC is maintained in operational readiness and will not be demonstrated for evaluation. This criterion was demonstrated at the DC Cook exercise in 2013.

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

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

Berrien County

1. This criterion will be demonstrated at the county EOC and the 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

1. This criterion will be demonstrated by the SEOC, FTC, WDC and the JIC.

Berrien County

1. This criterion will be demonstrated by the county EOC, JIC, Public Reception/Emergency Worker Decontamination Centers, and Access Control.

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

State of Michigan

1. Equipment, maps, displays, and other supplies will be demonstrated to support emergency operations at the SEOC, JIC, WDC, county EOC, FTC and out-of-sequence events.
2. Additional supplies of potassium iodide are stored at the Michigan State Police Emergency Management and Homeland Security Division (MSP/EMHSD) office in Lansing. This stockpile was verified during the Fermi 2014 exercise and does not need to be verified.
3. Documentation related to emergency worker KI shelf life extension is maintained by MSP/EMHSD and will be provided to FEMA along with instrument calibration data.
4. Additional monitoring instruments are stored at the Department of Environmental Quality facility located on Filley Street in Lansing. This stockpile was verified during the Fermi 2014 exercise and does not need to be verified.
5. Calibration records for all survey and monitoring equipment used by the State of Michigan and Berrien County will be provided 30 days prior to the exercise and will not be available at the facilities being demonstrated.

Berrien County

1. Equipment, maps, displays, and other supplies will be demonstrated to support emergency operations at the EOC, JIC and out of sequence events.
2. Traffic and access control personnel will demonstrate personal & emergency vehicle equipment, and knowledge of how/where to obtain additional equipment at the County EOC. This demonstration will include one on-duty police officer who will be called to report to the EOC with sufficient advanced notice to arrive. This will be an out of sequence demonstration conducted at a time agreed upon by the Evaluator(s), Controller(s), and Emergency Management Coordinator and in a manner not to interfere with exercise play.
3. Potassium iodide and dosimetry will be demonstrated at the County EOC. This will be conducted at a time agreed upon by the Evaluator(s), Controller(s), and Emergency Management Coordinator and in a manner not to interfere with exercise play.

4. Records will be provided to FEMA.

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. This criterion will be demonstrated by the Incident Management Group in the SEOC in conjunction with appropriate support staff including the Technical Support Group (TSG) and the Michigan Department of Community Health (MDCH).
2. Authorization to exceed State exposure limits will be demonstrated by the Field Team Center Coordinator (FTCC) at the FTC. 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

1. Berrien County may recommend that emergency workers ingest KI and/or authorize emergency workers to exceed State exposure limits based on best available information, if the incident (intentional vs. unintentional) warrants, and if the State is unable to provide Protective Actions Orders to protect emergency workers in a timely manner.
2. Any decision regarding the implementation of protective measures prior to a Governor's Declaration by an agency with authority to warn and protect the emergency workers in a timely manner will be documented as an "Interim Protective Measures Decision" in lieu of a "Protective Action Decision."

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

Criterion 2.b.1: Appropriate Protective Action Recommendations (PARs) are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of onsite and offsite environmental conditions.

State of Michigan

1. The TSG in the SEOC will evaluate licensee and FTC provided information, and complete an independent analysis of scenario data.
2. Dose assessment will be conducted at the FTC and the results will be sent to the SEOC for further analysis.

Berrien County

1. Berrien County may implement protective measures prior to a Governor's Declaration to warn and protect the public based on best available information if the incident (intentional vs. unintentional) warrants and if the State is unable to provide Protective Actions Orders to warn and protect the public in a timely manner.

2. Any decision regarding the implementation of protective measures prior to a Governor's Declaration by an agency with authority to warn and protect the emergency workers in a timely manner will be documented as an "Interim Protective Measures Decision" in lieu of a "Protective Action Decision."

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

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 appropriate support staff including the TSG and the Michigan Department of Community Health (MDCH).
2. The Potassium Iodide (KI) policy will be demonstrated at the General Emergency declaration through SEOC discussion and a press release at the JIC.

Berrien County

1. Berrien County may implement protective measures prior to a Governor's Declaration to warn and protect the public and offsite responders based on best available information if the incident (intentional vs. unintentional) warrants and if the State is unable to provide Protective Actions Orders to warn and protect the public in a timely manner, based upon their plans and procedures.

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

Criterion 2.c.1: Protective Action Decisions are made, as appropriate, for groups of people with disabilities and those with access/functional needs.

State of Michigan

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

Berrien County

1. Berrien County may implement protective measures prior to a Governor's Declaration to warn and protect the public based on best available information if the incident (intentional vs. unintentional) warrants and if the State is unable to provide Protective Actions Orders to warn and protect the public in a timely manner.

Criterion 2.d.1: Radiological consequences for the ingestion pathway are assessed and appropriate Protective Action Decisions are made based on the ORO planning criteria.

This criterion will not be demonstrated during this exercise.

Criterion 2.e.1: Timely post-plume phase relocation, reentry, and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the ORO's plan and/or procedures.

This criterion will not be demonstrated during this exercise.

Evaluation Area 3 - Protective Action Implementation

Criterion 3.a.1: The OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to emergency workers in accordance with the plan and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. Appropriate record-keeping of the administration of KI for emergency workers is maintained.

State of Michigan

1. This criterion will be demonstrated by the State of Michigan at the WDC by demonstrating the issuance of Personal Protective Equipment (PPE), dosimetry, and KI to one field team.
2. State personnel assisting at local facilities such as MS-1, Public Reception, or the Emergency Worker Decontamination Centers will have received their dosimetry and briefing at the FTC. They are not required to receive dosimetry or a radiological briefing at the local facilities.
3. The dosimetry and KI records for the field teams are maintained at the FTC.
4. Field Teams and others working in contaminated areas will not wear full PPE, but will simulate it by wearing 2 pairs of gloves and booties. One field team member will demonstrate the proper donning and doffing of PPE while at the WDC, through demonstration and interview, but will not be required to wear the full PPE while performing field monitoring.

Berrien County

1. Berrien County will demonstrate this criterion through out-of-sequence activities for the center staff at the Emergency Worker Decontamination Centers **at Berrien Springs Middle School (Tuesday October 27, 2015 at 6:00pm)**.
2. Dosimetry and survey instrument calibration and maintenance records will be evaluated at the EOC as described under Criterion 1.e.1.

3. Berrien County will demonstrate radiological PPE distribution and worker registration process through out-of-sequence TACP activities at the County EOC for emergency responders as described in Criterion 1.e.1.
4. The process for setting up the Center will not be evaluated nor will it be required to be set up in a determined time. Set-up will conclude at a reasonable time.
5. A Radiological Worker Break area will be demonstrated through discussion and will not be required to be set up. Workers will be allowed to eat and drink during the center setup period, prior to demonstration of operations. Workers may use restrooms freely during center set-up and operation.
6. Decontamination of workers and vehicles will be demonstrated through simulated actions and interview.
7. Supplemental resources will not be used for this demonstration; therefore just-in-time training will not be evaluated during this demonstration.

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 in case a decision to recommend use of KI is made. Appropriate record keeping of the administration of KI for institutionalized individuals and general public is maintained.

State of Michigan

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

Berrien County

1. Berrien County will demonstrate the ability (simulate) to distribute KI to institutionalized individuals. This criterion will be demonstrated in the EOC via staff discussions regarding identification of institutionalized populations' needs. These discussions will be documented in situation logs.
2. If institutionalized populations are found to exist at the time of the exercise, actual contacts will not be evaluated. One simulated call will be logged on a situation log, unless it is found there are no institutionalized populations that would apply within the EPZ.

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

Criterion 3.c.1: Protective Action Decisions (PADs) are implemented for people with disabilities and those with access/functional needs other than schools within areas subject to protective actions.

State of Michigan

This criterion will not be demonstrated by the State, this is a county function.

Berrien County

1. This criterion will be demonstrated in the EOC via staff discussions regarding evacuation of hospitals, nursing homes, 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. One simulated call 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. There will be no discussion of scenario information during these calls. These calls will be documented in situation logs.

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

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

State of Michigan

This criterion will not be demonstrated by the State, this is a county function.

Berrien County

1. This criterion will be demonstrated by Berrien County EOC as driven by the scenario.
2. EV-2 interview will be conducted in: **Bridgman High School (Monday October 26, 2015 at 10:00am).**
3. Refer to the Table of Exercise Demonstrations for specific times. This will be conducted out-of-sequence.
4. Dosimetry and survey instrument calibration and maintenance records will be evaluated at the EOC as described under Criterion 1.e.1.
5. Berrien County will demonstrate radiological PPE distribution and worker registration process through out-of-sequence TACP activities at the County EOC for emergency responders as described in Criterion 1.e.1.

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

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 simulated restriction of air, interstate, rail, and waterway access.

Berrien County

1. Decisions related to traffic and access control will be demonstrated in the Berrien County EOC.
2. Staffing of all other access and traffic control points will be simulated.
3. Demonstration will take place in the parking lot of Berrien County's EOC. This demonstration will include one on-duty police officer who will be called to report to the EOC with sufficient advanced notice to arrive. This will be an out of sequence demonstration conducted at a time agreed upon by the Evaluator(s), Controller(s), and Emergency Management Coordinator and in a manner not to interfere with exercise play.

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, this is a county function.

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. Information will be provided to the JIC for each impediment and disseminated to evacuees through a press briefing.

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

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 reentry, relocation, and return of individuals during the post-plume phase are coordinated with appropriate organizations and implemented.

This criterion will not be demonstrated during this exercise.

Evaluation Area 4 - Field Measurement and Analysis

Criterion 4.a.1: (RESERVED)

Criterion 4.a.2: Field teams (two or more) 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 the plume phase of this exercise at the Field Team Center (FTC) by the State. Demonstration of this criterion will be limited to two field teams.
2. Field measurements of a simulated plume 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 simulated plume impacts

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. Two State field teams will demonstrate the capability to take ambient radiation measurements of a (simulated) airborne plume. Those same field teams will demonstrate the collection of an air sample followed by the measurement of the sample in a low background area. Radiation readings will be simulated and provided by controller inject. Relevant information will be relayed by the field teams to the Field Team Center.

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

This criterion will not be demonstrated during this exercise.

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

This criterion will not be demonstrated during this exercise.

Evaluation Area 5 - Emergency Notification and Public Information

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

Criterion 5.a.2: [RESERVED]

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

This criterion will not be demonstrated during this exercise.

Criterion 5.a.4: Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation

The D.C. Cook EPZ does not contain any DHS/FEMA approved exception areas.

This criterion will not be demonstrated during this exercise.

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

State of Michigan

1. This will be demonstrated at the JIC via dissemination of emergency information and instructions through media briefings and news release announcements in coordination with the SEOC and County EOCs. All media briefings will be conducted at the JIC.
2. A public inquiry hotline will be operated by AEP personnel based at the JIC during the exercise. Trending is performed by the Inquiry Response Coordinator, who identifies trends and ensures appropriate information is provided to the inquiry response staff and the JIC for inclusion in press briefings.

Berrien County

1. This will be demonstrated at the JIC via dissemination of emergency information and instructions through media briefings and news release announcements in coordination with the SEOC and County EOCs. All media briefings will be conducted at the JIC.
2. A public inquiry hotline will be operated by AEP personnel based at the JIC during the exercise. Trending is performed by the Inquiry Response Coordinator, who identifies trends and ensures appropriate information is provided to the inquiry response staff and the JIC for inclusion in press briefings.

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

Evaluation Area 6 - Support Operation/Facilities

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

State of Michigan

1. State personnel will provide assistance as requested per the procedures in the Nuclear Facilities Emergency Management Plan during county Public Reception/Emergency Worker decontamination center demonstrations

Berrien County

1. Berrien County will demonstrate separate public reception/decontamination center out-of sequence: **New Buffalo High School (Monday October 26, 2015 at 6:00pm).**
2. Public reception centers will demonstrate one team processing six individuals, 2 of which will have simulated contamination. This will establish the rate at which individuals can be monitored, decontaminated, and registered. This rate can be extrapolated to show that the facility is capable of processing 20% of the population allocated to that facility in a 12-hr period.
3. Dosimetry and survey instrument calibration and maintenance records will be evaluated at the EOC as described under Criterion 1.e.1.

4. The process for setting up the Center will not be evaluated nor will it be required to be set up in a determined time. Set-up will conclude at a reasonable time.
5. A Radiological Worker Break area will be demonstrated through discussion and will not be required to be set up. Workers will be allowed to eat and drink during the center setup period, prior to demonstration of operations. Workers may use restrooms freely during center set-up and operation.
6. Decontamination of workers and vehicles will be demonstrated through simulated actions and interview.

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 to accomplish monitoring and decontamination of emergency workers and their equipment and vehicles.

State of Michigan

1. State personnel will provide assistance as requested per the procedures in the Nuclear Facilities Emergency Management Plan during county Public Reception/Emergency Worker decontamination center demonstrations.
2. State technical advisors will display appropriate occupational dosimetry; however, evaluation of State personnel will be limited to activities performed in support of the demonstrations.
3. This will be demonstrated at the State's Worker Decontamination Center. Contamination will be simulated, with radiological information provided by controller inject. Washing of individuals, vehicles, and equipment will be simulated and may be further explained through discussion and interview.

Berrien County

1. Berrien County will demonstrate the emergency worker/equipment decontamination center out of sequence with the exercise at **Berrien Springs Middle School (Tuesday October 27, 2015 at 6:00pm)**.
2. Dosimetry and survey instrument calibration and maintenance records will be evaluated at the EOC as described under Criterion 1.e.1.
3. At least two simulated emergency workers will be monitored and processed appropriately based upon the controller injects and procedures. At least one vehicle will be monitored and processed appropriately based upon the controller injects and procedures. (The two workers and one vehicle may be cycled through the stations multiple times to meet demonstration objectives and demonstrate variables within the plan.)
4. A Radiological Worker Break area will be demonstrated through discussion and will not be required to be set up. Workers will be allowed to eat and drink during the center setup period, prior to demonstration of operations. Workers may use restrooms freely during center set-up and operation.
5. Decontamination of workers and vehicles will be demonstrated through simulated actions and interview.
6. Supplemental resources will not be used for this demonstration; therefore just-in-time training will not be evaluated during this demonstration.

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 before entering congregate care facilities.

State of Michigan

This criterion will not be demonstrated by the State, this is a county function.

Berrien County

1. Berrien County will demonstrate a congregate care center out of sequence with the exercise at **New Buffalo High School (Monday October 26, 2015 at 4:00pm)**. Personnel operating the center will not go through alert, mobilization, activation, or shift changes. Appropriate 24/7 staffing will be demonstrated via personnel rosters, call-up lists, etc.

Note: The American Red Cross Shelter Manager will conduct a walking tour of the facility and describe the Center's operation in accordance with the plans and procedures. A representative sample of each work station/capability will be used to demonstrate the registration and processing of at least three evacuees requiring emergency housing. Full set-up of the facility (e.g. housing, food-service, etc.) will not be required, but equipment inventories and personnel rosters will be provided to demonstrate capacity and 24-hour capabilities.

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.

State of Michigan

During this exercise MDEQ will provide assistance if needed.

Berrien County

Note: This criterion will be demonstrated during a MS-1 Drill with Medic 1 and Lakeland Hospital Niles on (December 15, 2015 @ 8:00am) and St. Joe Hospital on (December 16, 2015 @8:00am).

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

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