



Palisades Nuclear Power Plant

After Action Report/ Improvement Plan

Exercise Date - October 30, 2012

Radiological Emergency Preparedness (REP) Program



FEMA

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EXECUTIVE SUMMARY

On October 30 and 31, 2012, Radiological Emergency Preparedness (REP) Full Participation Plume Exposure Pathway and Ingestion Exposure Pathway Exercise evaluations were conducted by the U.S. Department of Homeland Security (DHS) / Federal Emergency Management Agency (FEMA) for the 10-mile and 50-mile Emergency Planning Zones (EPZs) around the Palisades Nuclear Power Plant (PNPP). The purpose of these exercises was to assess the level of State and local preparedness for responding to a radiological emergency. These exercises were conducted 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 March 2, 2010. The qualifying emergency preparedness exercise was conducted on December 9, 1980.

DHS/FEMA wishes to acknowledge the efforts of the many individuals who participated in this exercise. In the State of Michigan, the risk counties of Allegan, Berrien, and Van Buren participated in cooperation with various state government and non-profit agencies. In the State of Indiana, the risk counties of Elkhart, La Porte and St. Joseph participated in cooperation with various state government and non-profit agencies.

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

This Final Report contains the evaluation of the biennial exercise and the evaluation of the following out-of-sequence interviews and activities:

- Protective Actions for Schools (EV-2) for the Covert Public School District
- Monitoring and Decontamination of evacuees and emergency workers
- Monitoring and Decontamination of emergency worker's equipment
- Public Registration
- Congregate Care Center
- Medical Service Drills (MS-1) at the Covert Fire Department and South Haven Community Hospital

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

No Deficiencies were identified for the State of Michigan or for Allegan, Berrien, and Van Buren Counties during this exercise.

There was one Area Requiring Corrective Action (ARCA) identified for the State of Michigan during this exercise. The ARCA identified for the State of Michigan was Number 44-12-4c1-A-01 under Criterion 4.c.1 – The laboratory is capable of performing required radiological analyses to support protective action decisions. The Michigan Department of Environmental Quality (MDEQ) Radiological Protection Laboratory (RPL) personnel participating in the demonstration were not familiar with the operation of the laboratory’s radiation survey meters. The laboratory’s sample preparation equipment was incapable of either processing the volume of materials required or preventing contamination. The sample processing area lacked adequate bench space for handling larger bulk samples and the entire area would have rapidly become contaminated. The laboratory’s counting equipment was not operable and the laboratory staff was unable to acquire data for analysis and/or demonstrate data analysis. The laboratory’s record keeping system was not capable of managing the anticipated sample volume and the sample storage area lacked shelves, storage cabinets and various other resources needed to manage the volume of samples that would be anticipated in the event of an actual radiological emergency at the PNPP. The laboratory staff’s ability to effectively coordinate with Federal or private-sector participants was not demonstrated. FEMA Region V and FEMA Headquarters are scheduled to conduct one or more health physics / radiological laboratory operations Staff Assist Visits (SAVs) with the Michigan Department of Environmental Quality (MDEQ) Radiological Protection Laboratory (RPL). The redemonstration of these criteria will occur in conjunction with the DC Cook Plume Exposure Pathway exercise in June, 2013.

There were no prior ARCAs identified for the State of Michigan during the March 2, 2010, Palisades Nuclear Power Plant REP exercise which required redemonstration during this exercise.

There were three planning issues identified for the State of Michigan during the March 1, 2011, D. C. Cook Nuclear Plant REP exercise, two of which were closed during this exercise. Planning issues 15-11-3a1-P-02 under Protective Action Implementation, Emergency Worker

Exposure Control Implementation, Criterion 3.a.1 - OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to emergency workers in accordance with the plans/procedures; and planning issue 15-11-6a1-P-01 under Support Operations/Facilities, Reception Center Operations, Criterion 6.a.1 - The reception center facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees; have been closed.

Planning issue 15-11-4a3-P-03, under Field Measurement and Analysis, Field Team Operations, 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, was not satisfactorily redemonstrated. This issue could not be closed because the 6 cubic-foot sample volume included in the field monitoring SOP had not been changed to meet the required 10 cubic-foot sample volume for $1E-7$ $\mu\text{Ci}/\text{cc}$ sensitivity. Planning issue 44-12-4a3-P-02 describes the observations from this exercise.

There were two Criteria that were not demonstrated by the State of Michigan during this exercise. The Michigan Department of Environmental Quality (MDEQ) Radiological Protection Laboratory (RPL) was not able to demonstrate criterion 1.e.1, Equipment, maps, displays, dosimetry, KI, and other supplies are sufficient to support emergency operations; or criterion 3.a.1, OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to emergency workers in accordance with the plans/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. FEMA Region V and FEMA Headquarters are scheduled to conduct one or more health physics / radiological laboratory operations Staff Assist Visits (SAVs) with the Michigan Department of Environmental Quality (MDEQ) Radiological Protection Laboratory (RPL). The redemonstration of these criteria will occur in conjunction with the DC Cook Plume Exposure Pathway exercise in June, 2013.

There were no ARCAs or Planning Issues identified for Van Buren County during this exercise.

There were no ARCA or Planning Issues identified for Allegan County during this exercise.

There was one Planning Issue identified for Allegan County during the March 2, 2010, Palisades Nuclear Power Plant REP exercise, Planning Issue Number 44-10-6a1-P-03, which was closed during this exercise.

There were no ARCA or Planning Issues identified for Berrien County during this exercise.

No Deficiencies were identified for the State of Indiana or for Elkhart, Kosciusko, La Porte and St. Joseph Counties during this exercise.

There was one ARCA identified for the State of Indiana during this exercise. The ARCA identified for the State of Indiana was Number 44-12-3a1-A-03 under Criterion 3.a.1 – OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to emergency workers in accordance with the plans/procedures. The dosimetry coordinator at the Forward Operations Center was not familiar with dosimeter charging and the dosimeters that were initially issued were not charged and ready for use. The Field Sampling Team (FST) dosimetry brief was incomplete and did not adequately address either administrative reporting or turn-back values for either radiological accumulated dose or exposure rate. The DRDs issued to emergency workers were not capable of recording the exposure levels initially discussed in the FST pre-deployment briefing. Permanent record dosimeters (PRDs) are required for every emergency worker entering a potentially contaminated area, but were not mentioned in either the plans or briefings and were not available for issue. Additionally, some emergency workers who received the dosimetry information were unfamiliar with their equipment and unable to demonstrate adequate knowledge regarding the use of their dosimetry. Although, not technically required for the ingestion exposure pathway, emergency workers received no information regarding the use and purpose of Potassium Iodide (KI). In an actual radiological emergency, there would probably have had questions that if not satisfactory answered could impede emergency response operations. This criterion will be redemonstrated at a date to be coordinated upon completion of the corrective actions identified in this report.

There were no Planning Issues identified for the State of Indiana during this exercise.

There were six Criteria that were not demonstrated by the State of Indiana during this exercise. Exercise participants at the Indiana State Emergency Operations Center (EOC) were not provided sufficient information and opportunity to demonstrate criteria 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; 2.d.1 - Radiological consequences for the ingestion pathway are assessed and appropriate PADs are made based on the ORO planning criteria; 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; 3.e.2 - Appropriate measures, strategies, and pre-printed instructional material are developed for implementing PADs for contaminated water, food products, milk, and agricultural production; and 3.f.1 - Decisions regarding controlled reentry of emergency workers and relocation and return of the public during the post-emergency phase are coordinated with appropriate organizations and implemented. Additionally, criteria 2.a.1 - OROs use a decision-making process, considering relevant factors and appropriate coordination, to ensure that an exposure control system, including use of KI, is in place for emergency workers, including provisions to authorize radiation exposure in excess of administrative limits or PAGs, was not demonstrated at the Forward Operations Center. These criteria will be redemonstrated at a date to be coordinated upon completion of the corrective actions identified in this report.

There were no prior ARCAs or Planning Issues identified for the State of Indiana which required redemonstration during this exercise.

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 44 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." These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

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

DHS/FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities

include the following:

- Taking the lead in offsite emergency planning and in the review and evaluation of RERPs and procedures developed by State and local governments;
- Determining whether such plans and procedures can be implemented on the basis of observation and evaluation of exercises of the plans and procedures conducted by State and local governments;
- Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated June 17, 1993 (Federal Register, Vol. 58, No. 176, September 14, 1993); and
- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:
 - U.S. Department of Agriculture;
 - U.S. Department of Commerce;
 - U.S. Department of Energy;
 - U.S. Department of Health and Human Services;
 - U.S. Department of the Interior;
 - U.S. Department of Transportation;
 - U.S. Environmental Protection Agency;
 - U.S. Food and Drug Administration; and
 - U.S. Nuclear Regulatory Commission.

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

Formal submission of the RERPs for the Palisades Nuclear Power Plant to FEMA Region V by the State of Michigan and involved local jurisdictions occurred on December 9, 1980. Formal approval of these RERPs was granted by FEMA on July 6, 1982, under 44 CFR 350.

A REP Full-Participation Plume Exposure Pathway Exercise was conducted on October 29, 2012, and evaluated by DHS/FEMA to assess the capabilities of State and local offsite emergency preparedness organizations in implementing their RERPs and procedures to protect

the public health and safety during a radiological emergency involving the Palisades Nuclear Power Plant. The purpose of this exercise report is to present the exercise results and findings on the performance of the Offsite Response Organizations (ORO) during a simulated radiological emergency.

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

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

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;
- FEMA "Radiological Emergency Preparedness Manual," April 2012.
- 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 Palisades Nuclear Power Plant is a single unit pressurized water reactor with a net capacity of 805 megawatts. The facility owned and operated by Entergy Nuclear Operations, Incorporated, commenced commercial operation in December 1971. Lake Michigan is the cooling water source for the plant.

The plant is located in northwestern Van Buren County, Michigan, on the shore of Lake Michigan, approximately five miles south-southwest of South Haven. The 10-mile Plume Exposure Pathway EPZ of the Palisades Nuclear Power Plant encompasses parts of Allegan, Berrien, and Van Buren Counties, with the major portion of the zone falling within Van Buren County. Based on 2000 Census data, the total plume pathway EPZ permanent population is 33,027 persons. In Michigan, the 50-mile Ingestion Exposure Pathway EPZ of the Palisades Nuclear Power Plant encompasses parts of Allegan, Barry, Berrien, Cass, Kalamazoo, Kent, Ottawa, St. Joseph and Van Buren Counties. In Indiana, the 50-mile Ingestion Exposure Pathway EPZ of the Palisades Nuclear Power Plant encompasses parts of Elkhart, La Porte and St. Joseph Counties.

The 10-mile Plume Exposure Pathway EPZ is comprised of five Protective Action Areas (PAAs), numbered 1 to 5, with PAAs 1, 2, and 3 being located within Van Buren County only; PAA 4 is located within both Allegan and Van Buren Counties; and PAA 5 is located within both Berrien and Van Buren Counties. Per the 2000 Census, the permanent population of PAA 1 is 2,001. The permanent population of PAA 2 is 1,939. The permanent population of PAA 3 is 2,360. The permanent population of PAA 4 is 10,283. The permanent population of PAA 5 is 4,308.

Approximately 50 percent of the 10-mile Plume Exposure Pathway EPZ lies within Lake Michigan. The lake attracts a large number of vacationers during the summer. The area includes various summer resorts, which offer camping facilities, light housekeeping cottages, tourist’s attractions, and the Van Buren State Park. The City of South Haven, with a tourism based economy, is located five miles north of the plant. The population varies from summer to winter

months.

Agricultural use of the land includes seasonal fresh fruit and vegetable farming and processing. Peak agricultural use takes place during the spring, summer, and fall months.

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name

Palisades Nuclear Power Plant

Type of Exercise

Ingestion

Exercise Date

October 30, 2012

Program

Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type

Radiological Emergency

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1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the Palisades Nuclear Power Plant exercise:

State Jurisdictions

Michigan Department of Environmental Quality

Michigan Department of Health
Michigan Department of Transportation
Michigan Governor's Representative
Michigan State Attorney General's Office
Michigan State Fire Marshall Representative
Michigan State Police
Michigan State Police Emergency Management Homeland Security Division
Michigan State Supreme Court
Indiana Department of Homeland Security
Indiana Governor's Office
Indiana Department of Environmental Management
Indiana State Police
Indiana National Guard
Indiana State Department of Health
Indiana State Department of Agriculture
Indiana Department of Natural Resources
Indiana Department of Transportation
Indiana Department of Administration
Indiana Board of Animal Health
Indiana Utility Regulatory Commission
Office of the Indiana State Chemist

Risk Jurisdictions

Allegan County Emergency Management Agency
Allegan County Health Department
Allegan County Hotline Representative
Allegan County Public Information Officer
Allegan County Radiological Defense (RADEF)
Allegan County Sheriff's Department (911 operators)
Allegan County Sheriff's Department
Berrien County Chief Executive
Berrien County Chief of Staff
Berrien County Emergency Management
Berrien County Health Department
Berrien County Hotline Representative

Berrien County Public Information Officer
Berrien County Public Safety Communications Dispatch Center
Berrien County Sheriff's Department
Berrien County Sheriff's Department Hazardous Materials Unit
Covert Fire & EMS
Covert School District
South Haven School District
Van Buren County Office of Domestic Preparedness
Van Buren Sheriff's Office
Van Buren County Health Department
Van Buren Independent School District
Van Buren County Hotline Representative

Support Jurisdictions

Elkhart County Emergency Mangement
Elkhart County Health Department
Kosciuko County Emergency Management
LaPorte County Emergency Management
LaPorte County Hazardous Materials Team
South Bend Fire Department
St. Joseph County Emergency Management
St. Joseph County Health Department

Private Organizations

Allegan County RACES
American Red Cross
American Red Cross, Kalamazoo Chapter
Area Agency on Aging Region IV
Black River Amateur Radio Club
Palisades Nuclear Power Plant
Radio Amatuer Civil Emergency Services (RACES)
Salvation Army
South Haven Community Hospital
WSJM Radio Station
Purdue Extension Services

Federal Jurisdictions

US Nuclear Regulatory Commission
US Department of Energy
US Environmental Protection Agency
US Department of Agriculture
US Department of Transportation
US Coast Guard

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

The DHS/FEMA Region V Office evaluated the Palisades Nuclear Power Plant (PNPP) Radiological Emergency Preparedness (REP) Full-Participation Plume and Ingestion Exposure Pathway Exercises conducted on October 29 and 30, 2012, 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 PNPP. The purpose of this report 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 Scenarios, a simulated sequence of events that was used as the basis for invoking emergency response actions by Offsite Response Organizations (OROs) in the Palisades Nuclear Power Plant (PNPP) REP Full-Participation Plume Exposure Pathway exercise on October 29, 2012. The PNPP REP Ingestion Exposure Pathway exercise on October 30, 2012 was conducted as a Table-Top Exercise with concurrent drills conducted by Off-Site Response Organizations (OROs).

This exercise scenario was submitted by the State of Michigan and Entergy Corporation and accepted by DHS/FEMA Region V on October 19, 2012.

During the exercise, in addition to information and data provided through the PNPP 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.

The details of the scenario are included in Appendix F “Scenario Details.”

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 29 and 30, 2012, REP Full-Participation Plume and Ingestion Exposure Pathway Exercises conducted to test the offsite emergency response capabilities of State and local governments in the EPZ surrounding the PNPP.

Each jurisdiction and functional entity was evaluated based on its demonstration of exercise criteria delineated in REP Program Manual dated April, 2012. 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 REP Program Manual, dated April, 2012, 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 (44 for Palisades 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 REP Program Manual, dated April, 2012, 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 (5 pages)

		MI-INP	MI-SEOC	MI-SEOC TSG	MI-FC-MDOT Coloma	MI-FC MDOT Coloma-DosBrief-EW/TACP	MI-MDEQ FMT1-MDOT Coloma	MI-MDEQ FMT2-MDOT Coloma	MI-MDEQ FMT3-MDOT Coloma	MI-MDEQ RadProLab---	MI-MSP-TACP - MDOT Coloma	MI-EOC ALG-StLias--
<p align="center">DATE: 2012-10-30 SITE: Palisades Nuclear Power Plant, MI M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated</p>												
Emergency Operations Management												
Mobilization	1a1	M	M									
Facilities	1b1											
Direction and Control	1c1		M	M								M
Communications Equipment	1d1	M	M	M	M	M	M	M	M	M	M	M
Equipment and Supplies to Support Operations	1e1		M	M	M	M	M	M	N	M	M	M
Protective Action Decision Making												
EW Exposure Control Decisions	2a1		M	M								
PARs	2b1			M	M							
PADs	2b2		M	M								
PADs for Disabled/Functional Needs	2c1		M									
Ingestion PADs	2d1			M								
RRR Decisions	2e1			M								
Protective Action Implementation												
EW Exposure Control Implementation	3a1				M	M	M	M	N	M		
KI Public/Institutionalized	3b1		M									
PAD Implementation Disabled/Functional Needs	3c1											
PAD Implementation Schools	3c2											
TACP Establishment	3d1		M								M	
Impediments	3d2											
Implement Ingestion PADs	3e1			M								
Coordination of RRR Decisions	3e2		M									
Coordination of RRR Decisions	3f1		M									
Field Measurement and Analysis												
RESERVED	4a1											
Field Team Management	4a2				M	M	M					
Field Team Operations	4a3					M	P					
Field Team Sampling	4b1			M	M	M	M	M				
Laboratory Operations	4c1								A			
Emergency Notification and Public Info												
Initial Alert & Notification	5a1		M	M								M
RESERVED	5a2											
Backup Alert & Notification	5a3											
Exception Area Alerting	5a4											
Subsequent Information & Instructions	5b1		M	M								M

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Radiological Emergency Preparedness Program (REP)

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Support Operations/Facilities																			
Reception Center Operations	6a1					M													
EW Monitoring & Decontamination	6b1					M													
Congregate Care	6c1																		
Contaminated Injured Transport & Care	6d1																		

Table 3.1 - Summary of Exercise Evaluation (Continued. page 2/5)

		MI-EOC BER-SLias--	MI-EOC VAN-SLiaI--	MI-JIC---PNPP	MI-JIC--RumCon-PNPP	MI- Berrien Springs HS--EvMD-MDEQ Rep-	MI-Covert FIRE/EMS-MSIT-MDEQ Rep-	MI- Fennville HS--EvMD-MDEQ Rep-	MI-South Haven CH-MS-1F-MDEQ Rep	MI-Watervliet HS--EWMDEqV-MDEQ Rep	IN-IDHS Watch---	IN-SEOC---
<p align="center">DATE: 2012-10-30 SITE: Palisades Nuclear Power Plant, MI M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated</p>												
Emergency Operations Management												
Mobilization	1a1			M							M	M
Facilities	1b1			M								
Direction and Control	1c1	M	M	M								N
Communications Equipment	1d1	M	M	M	M						M	M
Equipment and Supplies to Support Operations	1e1	M	M	M			M		M			M
Protective Action Decision Making												
EW Exposure Control Decisions	2a1											
PARs	2b1											
PADs	2b2											
PADs for Disabled/Functional Needs	2c1											
Ingestion PADs	2d1											N
RRR Decisions	2e1											
Protective Action Implementation												
EW Exposure Control Implementation	3a1					M	M	M	M	M		
KI Public/Institutionalized	3b1											
PAD Implementation Disabled/Functional Needs	3c1											
PAD Implementation Schools	3c2											
TACP Establishment	3d1											
Impediments	3d2											
Implement Ingestion PADs	3e1											N
Coordination of RRR Decisions	3e2											N
Coordination of RRR Decisions	3f1											N
Field Measurement and Analysis												
RESERVED	4a1											
Field Team Management	4a2											
Field Team Operations	4a3											
Field Team Sampling	4b1											
Laboratory Operations	4c1											
Emergency Notification and Public Info												
Initial Alert & Notification	5a1	M	M									
RESERVED	5a2											
Backup Alert & Notification	5a3											
Exception Area Alerting	5a4											
Subsequent Information & Instructions	5b1	M	M	M								

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Radiological Emergency Preparedness Program (REP)

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Support Operations/Facilities													
Reception Center Operations	6a1					M		M					
EW Monitoring & Decontamination	6b1									M			
Congregate Care	6c1												
Contaminated Injured Transport & Care	6d1												

Table 3.1 - Summary of Exercise Evaluation (Continued. page 3/5)

		IN-JIC---SEOC	IN-FOC--Bremen-	IN--FST 1-Bremen-	IN--FST 2-Bremen-	IN--FST 3-Bremen-	IN-ISHD RadLab---	ALG-INP---	ALG-EOC---	ALG---DosBrief-EW/TACP	ALG---TACP-	ALG--JIC Rep--PNPP
<p align="center">DATE: 2012-10-30 SITE: Palisades Nuclear Power Plant, MI M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated</p>												
Emergency Operations Management												
Mobilization	1a1		M					M	M			
Facilities	1b1											
Direction and Control	1c1	M	M						M			
Communications Equipment	1d1	M	M	M	M	M		M	M		M	
Equipment and Supplies to Support Operations	1e1	M	M	M	M	M	M		M	M	M	
Protective Action Decision Making												
EW Exposure Control Decisions	2a1		N									
PARs	2b1											
PADs	2b2											
PADs for Disabled/Functional Needs	2c1								M			
Ingestion PADs	2d1											
RRR Decisions	2e1											
Protective Action Implementation												
EW Exposure Control Implementation	3a1		A	M	M	M	M		M	M	M	
KI Public/Institutionalized	3b1								M			
PAD Implementation Disabled/Functional Needs	3c1								M			
PAD Implementation Schools	3c2								M			
TACP Establishment	3d1								M		M	
Impediments	3d2								M			
Implement Ingestion PADs	3e1											
Coordination of RRR Decisions	3e2											
Coordination of RRR Decisions	3f1											
Field Measurement and Analysis												
RESERVED	4a1											
Field Team Management	4a2											
Field Team Operations	4a3											
Field Team Sampling	4b1			M	M	M						
Laboratory Operations	4c1						M					
Emergency Notification and Public Info												
Initial Alert & Notification	5a1								M			
RESERVED	5a2											
Backup Alert & Notification	5a3											
Exception Area Alerting	5a4											
Subsequent Information & Instructions	5b1	M							M			M
Support Operations/Facilities												
Reception Center Operations	6a1											
EW Monitoring & Decontamination	6b1		M									
Congregate Care	6c1											
Contaminated Injured Transport & Care	6d1											

Table 3.1 - Summary of Exercise Evaluation (Continued. page 4/5)

DATE: 2012-10-30 SITE: Palisades Nuclear Power Plant, MI M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated												
		ALG- Fennville HS--EvMDR-	ALG-Fennville HS--EvMDV-	ALG- Fennville JHS--CCC-	BER-INP---	BER-EOC---	BER---DosBrief-EW/TACP	BER---TACP-	BER--JIC REP--PNPP	BER-Berrien Springs HS--EvMDR-	BER-Berrien Springs HS--CCC-	BER-Watervliet HS--EWMD-
Emergency Operations Management												
Mobilization	1a1				M	M						
Facilities	1b1											
Direction and Control	1c1					M						
Communications Equipment	1d1	M		M	M	M		M		M	M	
Equipment and Supplies to Support Operations	1e1	M		M		M	M	M		M	M	
Protective Action Decision Making												
EW Exposure Control Decisions	2a1											
PARs	2b1											
PADs	2b2											
PADs for Disabled/Functional Needs	2c1					M						
Ingestion PADs	2d1											
RRR Decisions	2e1											
Protective Action Implementation												
EW Exposure Control Implementation	3a1	M				M	M	M		M		
KI Public/Institutionalized	3b1					M						
PAD Implementation Disabled/Functional Needs	3c1					M						
PAD Implementation Schools	3c2					M						
TACP Establishment	3d1					M		M				
Impediments	3d2					M						
Implement Ingestion PADs	3e1											
Coordination of RRR Decisions	3e2											
Coordination of RRR Decisions	3f1											
Field Measurement and Analysis												
RESERVED	4a1											
Field Team Management	4a2											
Field Team Operations	4a3											
Field Team Sampling	4b1											
Laboratory Operations	4c1											
Emergency Notification and Public Info												
Initial Alert & Notification	5a1					M						
RESERVED	5a2											
Backup Alert & Notification	5a3											
Exception Area Alerting	5a4											
Subsequent Information & Instructions	5b1					M		M				
Support Operations/Facilities												
Reception Center Operations	6a1	M	M							M		
EW Monitoring & Decontamination	6b1											M

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Palisades Nuclear Power Plant

Congregate Care	6c1			M								M	
Contaminated Injured Transport & Care	6d1												

Table 3.1 - Summary of Exercise Evaluation (Continued. page 5/5)

		BER-Watervliet HS--EWMDV/Eq-	VAN-INP---	VAN-EOC---	VAN---DosBrief-EW/TACP	VAN---TACP-	VAN--JC REP-- PNPP	VAN-EAS-WSJM---	VAN--Covert Fire/EMS-MSIT-	VAN--Covert PS-EV2-	VAN-Mattawan HS--CCC-	VAN-South Haven CH-MSIF-
<p align="center">DATE: 2012-10-30 SITE: Palisades Nuclear Power Plant, MI M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated</p>												
Emergency Operations Management												
Mobilization	1a1		M	M								
Facilities	1b1											
Direction and Control	1c1			M							M	
Communications Equipment	1d1	M	M	M		M		M	M	M	M	M
Equipment and Supplies to Support Operations	1e1	M		M	M	M			M	M	M	M
Protective Action Decision Making												
EW Exposure Control Decisions	2a1											
PARs	2b1											
PADs	2b2											
PADs for Disabled/Functional Needs	2c1			M								
Ingestion PADs	2d1											
RRR Decisions	2e1											
Protective Action Implementation												
EW Exposure Control Implementation	3a1	M		M	M	M			M			M
KI Public/Institutionalized	3b1			M								
PAD Implementation Disabled/Functional Needs	3c1			M								
PAD Implementation Schools	3c2			M					M			
TACP Establishment	3d1			M		M						
Impediments	3d2			M								
Implement Ingestion PADs	3e1											
Coordination of RRR Decisions	3e2											
Coordination of RRR Decisions	3f1											
Field Measurement and Analysis												
RESERVED	4a1											
Field Team Management	4a2											
Field Team Operations	4a3											
Field Team Sampling	4b1											
Laboratory Operations	4c1											
Emergency Notification and Public Info												
Initial Alert & Notification	5a1			M				M				
RESERVED	5a2											
Backup Alert & Notification	5a3											
Exception Area Alerting	5a4											
Subsequent Information & Instructions	5b1			M			M					
Support Operations/Facilities												
Reception Center Operations	6a1											
EW Monitoring & Decontamination	6b1	M										

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Radiological Emergency Preparedness Program (REP)

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Palisades Nuclear Power Plant

Congregate Care	6c1												M		
Contaminated Injured Transport & Care	6d1												M		M

3.3 Criteria Evaluation Summaries

3.3.1 Indiana Jurisdictions

3.3.1.1 State of Indiana - IDHS Watch Officer

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 Indiana - State Emergency Operations Center

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

3.3.1.3 State of Indiana - Joint Information Center - SEOC

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, 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

3.3.1.4 State of Indiana - Forward Operations Center - Bremen

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, 6.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: 3.a.1.

ISSUE NO.: 44-12-3a1-A-03

CRITERION: The OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to emergency workers in accordance with the plans/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.

CONDITION: The dosimetry coordinator was not familiar with dosimeter charging and the dosimeters that were initially issued were not charged and ready for use. The Field Sampling Team (FST) dosimetry brief was incomplete and did not adequately address either administrative reporting or turn-back values for either radiological accumulated dose or exposure rate. The DRDs issued to emergency workers were not capable of recording the exposure levels initially discussed in the FST pre-deployment briefing. Permanent record dosimeters (PRDs) are required for every emergency worker entering a potentially contaminated area, but were not mentioned in either the plans or briefings and were not available for issue. Additionally, some emergency workers who received the dosimetry information were unfamiliar with their equipment and unable to demonstrate adequate knowledge regarding the use of their dosimetry. Although, not technically required for the ingestion exposure pathway, emergency workers received no information regarding the use and purpose of Potassium Iodide (KI). In an actual radiological emergency, there would probably have had questions that if not satisfactory answered could impede emergency response operations.

POSSIBLE CAUSE: The dosimetry coordinator did not have the knowledge, skills and abilities required to adequately perform assigned duties. The FOC, FST plans

and procedures and dosimetry briefing check list did not include any discussion of accumulated radiological dose or exposure rate turn-back values, permanent record dosimeters, or Potassium Iodide (KI). FOC and FST equipment had not been adequately maintained and inventoried, as evidenced by missing dosimetry and FST sample collection equipment.

REFERENCE: NUREG-0654/FEMA REP 1 K.3.a

Each organization shall make provision for 24-hour-per-day capability to determine the doses received by emergency personnel involved in any nuclear accident, including volunteers. Each organization shall make provisions for distribution of dosimeters, both self-reading and permanent record devices.

EFFECT: Emergency workers could have been deployed into radiologically contaminated areas with direct reading dosimeters that were not charged and could not indicate their actual exposure. Emergency workers who were issued properly zeroed 0-200mR direct reading dosimeters did not know what their accumulated dose or exposure rate turn-back values were. Without permanent record dosimeters it would be impossible to identify an emergency worker's actual accumulated exposure in the event that their 0-200mR direct reading dosimeter went off-scale between hourly readings. Although, not technically required for the ingestion exposure pathway, a complete lack of information regarding the use and purpose of Potassium Iodide (KI) could impede emergency response operations in an actual radiological emergency.

RECOMMENDATION: Provide additional Dosimetry Coordinator and Field Sampling Team training, conduct more frequent inventories and inspections of radiological response team equipment and supplies, and conduct more frequent drills to retain adequate skill levels. Revise relevant plans, procedures and briefing guides to include a thorough discussion of accumulated radiological dose and exposure rate administrative reporting and turn-back values, permanent record dosimeters, and Potassium Iodide (KI). This criterion will be redemonstrated at a date to be coordinated upon completion of the corrective actions identified above.

c. DEFICIENCY: None

- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: 2.a.1.
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.1.5 State of Indiana - Indiana Field Sampling Team 1 - Bremen

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, 4.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

3.3.1.6 State of Indiana - Indiana Field Sampling Team 2 - Bremen

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, 4.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 Indiana - Indiana Field Sampling Team 3 - Bremen

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, 4.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

3.3.1.8 State of Indiana - Indiana State Department of Health Radiochemistry Laboratory

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

- a. MET: 1.e.1, 3.a.1, 4.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

3.3.2 Michigan Jurisdictions

3.3.2.1 State of Michigan - Initial Notification Point

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 State of Michigan - State Emergency Operations Center

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, 3.e.2, 3.f.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

3.3.2.3 State of Michigan - SEOC Technical Support Group

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

- a. MET: 2.b.1, 2.b.2, 2.d.1, 2.e.1, 3.e.1, 4.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

3.3.2.4 State of Michigan - Field Team Center - MDOT Coloma

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, 2.a.1, 2.b.1, 4.a.2, 4.b.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

3.3.2.5 State of Michigan - Field Team Center MDOT Coloma - Dosimetry Briefing - Emergency Worker / Traffic and Access Control Point

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

- a. MET: 1.e.1, 3.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

3.3.2.6 State of Michigan - Michigan Department of Environmental Quality Field Monitoring Team 1 MDOT Coloma

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, 4.a.2, 4.a.3, 4.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

3.3.2.7 State of Michigan - Michigan Department of Environmental Quality Field Monitoring Team 2 - MDOT Coloma

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, 4.a.2, 4.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: 4.a.3.

ISSUE NO.: 44-12-4a3-P-02

CRITERION: 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.

CONDITION: This issue is a carry-over for the State of Michigan from the March 1, 2011 DC Cook 2011 Exercise: Issue Number: 15-11-4a3-P-03. Criterion: 4.a.3 could not be closed during this exercise because 6 cubic-foot sample volume included in the field monitoring SOP had not been changed to meet the required 1E-7 $\mu\text{Ci/cc}$ sensitivity.

POSSIBLE CAUSE: Planners did not address the FEMA REP-2 requirement for minimum air sample volume of 10 cubic feet and the requirement for purging the air sampler cartridge prior to analysis.

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

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

EFFECT: The counting system may not be sensitive enough to detect radioiodines as low as $1E-7$ $\mu\text{Ci/cc}$ 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 presence of noble gases remaining in the sample cartridge if 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

3.3.2.8 State of Michigan - Michigan Department of Environmental Quality Field Monitoring Team 3 MDOT Coloma

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, 4.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

3.3.2.9 State of Michigan - Michigan Department of Environmental Quality Radiological Protection Laboratory

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

- a. MET: None
- b. AREAS REQUIRING CORRECTIVE ACTION: 4.c.1.

ISSUE NO.: 44-12-4c1-A-01

CRITERION: The laboratory is capable of performing required radiological analyses to support PADs.

CONDITION: The laboratory personnel participating in the demonstration were unfamiliar with the operation of the laboratory's radiation survey meters. The laboratory's sample preparation equipment was incapable of either processing the volume of materials required or preventing contamination. The sample processing area lacked adequate bench space for handling larger bulk samples and the entire area would have rapidly become contaminated. The laboratory's counting equipment was not operable and the laboratory staff was unable to acquire data for analysis and/or demonstrate data analysis. The laboratory's record keeping system was not capable of managing the anticipated sample volume and the sample storage area lacked shelves, storage cabinets and various other resources needed to manage the volume of samples that would be anticipated in the event of an actual radiological emergency at the PNPP. The laboratory staff's ability to effectively coordinate with Federal or private-sector participants was not demonstrated.

POSSIBLE CAUSE: The laboratory personnel did not have the knowledge, skills and abilities required to adequately perform their assigned duties.

The laboratory facilities and equipment did not provide the resources required for the staff to perform their assigned duties.

REFERENCE: NUREG-0654/FEMA-REP-1 (C. 3; J.11)

C. Emergency Response Support and Resources

Planning Standard

Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's near-site Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified.

3. The offsite response organization shall identify radiological laboratories and their general capabilities and expected availability to provide radiological monitoring and analyses services which can be used in an emergency.

J. Protective Response

Planning Standard

A range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

11. The offsite response organization shall specify the protective measures to be used for the ingestion pathway, including the methods for protecting the public from consumption of contaminated foodstuffs. This shall include criteria for deciding whether dairy animals shall be put on stored feed. The offsite plan shall identify procedures for detecting contamination, for estimating the dose commitment consequences of uncontrolled ingestion, and for imposing protection procedures such as impoundment, decontamination, processing, decay, product diversion, and preservation. Maps for recording survey and monitoring data, key land use data (e.g., farming), dairies, food processing plants, water sheds, water supply intake and

treatment plants and reservoirs shall be maintained. Provisions for maps showing detailed crop information may be by including reference to their availability and location and a plan for their use. The maps shall start at the facility and include all of the 50-mile ingestion pathway EPZ. Up-to-date lists of the name and location of all facilities which regularly process milk products and other large amounts of food or agricultural products originating in the ingestion pathway Emergency Planning Zone, but located elsewhere, shall be maintained.

EFFECT: The laboratory personnel participating in the demonstration failed to adequately survey the simulated incoming samples and would have contaminated themselves and the incoming sample receipt area. The laboratory's sample preparation area and equipment were incapable of either processing the types and volume of materials required such that the entire sample processing area, as well as the samples, would have rapidly become contaminated. The laboratory's counting equipment was inoperable and the laboratory staff was unable to acquire data required to perform data analysis. The laboratory's record keeping system was not capable of managing the anticipated sample volume and the sample storage area lacked the various resources needed to manage the volume of samples that would be anticipated in the event of an actual radiological emergency at the PNPP. The laboratory staff's ability to effectively coordinate with Federal or private-sector participants was not demonstrated.

RECOMMENDATION: Coordinate with FEMA Region V and FEMA Headquarters to conduct one or more health physics / radiological laboratory operations Staff Assist Visits (SAVs) as necessary to:

Conduct a thorough assessment of the Radiological Protection Laboratory's entire operation to identify and replace obsolete, inadequate and/or defective facilities, equipment, processes, procedures and other infrastructure used to receive, process, track, analyze, store and report the results of radiological laboratory analyses in a timely and accurate manner.

Provide thorough training for the Radiological Protection Laboratory staff regarding the proper use of personal protective equipment, dosimetry, radiological survey equipment, radiological sample processing equipment, radiological sample tracking,

analysis and storage, and reporting the of radiological laboratory analyses in a timely and accurate manner.

The Michigan Department of Environmental Quality (MDEQ) Radiological Protection Laboratory (RPL) will redemonstrate criteria 1.e.1, 3.a.1 and 4.c.1 in conjunction with the DC Cook Plume Exposure Pathway exercise in June, 2013.

- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: 1.e.1, 3.a.1.
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.10 State of Michigan - Michigan State Police - Traffic and Access Control Point

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.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

3.3.2.11 State of Michigan - Allegan County Emergency Operations Center - State Liaison

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, 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

3.3.2.12 State of Michigan - Berrien County Emergency Operations Center - State Liaison

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, 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

3.3.2.13 State of Michigan - Van Buren County Emergency Operations Center - State Liaison

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, 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

3.3.2.14 State of Michigan - Joint Information Center - PNPP

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

- a. MET: 1.a.1, 1.b.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: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.15 State of Michigan - Joint Information Center - Rumor Control - PNPP

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

- a. MET: 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

3.3.2.16 State of Michigan - Berrien Springs High School - Evacuee Monitoring and Decontamination - MDEQ Representative

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

- a. MET: 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

3.3.2.17 State of Michigan - Covert Fire/EMS - Medical Service - Transportation - MDEQ Representative

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

- a. MET: 1.e.1, 3.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

3.3.2.18 State of Michigan - Fennville High School - Evacuee Monitoring and Decontamination - MDEQ Representative

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

- a. MET: 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

3.3.2.19 State of Michigan - South Haven Community Hospital - Medical Service - Facility - MDEQ Representative

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

- a. MET: 1.e.1, 3.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

3.3.2.20 State of Michigan - Watervliet HS - Emergency Worker Monitoring and Decontamination of Equipment and Vehicles - MDEQ Representative

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

- a. MET: 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

3.3.3 Risk Jurisdictions

3.3.3.1 Allegan County - Initial Notification Point

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

3.3.3.2 Allegan County - Emergency Operations Center

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

3.3.3.3 Allegan County - Dosimetry Briefing - Emergency Worker / Traffic and Access Control Point

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

- a. MET: 1.e.1, 3.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

3.3.3.4 Allegan County - Traffic and Access Control Point

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.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

3.3.3.5 Allegan County - Joint Information Center Representative - PNPP

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

3.3.3.6 Allegan County - Fennville High School - Evacuee Monitoring, Decontamination and Registration

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, 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

3.3.3.7 Allegan County - Fennville High School - Evacuee Vehicle Monitoring & Decontamination

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

- a. MET: 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

3.3.3.8 Allegan County - Fennville Jr High School - Congregate Care Center

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

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

3.3.3.9 Berrien County - Initial Notification Point

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

3.3.3.10 Berrien County - Emergency Operations Center

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

3.3.3.11 Berrien County - Dosimetry Briefing - Emergency Worker / Traffic and Access Control Point

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

- a. MET: 1.e.1, 3.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

3.3.3.12 Berrien County - Traffic and Access Control Point

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.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

3.3.3.13 Berrien County - Joint Information Center County Representative - PNPP

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

3.3.3.14 Berrien County - Berrien Springs High School - Evacuee Monitoring, Decontamination & Registration

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, 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

3.3.3.15 Berrien County - Berrien Springs High School - Congregate Care Center

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

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

3.3.3.16 Berrien County - Watervliet High School - Emergency Worker Monitoring & Decontamination

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

- a. MET: 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

3.3.3.17 Berrien County - Watervliet High School - Emergency Worker Vehicle & Equipment Monitoring & Decontamination

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, 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

3.3.3.18 Van Buren County - Initial Notification Point

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

3.3.3.19 Van Buren County - Emergency Operations Center

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

3.3.3.20 Van Buren County - Dosimetry Briefing - Emergency Worker / Traffic and Access Control Point

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

- a. MET: 1.e.1, 3.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

3.3.3.21 Van Buren County - Traffic and Access Control Point

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.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

3.3.3.22 Van Buren County - Joint Information Center Representative - PNPP

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

3.3.3.23 Van Buren County - Emergency Alert System Radio Station WSJM

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

- a. MET: 1.d.1, 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

3.3.3.24 Van Buren County - Covert Fire/EMS - Medical Service - Transportation

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, 6.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

3.3.3.25 Van Buren County - Covert Public Schools - Evacuation School

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

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

3.3.3.26 Van Buren County - Mattawan High School - Congregate Care Center

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, 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

3.3.3.27 Van Buren County - South Haven Community Hospital - Medical Service - Facility

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, 6.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

SECTION 4: CONCLUSION

Based on the results of the October 30 and 31, 2012 exercises, the offsite radiological emergency response plans and preparedness for the State of Michigan and affected local jurisdictions, site-specific to the Palisades 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 Palisades Nuclear Power Plant, remain in effect.

APPENDIX A: IMPROVEMENT PLAN

Issue Number: 44-12-3a1-A-03	Criterion: 3a1
<p>ISSUE: The dosimetry coordinator was not familiar with dosimeter charging and the dosimeters that were initially issued were not charged and ready for use. The Field Sampling Team (FST) dosimetry brief was incomplete and did not adequately address either administrative reporting or turn-back values for either radiological accumulated dose or exposure rate. The DRDs issued to emergency workers were not capable of recording the exposure levels initially discussed in the FST pre-deployment briefing. Permanent record dosimeters (PRDs) are required for every emergency worker entering a potentially contaminated area, but were not mentioned in either the plans or briefings and were not available for issue. Additionally, some emergency workers who received the dosimetry information were unfamiliar with their equipment and unable to demonstrate adequate knowledge regarding the use of their dosimetry. Although, not technically required for the ingestion exposure pathway, emergency workers received no information regarding the use and purpose of Potassium Iodide (KI). In an actual radiological emergency, there would probably have had questions that if not satisfactory answered could impede emergency response operations.</p>	
<p>RECOMMENDATION: Provide additional Dosimetry Coordinator and Field Sampling Team training, conduct more frequent inventories and inspections of radiological response team equipment and supplies, and conduct more frequent drills to retain adequate skill levels. Revise relevant plans, procedures and briefing guides to include a thorough discussion of accumulated radiological dose and exposure rate administrative reporting and turn-back values, permanent record dosimeters, and Potassium Iodide (KI). This criterion will be redemonstrated at a date to be coordinated upon completion of the corrective actions identified above.</p>	
<p>CORRECTIVE ACTION DESCRIPTION: 1. Issue Number: 44-12-3a1-A-03</p> <p>Corrective Action Description: The Indiana Department of Homeland Security will be providing additional training to the Dosimetry Coordinator and Forward Operations Center personnel on the use and issuance of dosimetry. The position checklist and guide for the Dosimetry Coordinator will also be updated with more specific directions the issuing of dosimetry, checking dosimeters, and items necessary to brief sampling team personnel on.</p> <p>The Ingestion Pathway Plan and Forward Operations Center operating guides will also be revised to include turn-back values, permanent record dosimeters, and Potassium Iodide (KI). These items will also be incorporated into sampling team and Forward Operations Center position's training. This criterion will be redemonstrated via a drill conducted at the Indiana Government Center during the summer of 2013.</p> <p>2. Not demonstrated criteria 1c1, 2d1, 3e1, 3e2 & 3f1</p> <p>Correction Action Description: The Indiana Department of Homeland Security will be providing additional training and seminars to the members of Indiana's Emergency Operations Center Policy Group on their roles and responsibilities during an ingestion pathway response. This will include hosting a seminar for the agency heads and representatives, as well as, reviewing the position checklists in the Ingestion Pathway Plan. These criteria will be demonstrated via a table-top exercise conducted during the summer of 2013.</p> <p>3. Not demonstrated criteria 2a1</p> <p>Corrective Action Description: The Indiana Department of Homeland Security will be reviewing the current exposure control system that is in place, adding provisions for the consideration of Potassium Iodide (KI), and provisions to authorize radiation exposure in excess of administrative limits or protective action guides. Forward Operations Center personnel and sampling team personnel will be trained on this system and its limits in conjunction with the 3a1, dosimetry, training. This criterion will be demonstrated, in conjunction with the redemonstration of criterion 3a1, via a drill conducted at the Indiana Government Center in the summer of 2013.</p> <p>c. Schedule of Events March 12, 2013: Meet with FEMA Region V staff to discuss redemonstrations Mid-May 2013: EOC Policy Group Seminar/Training Mid-June 2013: FOC Training on dosimetry and radiation exposure system July 10, 2013: 3a1 Redemonstration, 2a1 Demonstration, 1c1, 2d1, 3e1, 3e2 & 3f1 Demonstration</p>	
<p>CAPABILITY: Weapons of Mass Destruction (WMD) and Hazardous Materials (HazMat) Response and Decontamination</p>	<p>PRIMARY RESPONSIBLE AGENCY: Indiana Department of Homeland Security</p>
<p>CAPABILITY ELEMENT: Systems and Equipment</p>	<p>START DATE: 2012-11-15</p>

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AGENCY POC: Laura Dresen 317-234-6510	ESTIMATED COMPLETION DATE: 2013-07-31
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Issue Number: 44-12-4a3-P-02	Criterion: 4a3
<p>ISSUE: This issue is a carry-over for the State of Michigan from the March 1, 2011 DC Cook 2011 Exercise: Issue Number: 15-11-4a3-P-03. Criterion: 4.a.3 could not be closed during this exercise because 6 cubic-foot sample volume included in the field monitoring SOP had not been changed to meet the required 1E-7 $\mu\text{Ci}/\text{cc}$ sensitivity.</p>	
<p>RECOMMENDATION: Increase the sample time to five minutes. Purge the air sampler for a few seconds in a low background area prior to analysis.</p>	

CORRECTIVE ACTION DESCRIPTION: Planning Issue 15-11-4a3-P-03 under Criterion 4.a.3 (Cook 2011) and Planning Issue 44-12-43a-P-02 under Criterion 4.a.3 (Palisades 2012): This issue is a carryover for the State of Michigan from the March 1, 2011, DC Cook 2011 Exercise. Criterion 4.a.3 could not be closed because the 6 cubic foot sample volume included in the field monitoring Standard Operating Procedure (SOP) has not been changed to meet the required $1E-7$ $\mu\text{Ci/cc}$ sensitivity; FEMA's recommendation for this planning issue is as follows:

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

MDEQ addresses this issue as follows:

Condition:

The condition cited in planning issue 15-11-4a3-P-03 is that the Health Physics Response Team (HPRT) SOP specified air sampler volume to be collected does not meet the required minimum volume of 10 cubic feet necessary to detect the presence of radioiodine concentrations as low as $1E-7$ $\mu\text{Ci/cc}$. In the reference portion of the D.C. Cook After Action Report (ML11200A171), specific referencing of FEMA REP-2, revision 2, Appendix D (page D-13) is given stating that "A minimum sample volume of 10 cubic feet should be collected." However, the requirement of NUREG-0654/FEMA REP-1 is the ability to measure radioiodine concentrations as low as $1E-7$ $\mu\text{Ci/cc}$ regardless of total volume of sample taken.

The State of Michigan HPRT collects a volume of 6 cubic feet and maintains the capability to detect radioiodine concentrations within the minimum requirement of $1E-7$ $\mu\text{Ci/cc}$. The lower volume reduces the amount of time the HPRT spends in the plume and is consistent with the principles of As Low As Reasonably Achievable (ALARA).

Justification:

The methodology given in FEMA REP-2, revision 2, Appendix D (page D-11) is that the minimum detectable air sample concentration may be expressed as:

$$C = \frac{\text{MDL}}{V * \text{CY}}$$

Where:

- C = concentration of radioiodines in $\mu\text{Ci/cc}$
- MDL = minimum detectable level = $2 * \text{sqrt}(B)$ (for instruments with digital readout displays)
- B = background in counts per minute (cpm)
- V = volume of the sample in cc
- CY = instrument counting yield in cpm/ μCi

FEMA REP-2 gives a sample calculation using this equation in which the following are used:

- B = background count rate of 600 cpm
- V = 10 cubic feet of air = $2.8317E5$ cc
- CY = 90 cps/ μCi of I-131 = 5400 cpm/ μCi

Then:

$$C = \frac{2 * \text{sqrt}(600)}{(2.8317E5)(5400)} = 3.2E-8 \mu\text{Ci/cc.}$$

This example gives a result well below the minimum requirement for detectability. According to FEMA REP-2, the CY value used in this example is "reasonable for a pancake type GM detector." A series of calculations have been done using the above formula and the assumptions made for a pancake style GM detector but changing the sample volume and background counts:

For 4 cubic feet ($1.133E5$ cc) and 600 cpm background:

$$C = \frac{2 * \text{sqrt}(600)}{1.133E5 * 5400} = 8.01E-8 \mu\text{Ci/cc.}$$

<p>(1.133E5)(5400)</p> <p>For 4 cubic feet (1.133E5 cc) and 60 cpm background:</p> $C = \frac{2 \cdot \sqrt{60}}{(1.133E5)(5400)} = 2.53E-8 \text{ } \mu\text{Ci/cc.}$ <p>For 6 cubic feet (1.699E5 cc) and 600 cpm background:</p> $C = \frac{2 \cdot \sqrt{600}}{(1.699E5)(5400)} = 5.34E-8 \text{ } \mu\text{Ci/cc.}$ <p>For 6 cubic feet (1.699E5 cc) and 60 cpm background:</p> $C = \frac{2 \cdot \sqrt{60}}{(1.699E5)(5400)} = 1.69E-8 \text{ } \mu\text{Ci/cc.}$ <p>All of these calculations show the NUREG-0654/FEMA REP-1 requirement of being able to detect radioiodines to a concentration as low as 1E-7 $\mu\text{Ci/cc}$ can easily be met. The State of Michigan HPRTs use digital survey meters with pancake style GM detectors to count air samples in the field. A typical pancake style GM detector in the State of Michigan will read background at approximately 60 cpm, so those computations should be used. While it is theoretically possible to meet the requirement with a sample volume as low as 4 cubic feet of air, Michigan HPRTs collect 6 cubic feet.</p> <p>In addition, HPRTs will use silver zeolite cartridges for air sampling in an actual emergency (charcoal cartridges are used for a drill/exercise). According to a statement in the frequently asked questions to the FEMA REP Program manual (question #58) and an article in the 2006 Radiation Safety Journal, purging is not required when using silver zeolite. Because silver zeolite has a strong affinity for polar molecules and I-131 is polar whereas noble gases are non-polar, the retention efficiency of silver zeolite cartridges for radioactive iodine can exceed 99.9 percent while retention of radioactive noble gases does not exceed 0.02 percent (Wang, 2006).</p> <p>The Radiological Emergency Preparedness Unit of the MDEQ requests that planning issues 15-11-4a3-P-03 and 44-12-43a-P-02 be closed based on the above documentation.</p> <p>References FEMA REP Program Manual; April 2012 FEMA REP-2. Attachment D Wang WH, Matthews KL. Simulating Gaseous I-131 Distribution in a Silver Zeolite Cartridge Using Sodium Iodide Solution. RSJ vol. 20, suppl 2; May 2006.</p> <p>Based upon the documentation provided, the Michigan Field Monitoring Teams using a digital survey meter (e.g. Eberline E-600) with a 2 mg/cm² density pancake G-M detector (e.g. HP-260), and accumulating a 4 to 6 cubic foot radioiodine air sample with a silver zeolite cartridge (6 cu ft specified in the procedures), and counting the cartridge in a low background area (e.g. 60-600 cpm) WILL meet the NUREG-0654 requirement of being able to detect a radioiodine sample of 1E-7 $\mu\text{Ci/cc}$.</p> <p>FEMA concurs with the State of Michigan's analysis and Planning Issues 15-11-4a3-P-03 and 44-12-4a3-P-02 are hereby closed.</p>	
<p>CAPABILITY: Weapons of Mass Destruction (WMD) and Hazardous Materials (HazMat) Response and Decontamination</p>	<p>PRIMARY RESPONSIBLE AGENCY: Michigan Department of Environmental Quality</p>
<p>CAPABILITY ELEMENT: Planning</p>	<p>START DATE: 2012-11-15</p>
<p>AGENCY POC: Ken Yale, Chief, Radiological Protection Section 517-373-4797</p>	<p>ESTIMATED COMPLETION DATE: 2013-05-31</p>

Issue Number: 44-12-4c1-A-01

Criterion: 4c1

ISSUE: The laboratory personnel participating in the demonstration were unfamiliar with the operation of the laboratory's radiation survey meters. The laboratory's sample preparation equipment was incapable of either processing the volume of materials required or preventing contamination. The sample processing area lacked adequate bench space for handling larger bulk samples and the entire area would have rapidly become contaminated. The laboratory's counting equipment was not operable and the laboratory staff was unable to acquire data for analysis and/or demonstrate data analysis. The laboratory's record keeping system was not capable of managing the anticipated sample volume and the sample storage area lacked shelves, storage cabinets and various other resources needed to manage the volume of samples that would be anticipated in the event of an actual radiological emergency at the PNPP. The laboratory staff's ability to effectively coordinate with Federal or private-sector participants was not demonstrated.

RECOMMENDATION: Coordinate with FEMA Region V and FEMA Headquarters to conduct one or more health physics / radiological laboratory operations Staff Assist Visits (SAVs) as necessary to:

Conduct a thorough assessment of the Radiological Protection Laboratory's entire operation to identify and replace obsolete, inadequate and/or defective facilities, equipment, processes, procedures and other infrastructure used to receive, process, track, analyze, store and report the results of radiological laboratory analyses in a timely and accurate manner.

Provide thorough training for the Radiological Protection Laboratory staff regarding the proper use of personal protective equipment, dosimetry, radiological survey equipment, radiological sample processing equipment, radiological sample tracking, analysis and storage, and reporting the of radiological laboratory analyses in a timely and accurate manner.

The Michigan Department of Environmental Quality (MDEQ) Radiological Protection Laboratory (RPL) will redemonstrate criteria 1.e.1, 3.a.1 and 4.c.1 in conjunction with the DC Cook Plume Exposure Pathway exercise in June, 2013.

CORRECTIVE ACTION DESCRIPTION: On February 11 and 12, 2013, MDEQ completed a Staff Assistance Visit (SAV) with FEMA Headquarters Health Physics staff. During the SAV, a thorough assessment of the RPL's entire operation was conducted. Among the issues identified were process issues including sample receiving, hot/cold zone identification, and work flow issues. Also identified was the lack of an established system to identify and track radiological samples.

MDEQ has also completed its own review and re-assessment of the RPL's plans and procedures and has made several changes, including the issues identified above. A complete rewrite of the RPL Standard Operating Guide (SOG) has been undertaken.

During the SAV, FEMA Headquarters HP staff provided insight and training concerning issues identified during the Palisades exercise and during the SAV. Among the issues discussed (trained on) included dosimetry issuance, proper use of radiological survey equipment, sample processing, overall operation of the RPL, and reporting of the RPL's analyses in a timely manner. Training was also given regarding hot/cold zone identification and work flow issues.

MDEQ plans to complete at least two in-depth training sessions with RPL personnel to better acquaint staff with issues including (but not limited to):

- Sample Receipt
- Sample Identification
- Sample Tracking
- Contamination Control
- Waste Handling
- Chain-of-Custody
- Sample Preparation
- Sample Analysis
- Sample Results
- Results Communication
- Sample Storage
- Plans and Procedural Changes

The MDEQ will redemonstrate the listed criteria in June, 2013. An Extent-of-Play specific to the RPL will be drafted for this demonstration and be submitted to FEMA for approval.

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CAPABILITY: Laboratory Testing	PRIMARY RESPONSIBLE AGENCY: Michigan Department of Environmental Quality
CAPABILITY ELEMENT: Systems and Equipment	START DATE: 2012-11-15
AGENCY POC: Ken Yale, Chief, Radiological Protection Section 517-373-4797	ESTIMATED COMPLETION DATE: 2013-05-31

APPENDIX B: EXERCISE TIMELINE

Table 1, on the following page, presents the times at which key events and activities occurred during the Palisades Nuclear Power Plant REP Partial Participation Plume Exposure Pathway exercise conducted on March 2, 2010. Also included are times notifications were made to the participating jurisdictions/functional entities.

Table 1 - Exercise Timeline
DATE: 2012-10-30, SITE: Palisades Nuclear Power Plant, MI

Emergency Classification Level or Event	Time Utility Declared	MI-SEOC	ALG-EOC---	BER-EOC---	VAN-EOC---
Unusual Event					
Alert	0816		0828	0828	0828
Site Area Emergency	1000	1011	1015	1015	1015
General Emergency	1128	1134	1151	1151	1151
Simulated Rad. Release Started	0816				
Simulated Rad. Release Terminated					
Facility Declared Operational		0932	0903	0918	0908
Declaration of State of Emergency		1018	1016	1018	1002
Exercise Terminated		1400	1401	1401	1400
Early Precautionary Actions:		1000		1028	1025
1st Protective Action Decision:		1145	1155	1155	1151
1st Siren Activation					1154
1st EAS or EBS Message					1212
2nd Protective Action Decision:		1336	1335	1343	1337
2nd Siren Activation			1349		1346
2nd EAS or EBS Message			1349		1350
3rd Protective Action Decision:					
3rd Siren Activation					
3rd EAS or EBS Message					
4th Protective Action Decision:					
4th Siren Activation					
4th EAS or EBS Message					
5th Protective Action Decision:					
5th Siren Activation					
5th EAS or EBS Message					
6th Protective Action Decision:					
6th Siren Activation					
6th EAS or EBS Message					
KI Administration Decision:		1145	1155	1158	1151

APPENDIX C: EXERCISE EVALUATORS AND TEAM LEADERS

The following is a list of the personnel that evaluated the Palisades Nuclear Power Plant REP Partial Participation Plume Exposure Pathway Exercise on March 2, 2010. The list includes the evaluation team leadership and all evaluators. The organization each evaluator represents is indicated by the following abbreviations:

Department of Homeland Security / Federal Emergency Management Agency (DHS/FEMA)

Title	Name	Organization
Radiological Assistance Committee, Chairman	William E. King	DHS/FEMA
Exercise Director	Dwaine Warren	DHS/FEMA
Senior Specialist	Gary Naskrent	DHS/FEMA
Site Specialist	Karl Rabenhorst	DHS/FEMA
Team Leader - Michigan	James King	DHS/FEMA
Team Leader – Indiana	John Simpson	DHS/FEMA
Team Leader - Van Buren County	David Ortman	DHS/FEMA
Team Leader - Berrien County	Edward Golinski	DHS/FEMA
Team Leader - Allegan County	Clinton Crackel	DHS/FEMA
ICF Consulting		
Regional Coordinator	John Wills	ICF

DATE: 2012-10-30, SITE: Palisades Nuclear Power Plant, MI

LOCATION	EVALUATOR	AGENCY
State of Michigan - Initial Notification Point	Robert Noecker	ICFI
State of Michigan - State Emergency Operations Center	Edward Diaz Robert Noecker	FEMA RV ICFI
State of Michigan - SEOC Technical Support Group	Michael Howe	FEMA HQ
State of Michigan - Field Team Center - MDOT Coloma	Patrick Taylor	ICFI
State of Michigan - Field Team Center MDOT Coloma - Dosimetry Briefing - Emergency Worker / Traffic and Access Control Point	John Wills	ICFI
State of Michigan - Michigan Department of Environmental Quality Field Monitoring Team 1 MDOT Coloma	Richard Smith	ICF
State of Michigan - Michigan Department of Environmental Quality Field Monitoring Team 2 - MDOT Coloma	Richard Watts	ICFI
State of Michigan - Michigan Department of Environmental Quality Field Monitoring Team 3 MDOT Coloma	John Wills	ICFI
State of Michigan - Michigan Department of Environmental Quality Radiological Protection Laboratory	Paul Ward	FEMA HQ
State of Michigan - Michigan State Police - Traffic and Access Control Point	Frank Cordaro	ICFI
State of Michigan - Allegan County Emergency Operations Center - State Liaison	Carolyn Sturghill	FEMA RV
State of Michigan - Berrien County Emergency Operations Center - State Liaison	Todd Gemskie	FEMA RV
State of Michigan - Van Buren County Emergency Operations Center - State Liaison	Michael Henry	ICFI
State of Michigan - Joint Information Center - PNPP	Paul Nied John D. Simpson	ICFI FEMA RIV
State of Michigan - Joint Information Center - Rumor Control - PNPP	Paul Nied	ICFI
State of Michigan - Berrien Springs High School - Evacuee Monitoring and Decontamination - MDEQ Representative	Richard Smith	ICF
State of Michigan - Covert Fire/EMS - Medical Service - Transportation - MDEQ Representative	Daniel Kanakares	FEMA RV
State of Michigan - Fennville High School - Evacuee Monitoring and Decontamination - MDEQ Representative	Sonia Eischen	ICFI
State of Michigan - South Haven Community Hospital - Medical Service - Facility - MDEQ Representative	Christopher Bellone	FEMA RV
State of Michigan - Watervliet HS - Emergency Worker Monitoring and Decontamination of Equipment and Vehicles - MDEQ Representative	Richard Watts	ICFI
State of Indiana - IDHS Watch Officer	Kent Tosch	ICFI
State of Indiana - State Emergency Operations Center	Karl Rabenhorst Roy Smith	FEMA Reg V ICFI
State of Indiana - Joint Information Center - SEOC	*John D. Simpson	FEMA RIV
State of Indiana - Forward Operations Center - Bremen	John Zeidler	ICFI
State of Indiana - Indiana Field Sampling Team 1 - Bremen	Sonia Eischen	ICFI
State of Indiana - Indiana Field Sampling Team 2 - Bremen	Wes Ryals	ICFI
State of Indiana - Indiana Field Sampling Team 3 - Bremen	Paul Ward	FEMA HQ
State of Indiana - Indiana State Department of Health Radiochemistry Laboratory	Kent Tosch	ICFI
Allegan County - Initial Notification Point	Debra Schneck	ICFI

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Allegan County - Emergency Operations Center	Gary Bolender Carolyn Sturghill	ICFI FEMA RV
Allegan County - Dosimetry Briefing - Emergency Worker / Traffic and Access Control Point	Gary Bolender	ICFI
Allegan County - Traffic and Access Control Point	Debra Schneck	ICFI
Allegan County - Joint Information Center Representative - PNPP	John D. Simpson	FEMA RIV
Allegan County - Fennville High School - Evacuee Monitoring, Decontamination and Registration	Debra Schneck Carolyn Sturghill	ICFI FEMA RV
Allegan County - Fennville High School - Evacuee Vehicle Monitoring & Decontamination	Sonia Eischen	ICFI
Allegan County - Fennville Jr High School - Congregate Care Center	Daniel Kanakares	FEMA RV
Berrien County - Initial Notification Point	Don Daniel	FEMA Region V
Berrien County - Emergency Operations Center	Todd Genskie James Greer	FEMA RV ICFI
Berrien County - Dosimetry Briefing - Emergency Worker / Traffic and Access Control Point	James Greer	ICFI
Berrien County - Traffic and Access Control Point	Don Daniel	FEMA Region V
Berrien County - Joint Information Center County Representative - PNPP	John D. Simpson	FEMA RIV
Berrien County - Berrien Springs High School - Evacuee Monitoring, Decontamination & Registration	Kent Tosch	ICFI
Berrien County - Berrien Springs High School - Congregate Care Center	Christopher Bellone	FEMA RV
Berrien County - Watervliet High School - Emergency Worker Monitoring & Decontamination	Richard Watts	ICFI
Berrien County - Watervliet High School - Emergency Worker Vehicle & Equipment Monitoring & Decontamination	Frank Cordaro	ICFI
Van Buren County - Initial Notification Point	Danny Loomis	ICFI
Van Buren County - Emergency Operations Center	Michael Henry Karl Rabenhorst William Vocke	ICFI FEMA Reg V ICFI
Van Buren County - Dosimetry Briefing - Emergency Worker / Traffic and Access Control Point	Danny Loomis	ICFI
Van Buren County - Traffic and Access Control Point	Danny Loomis	ICFI
Van Buren County - Joint Information Center Representative - PNPP	John D. Simpson	FEMA RIV
Van Buren County - Emergency Alert System Radio Station WSJM	William Vocke	ICFI
Van Buren County - Covert Fire/EMS - Medical Service - Transportation	Daniel Kanakares	FEMA RV
Van Buren County - Covert Public Schools - Evacuation School	Paul Nied	ICFI
Van Buren County - Mattawan High School - Congregate Care Center	Danny Loomis William Vocke	ICFI ICFI
Van Buren County - South Haven Community Hospital - Medical Service - Facility	Christopher Bellone	FEMA RV
* Team Leader		

APPENDIX D: ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
ACP	Access Control Point
ALS	Advanced Life Support
AMS	Aerial Monitoring System
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
BCEMA	Berrien County Emergency Management Agency
BP	Blood Pressure
BSHS	Berrien Springs High School
CCC	Congregate Care Center
CDC	Central Dispatch Center
CDE	Committed Dose Equivalent
CEO	Chief Executive Officer
CERT	Citizens Emergency Response Team
CF	Correction Factor
CPM	Counts Per Minute
CPS	Covert Public School
DC	Dosimetry Coordinator
DRD	Direct Read Dosimeters
EAS	Emergency Alert System
ECL	Emergency Classification Level
ED	Emergency Department
EMA	Emergency Management Agency
EMAD	Emergency Management Agency Director
EMC	Emergency Management Coordinator
EMD	Emergency Management Director
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
EPD	Electronic Personal Dosimeter
EPZ	Emergency Planning Zone
ESF	Emergency Support Function
EW	Emergency Worker

FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
FOC	Forward Operations Center
FST	Field Sampling Team
FTC	Field Team Center
FTCC	Field Team Center Coordinator
GE	General Emergency
GIS	Geographic Information Systems
GM	Geiger Mueller
GPS	Global Positioning System
HERN	Hospital Emergency Radio Network
HIPA	Health Information Privacy Act
HPRT	Health Physics Response Team
HPS	Health Physics Support
HSIP	Homeland Security Information Program
IC	Incident Commander
IM	Incident Manager
INP	Initial Notification Point
ISD	Intermediate School District
ISP	Indiana State Police
IT	Information Technology
JIC	Joint Information Center
LEIN	Law Enforcement Information Network
MDC	Minimum Detectable Concentration
MDT	Mobile Data Terminal
MIOC	Michigan Intelligence Operations Center
MSP	Michigan State Police
NPP	Nuclear Power Plant
NRC	Nuclear Regulatory Commission
ORO	Offsite Response Organization
OSL	Optically Stimulated Luminescence
OSLD	Optically Stimulated Luminescent Dosimeter
PAA	Protective Action Areas
PAG	Protective Action Guide
PAO	Protective Action Order
PIB	Public Information Brochure
PIO	Public Information Officer
PNPP	Palisades Nuclear Power Plant
PPE	Personal Protective Equipment
PRC	Public Reception Center

PRD	Permanent Record Dosimeter
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Services
RDL	Radiological Decontamination Leader
REA	Radiation Emergency Area
REP	Radiological Emergency Preparedness
RPL	Radiological Protection Laboratory
RSO	Radiation Safety Officer
SAE	Site Area Emergency
SEOC	State Emergency Operations Center
SHHS	South Haven Health System
SOP	Standard Operating Procedure
TACP	Traffic Access Control Point
TCP	Traffic Control Point
TEDE	Total Effective Dose Equivalent
TSG	Technical Support Group
UHF	Ultra High Frequency
USCG	United States Coast Guard
VBC	Van Buren County
VBISD	Van Buren Intermediate School District
VHF	Very High Frequency
WAN	Wide Area Network
WDC	Worker Decontamination Center

APPENDIX E: EXERCISE PLAN

This appendix lists the exercise criteria, which were scheduled for demonstration in the Palisades Nuclear Power Plant Radiological Emergency Preparedness Partial Participation Plume Exposure Pathway Exercise on March 2, 2010, and the offsite extent-of-play agreement accepted by DHS/FEMA Region V on January 29, 2010. 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.

Exercise Criteria and Extent-of-Play Agreements

Listed on the following pages are the specific radiological emergency preparedness criteria that were scheduled for demonstration during this exercise.

EXTENT-OF-PLAY AGREEMENTS

PALISADES 2012 PPX & IPX TABLE OF FACILITY DEMONSTRATIONS

2012 Palisades REP Exercise Facility Demonstration – Final
Rev: October 19, 2012

STATE FACILITIES				
FACILITY	ADDRESS	CONTACT	ACTIVATION	CONTROLLER
SEOC	4000 Collins Road Lansing, MI 48910	Thomas Higinbotham 517-242-4726	In sync with scenario.	Thomas Higinbotham 517-242-4726 Tonya Nobach 517-242-6505
Day 2 Ingestion Pathway Tabletop	Diagnostic Center for Population and Animal Health Room 101 4125 Beaumont Rd Lansing, MI 48910	Thomas Higinbotham 517-242-4726	In sync with scenario.	Thomas Higinbotham 517-242-4726
Field Team Center	Coloma Maintenance Garage 3880 Red Arrow Hwy. Benton Harbor, MI 49022	Ken Yale 517-242-8565	In sync with scenario and out-of-sync with ingestion portion of exercise.	Kari Day 734-476-8241
Access Control	SEOC	Tonya Nobach 517-242-6505	In sync with scenario	Tonya Nobach 517-242-6505
Access Control Point	FTC Coloma Maintenance Garage 3880 Red Arrow Hwy. Benton Harbor, MI 49022	Ken Yale 517-242-8565	In sync with scenario.	Kari Day 734-476-8241
DEQ Lab	815 Filley St Lansing MI	Bob Skowronek 517-327-2615	October 29, 2012 9:00am	N/A

PALISADES EMERGENCY FACILITIES				
FACILITY	ADDRESS	CONTACT PERSON	ACTIVATION TIME	CONTROLLER
JIC	330 W. Main St. Benton Harbor, MI 49022	Nicole Lisabeth 517-242-3810	In sync with scenario.	Lori Hornbeck 517-242-6509
Public Inquiry Control Center	330 W. Main St. Benton Harbor, MI 49022	Mark Savage 269-764-2333 269-303-3481 (c)	In sync with scenario.	Lori Hornbeck 517-242-6509

INITIAL NOTIFICATION POINTS				
FACILITY	ADDRESS	CONTACT PERSON	ACTIVATION TIME	CONTROLLER
State Of Michigan	MSP Operations 333 S. Grand Ave Lansing, MI 48913	Lieutenant on duty	In sync with scenario	
Van Buren County	Van Buren County Sheriff Dept Central Dispatch 205 S Kalamazoo St. Paw Paw, MI 49079	Officer on duty	In sync with scenario	
Allegan County	Allegan County Sheriff Dept Central Dispatch 3271 122nd Avenue Allegan, MI 49022	Officer on duty	In sync with scenario	
Berrien County	Berrien County Gov't Complex, Public Safety Comm. Dispatch Cntr. 2100 E. Empire Ave., Benton Harbor, MI 49022	Officer on duty	In sync with scenario	

ALLEGAN COUNTY				
FACILITY	ADDRESS	CONTACT PERSON	ACTIVATION TIME	CONTROLLER
EOC	3271 122nd Avenue Allegan, MI 49010	Scott Corbin 269-673-0571	In sync with scenario	Amanda Bresler 517-242-2527
Dosimetry	3271 122nd Avenue Allegan, MI 49010	Scott Corbin 269-673-0571- Office	In sync with scenario	Amanda Bresler 517-242-2527
Emergency Worker Decontamination	N/A	N/A	N/A	N/A
Public Reception/ Decontamination Center	Fennville High School 5 West Memorial Drive Fennville, MI 49408	Scott Corbin 269-673-0571- Office	October 30, 2012 6pm	Tonya Nobach 517-242-6505
Public Congregate Care Center	Fennville High School 5 West Memorial Drive Fennville, MI 49408	Scott Corbin 269-673-0571- Office	October 30, 2012 6pm	Tonya Nobach 517-242-6505
Access Control Point	3271 122nd Avenue Allegan, MI 49010	Law Enforcement Representative in the EOC.	In sync with scenario	Amanda Bresler 517-242-2527
MS-1	See Van Buren	N/A	N/A	N/A

BERRIEN COUNTY				
FACILITY	ADDRESS	CONTACT PERSON	ACTIVATION TIME	CONTROLLER
EOC	Berrien County Gov't Complex, 2100 E. Empire Ave., Benton Harbor, MI. 49022	Corey Burks 269-983-7111, ext 4916	In sync with scenario	Carol Wolfinger 517-648-8598
Dosimetry	EOC interview	RADPRO Representative in the EOC.	In sync with scenario	Carol Wolfinger 517-648-8598
Emergency Worker and Vehicle Decontamination	Watervliet HS 450 East Saint Joseph Street Watervliet, MI 49098	Corey Burks 269-983-7111, ext 4916	Tuesday, October 30, 2012 7 pm	Tonya Nobach 517-242-6505
Public Reception/ Decontamination Center	Berrien Springs HS 1 Sylvester Avenue Berrien Springs	Corey Burks 269-983-7111, ext 4916	Monday, October 29, 2012 7 pm	Tonya Nobach 517-242-6505
Public Congregate Care Center	Berrien Springs HS 1 Sylvester Avenue Berrien Springs	Corey Burks 269-983-7111, ext 4916	Monday, October 29, 2012 4pm	Tonya Nobach 517-242-6505
EV-2 School Interview	N/A	N/A	N/A	N/A
Access Control Point	Berrien County Gov't Complex, 2100 E. Empire Ave., Benton Harbor, MI. 49022	Law Enforcement Representative in the EOC.	In sync with scenario	Carol Wolfinger 517-648-8598
MS-1	See Van Buren	N/A	N/A	N/A

VAN BUREN COUNTY				
FACILITY	ADDRESS	CONTACT PERSON	ACTIVATION TIME	CONTROLLER
EOC	Van Buren County Sheriff Office 205 S Kalamazoo St Paw Paw, MI 49079	Al Svilpe 269-657-7786	In sync with scenario.	Audrey Walter 517-230-4308
Dosimetry	Van Buren County Health Department 57418 CR 681 Hartford, MI 49057	Al Svilpe 269-657-7786	In sync with scenario	Audrey Walter 517-230-4308
Emergency Worker and Vehicle Decontamination	N/A	N/A	N/A	N/A
Public Reception/ Decontamination	N/A	N/A	N/A	N/A
Public Reception/ Vehicle Decontamination	N/A	N/A	N/A	N/A
Public Congregate Care	Mattawan HS 24959 McGillan Ave Mattawan MI	Al Svilpe 269-657-7786	Tuesday, October 30, 2012 4pm	Tonya Nobach 517-242-6505
Access Control Point	EOC	Law Enforcement Representative in the EOC	In sync with scenario	Audrey Walter 517-230-4308
EV-2 School Interview	Covert Public School 35323 M-140 Covert, MI 49043	Al Svilpe 269-657-7786	Monday, October 29, 2012 9:00 am	Tonya Nobach 517-242-6505
EAS Interview	WSJM 580 East Napier Avenue Benton Harbor MI 49022	Al Svilpe 269-657-7786	In sync with scenario	N/A
MS-1	South Haven Hospital 955 S. Bailey Ave South Haven MI 49090	Jim Ridley 269-569-0335	Thursday, November 1, 2012, 9:00 am	Tonya Nobach 517-242-6505
MS-1	Covert Fire Station 74034 34 th Ave Covert MI 49043	Jim Ridley 269-569-0335 79	Thursday, November 1, 2012, 9:00 am	Tonya Nobach 517-242-6505

STATE OF MICHIGAN EXTENT-OF-PLAY AGREEMENT

October 30 and 31, 2012

Extent of Play Agreements for Allegan, Berrien and Van Buren Counties and the State of Michigan

2012 Palisades REP Exercise Objectives – Final
Rev: October 19, 2012

The exercise will take place on October 29th, 30th and 31th of 2012. This exercise will involve out-of-sequence demonstrations (MS-1 on October 29, Emergency Worker Decontamination on October 30, EV-2 on October 11th and radio stations on October 9th and 11th). The full scale Plume Phase exercise demonstration will be on October 30, 2012 and will include state and county EOC activations as well as the Joint Information Center (JIC).

The State of Michigan, Allegan, Berrien and Van Buren Counties, South Haven Hospital (MS-1), Covert Fire/EMS Ambulance (MS-1), the Berrien Springs Fire Department (EWD) and the Covert Public School District, WSJM and Michigan Public Radio (MPR) are the off-site response organizations (OROs) for this exercise.

Criteria that can be re-demonstrated immediately for credit, at the decision of the evaluator, include the following: 3.a.1, 3.b.1, 3.d.1, 3.d.2, 4.a.3, 4.b.1, 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. It is the desire of the State of Michigan to re-demonstrate (as needed) any areas of concern during the week of the exercise as possible.

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) and Field Team Center (FTC) will be fully activated. State personnel reporting to the SEOC will be mobilized in accordance with procedures.
2. State personnel reporting to the county Emergency Operation Centers (EOC)s will be pre-positioned and will report when mobilized by the SEOC.
3. State personnel reporting to the FTC will be pre-positioned and will become operational at the time determined by the scenario and controller injects.
4. State personnel reporting to the Joint Information Center (JIC) will be pre-positioned and will begin participation after the arrival of Allegan, Berrien and Van Buren County JIC personnel.
5. State personnel involved in out of sequence demonstrations will be pre-staged.
6. A roster will be provided to demonstrate 24-hour staffing.

Allegan County

1. The Allegan County EOC will be activated and mobilized in accordance with procedures.
2. Allegan 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.

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.

Van Buren County

1. The Van Buren County EOC will be activated and mobilized in accordance with procedures.
2. Van Buren 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 SEOC is maintained in operational readiness and set up will not be demonstrated.
2. The FTC will be partially set up on Monday, October 29, 2012 and the balance of operations set up on Tuesday, October 30, 2012. The facility setup will be evaluated on Tuesday, October 30, 2012.
3. The JIC is maintained in operational readiness and set up will not be demonstrated, however adequacy of the facility will be evaluated on Tuesday, October 30, 2012. Location: 330 W. Main St., Benton Harbor, Michigan.
4. The Department of Environmental Quality (DEQ) Laboratory is maintained in operational readiness and set up will not be demonstrated, however adequacy of the facility will be evaluated on Monday, October 29, 2012. Location: 815 Filley St., Lansing, Michigan.

Allegan County

1. The Allegan County EOC is maintained in operational readiness and set up will not be demonstrated.

Berrien County

1. The Berrien County EOC is maintained in operational readiness and set up will not be demonstrated.

Van Buren County

1. The Van Buren County EOC is maintained in operational readiness and set up will not be demonstrated.

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, Allegan County, Berrien County and Van Buren County

1. This criterion will be demonstrated at the SEOC, county EOCs, FTC, 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, Allegan County, Berrien County and Van Buren Counties

1. This criterion will be demonstrated by the SEOC, county EOCs, FTC, JIC, 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

1. Equipment, maps, displays, and other supplies will be demonstrated to support emergency operations at the SEOC, JIC, FTC, counties EOCs 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. Additional supplies of potassium iodide are stored at the Michigan State Police Emergency Management Homeland Security Division (MSP/EMHSD) office in Lansing. These supplies are meant to augment the counties' supplies.
4. Additional direct reading dosimeters are stored at Michigan Department of Environment Quality (MDEQ) warehouse in Lansing. These supplies are meant to augment the county supplies, for county personnel.
5. MDEQ maintains supplies of potassium iodide and dosimeters for use by State personnel.
6. 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.

Allegan County, Berrien County and Van Buren County

1. Equipment, maps, displays, and other supplies will be demonstrated to support emergency operations at the SEOC, JIC, FTC, county EOCs 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 counties.

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.

Allegan County, Berrien County and Van Buren 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 (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 during the plume phase.
3. Completed dose assessment will be provided to the SEOC through controller injects for the post-plume phase.
4. Post-plume dose assessment done at the FTC will not be sent to the SEOC. Data transmission will be simulated.

Allegan County, Berrien County and Van Buren 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.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 TSG and the Michigan Department of Community Health (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.

Allegan County, Berrien County and Van Buren 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 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 in the SEOC in conjunction with applicable support staff, through the decision to recommend the use of KI to institutionalized persons that can not be evacuated.

Allegan County

1. Lists of transportation dependent and functional 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 Allegan County EOC will make phone contact with affected school districts. No scenario information will be discussed during these calls.

Berrien County

1. Lists of transportation dependent and functional 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. No scenario information will be discussed during these calls.

Van Buren County

1. Lists of transportation dependent and functional 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 Van Buren County EOC will make phone contact with affected school districts. 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 ORO planning criteria.

State of Michigan

1. The State of Michigan, at the FTC, will demonstrate the capability to project dose to the public resulting from the ingestion exposure pathway. Dose projections will be based on simulated lab results provided by controller injects. Due to SEOC and FTC operating independently dose projection transmission will be simulated.
2. The State will assess the radiological consequences of a release on the food and water supplies. The radiological impacts on the food and water will then be compared to the appropriate ingestion PAGs or Derived Intervention Levels (DIL).
3. SEOC will make appropriate Protective Action decisions based on ingestion exposure pathway dose projections information provided by the controller injects.
4. The State will demonstrate effective coordination with Federal and private exercise participants.

Allegan County, Berrien County and Van Buren County

This criterion does not apply.

Criterion 2.e.1: Timely post-plume re-location, re-entry 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.

State of Michigan – State Emergency Operations Center (SEOC)

1. The State will demonstrate the capability to develop decisions on relocation, re-entry, and return at the SEOC. The assessment of the radiological conditions impacting the RRR will be made at the State FTC.
2. **Relocation:** The State will demonstrate the capability to estimate integrated dose in contaminated areas, compare these estimates with PAGs, and apply decision criteria for relocation of those individuals in the general public who have not been evacuated but where projected doses are in excess of relocation PAGs. Control access to evacuated areas and make appropriate decisions for relocating members of the public where residual radiation levels exceed PAGs (SEOC).
3. **Re-entry:** The State will demonstrate policy based authorized access and exposure control for emergency workers and members of the general public requiring temporary entry to evacuated areas.
4. **Return:** The State Ingestion Pathway Committee will demonstrate effective decision making based on environmental data, political boundaries, and physical/geological features, to identify areas where the general public may return.
5. The State will demonstrate effective coordination with Federal and private exercise participants.

Allegan County, Berrien County and Van Buren County

This criterion does not apply.

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 Field Team Center.

Allegan County

1. This criterion will be demonstrated by Allegan County at the Allegan County EOC.

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.

Van Buren County

1. This criterion will be demonstrated by Van Buren County at the Van Buren County EOC.

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

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.

Allegan County

1. Allegan County will demonstrate the ability (simulate) to administer KI to institutionalized individuals.

Berrien County

1. Berrien County will demonstrate the ability (simulate) to administer KI to institutionalized individuals.

Van Buren County

1. Van Buren County will demonstrate the ability (simulate) to administer KI to institutionalized individuals.

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.

Allegan 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. Allegan 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.

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.

Van Buren 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. Van Buren 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 implement protective actions for schools.

State of Michigan

This criterion does not apply.

Allegan County

This criterion does not apply

Berrien County

This criterion does not apply.

Van Buren County

1. This criterion will be demonstrated by Van Buren County EOC as driven by the scenario.
2. EV-2 interview will be conducted in Van Buren County at Covert Public Schools. Refer to the Table of Exercise Demonstrations for specific times. This will be conducted out of sequence.

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.

Allegan County

1. Decisions related to traffic and access control will be demonstrated in the Allegan County EOC. Allegan 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.

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.

Van Buren County

1. Decisions related to traffic and access control will be demonstrated in the Van Buren County EOC. Van Buren 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 does not apply.

Allegan 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.

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.

Van Buren 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.

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.

State of Michigan

1. The State will demonstrate the capability to implement protective actions for the ingestion exposure pathway at the SEOC.
2. The State will demonstrate effective coordination with Federal and private exercise participants.

Allegan County, Berrien County and Van Buren County

This criterion does not apply.

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.

State of Michigan

1. Development of measures and strategies for implementation of ingestion pathway zone (IPZ) protective actions will be demonstrated by the State via formulation of protective action information for the general public, food producers, and food processors. The State will demonstrate the capability to control, restrict or prevent distribution of contaminated food by commercial sectors. Exercise play will include demonstration of communications and coordination between organizations to implement protective actions. Actual field play of implementation activities will be simulated. For example, communications and coordination with agencies responsible for enforcing food controls within the IPZ will be demonstrated, but actual communications with food producers and processors may be simulated.

Allegan County, Berrien County and Van Buren County

This criterion does not apply.

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.

State of Michigan -SEOC

1. The State will demonstrate the capability to implement appropriate measures for relocation, re-entry and return.
2. **Relocation:** The State will demonstrate the capability to coordinate and implement decisions concerning relocation of individuals not previously evacuated to an area where radiological contamination will not expose the general public to doses that exceed the relocation PAGs. The State will also demonstrate the capability to provide for short-term or

long-term relocation of evacuees who lived in areas where residual radiation levels exceed PAGs.

3. **Re-entry:** The State will demonstrate the decision making process to determine which individuals/groups will be allowed re-entry. This will be demonstrated through discussions during the Day 2 Table-Top Exercise.
4. **Return:** The Ingestion Pathway Committee (IPC) will demonstrate the capability to implement policies concerning return of members of the general public to areas evacuated during the plume phase. The IPC will demonstrate the capability to prioritize services and facilities requiring short term restoration, and then identify procedures and resources for their restoration. Examples include medical services, social services, utilities, roads and schools.
5. The State will demonstrate effective coordination with Federal and private exercise participants.

State of Michigan –FTC

1. The FTC will demonstrate the capability to implement appropriate measure for Re-entry and return.
2. **Re-entry:** The FTC will demonstrate the capability to control access and egress of individuals to evacuated areas. Radiation exposure will be assessed.
3. The State will demonstrate effective coordination with Federal and private exercise participants.

Allegan County, Berrien County and Van Buren County

This criterion does not apply.

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.
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.

Allegan County, Berrien County and Van Buren 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

This criterion will be demonstrated during the plume phase of this exercise at the Field Team Center (FTC) 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).

Allegan County, Berrien County and Van Buren 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.

State of Michigan

1. This criterion will be demonstrated at the FTC on October 31, 2012 out-of-sequence with the SEOC table-top. Controller injects at the Field Team Center will simulate decisions made at the SEOC by the IPC.
2. Three State field teams will demonstrate the ability to map the 20 uR/hr (contamination) and 1000 uR/hr (relocation) footprints. Two teams will demonstrate the ability to locate and communicate several points along the 20 uR/hr isopleth. One team will demonstrate the ability to locate and communicate several points along the 1000 uR/hr isopleth. The number of points established will be sufficient to demonstrate the process used but a complete mapping of the areas will not be demonstrated. The complete mapping of these regions will be provided by a Field Team Center controller.
3. The State will demonstrate the use of equipment and procedures for the collection and transportation of samples from areas that received deposition from the airborne plume.
4. The State field teams will demonstrate the capability to take measurements and samples, at such times and locations as directed, to enable an adequate assessment of the ingestion pathway and to support re-entry, relocation, and return decisions. Three field teams (two teams being from MDEQ and one team being from MDARD) will demonstrate the ability to collect, label, and properly use chain-of-custody forms for environmental samples as assigned by FTC Coordinator. These samples will include soil, grass, water, and vegetation. Each team will be assigned 1-2 sample types and locations for proper demonstration.
5. The State will demonstrate effective coordination with Federal and private exercise participants.

Allegan County, Berrien County and Van Buren County

This criterion does not apply.

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

State of Michigan

1. The State will demonstrate laboratory operations and procedures for measuring and analyzing samples.
2. This criterion will be demonstrated at the DEQ Radiological Protection Laboratory (RPL) in Lansing on Monday, October 29, 2012 out-of-sequence with all other response activities.
3. The DEQ RPL is appropriately equipped to provide analyses of media, as requested, on a timely basis, of sufficient quality and sensitivity to support assessments and decisions as

anticipated by the State's plans and procedures. New or revised methods may be used to analyze atypical radionuclide releases if warranted by circumstances of the event.

Analysis may require resources beyond those of the State.

4. The laboratory staff is qualified in a radioanalytical techniques and contamination control procedures
5. The State will demonstrate effective coordination with Federal and private exercise participants.

Allegan County, Berrien County and Van Buren County

This criterion does not apply.

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

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

Van Buren County

The Van Buren County Sheriff's Department is the primary activation point for the public warning sirens. Van Buren County also activates the Emergency Alert System. An interview with WSJM personnel will be conducted by FEMA following transmittal of EAS messages.

Allegan County & Berrien County

Allegan and Berrien Counties will provide, as needed, information to Van Buren County for inclusion in 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: 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.

Note: This criterion does not apply to 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 Palisades EPZ does not contain any DHS/FEMA approved exception areas. This criterion will not be demonstrated during this exercise. 92

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, Allegan County, Berrien County & Van Buren County

1. This will be demonstrated at the JIC via dissemination of emergency information and instructions through joint 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 Entergy personnel based at the JIC during the exercise. 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: 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 has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees.

State of Michigan

1. State level emergency worker decontamination will be demonstrated at the FTC on October 30, 2012.
2. State personnel will provide assistance as requested during county Public Reception/Emergency Worker decontamination center demonstrations.

Allegan County

1. Allegan County will fully demonstrate public reception/decontamination center out-of sequence from the exercise at Fennville High School. (Otsego High School was demonstrated in 2010.)
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.

Berrien County

1. Berrien County will fully demonstrate separate public reception/decontamination center out-of sequence from the exercise at Berrien Springs High School.
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.

Van Buren County

This criterion was demonstrated at Gobles and Paw Paw High Schools in 2008 and 2010. There for will not be demonstrated in 2012.

Note: The decontamination and washing of vehicles and individuals, if detailed in the county plans, 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 to accomplish monitoring and decontamination of emergency workers and their equipment and vehicles.

State of Michigan

State of Michigan personnel will only demonstrate this criterion at the State Field Team Center (FTC). State emergency equipment and vehicles will be monitored and decontamination will be simulated, as appropriate. This criterion will be demonstrated on October 30, 2012. State personnel will provide assistance as requested during county Public Reception/Emergency Worker decontamination center demonstrations.

Allegan County

This criterion was demonstrated in 2010 at Graafschap Fire Dept. and will not be demonstrated during this exercise.

Berrien County

Berrien County will fully demonstrate the emergency worker/equipment decontamination center out of sequence with the exercise at Watervliet High School.

Van Buren County

This criterion was demonstrated in 2010 at the Decatur/Hamilton Fire Dept. and will not be demonstrated during this exercise

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.

Allegan County

1. Allegan County will fully demonstrate a congregate care center out of sequence with the Exercise at Fennville High School. 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.

Berrien County

1. Berrien County will fully demonstrate a congregate care center out of sequence with the Exercise at Berrien Springs High School. 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.

Van Buren County

1. Van Buren County will fully demonstrate a congregate care center out of sequence with the exercise at Mattawan. 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: 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. This criterion will be demonstrated on Thursday, November 1, 2012, at South Haven Hospital.

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

OFFSITE MEDICAL DRILL

EXTENT of PLAY South Haven Hospital South Haven, MI November 1, 2012 Start Time 09:00 a.m.

MI – Medical Drill November 1, 2012
Rev: October 19, 2012

Location: South Haven Health Systems Hospital
955 S. Bailey Ave.
South Haven, MI 49090

Transportation Provider: Covert Fire/EMS

Lead Controller:	Jim Ridley
MSP/EMHSD Covert Fire/EMS Controller:	Tonya Nobach
Medical/Rad Controller:	Provided by Palisades
Victim:	Provided by Palisades
MDEQ ER Monitor:	MDEQ Staff
MDEQ Ambulance Monitor:	MDEQ Staff
Covert Fire/EMS:	Staff
South Haven Health Systems:	Staff

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

Evaluation Area 1 - Emergency Operations Management

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

Covert Fire/EMS will use 2-way radios to communicate with South Haven Hospital. Other communication systems that can be used include commercial telephone or cell phones.

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

South Haven Hospital will adequately demonstrate the ability to support operations, with adequate resources. The availability of dosimetry and KI for hospital personnel will be demonstrated during this exercise, Covert Fire/EMS staff will also be issued dosimetry and KI (by the lead controller) as field team members.

Evaluation Area 3 - Protective Action Implementation

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

The use of dosimetry and KI will be demonstrated by hospital staff and ambulance crew. For the purpose of this drill the ambulance exercise controller will simulate issuing dosimetry and KI to the ambulance crew in lieu of the emergency worker decontamination center.

MDEQ staff will be arriving from the Field team center. To which they have already been briefed and given their dosimetry packets.

For purposes of this exercise, if there is no medical need to bring equipment into and out of the treatment room, swabs will be taken at the injury locations and passed out of the room to demonstrate movement of equipment and supplies into and out of the controlled area.

Evaluation Area 6.D – Transportation And Treatment Of Contaminated Injured Individuals

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

The hospital will demonstrate procedures for limiting exposure to hospital staff, decontaminating a patient, and restricting access to the area where the patient is being treated and monitored.

Covert Fire/EMS will demonstrate the capability to transport a contaminated, injured individual to South Haven Hospital. The ambulance crew will pick up a contaminated injured patient near the Palisades Nuclear Plant (should inclement weather conditions exist, the Lead Controller may simulate the outdoor accident scene and begin the drill from an indoor location within the Palisades Owner Controlled Area). The ambulance crew will be met by Michigan Department of Environmental Quality (MDEQ) staff that will perform initial radiation monitoring, and will provide information regarding contamination levels on the patient. Covert Fire/EMS staff will utilize universal precautions and good housekeeping practices

to minimize the spread of contamination focusing on treating the patient's medical condition.

Covert Fire/EMS will call in the information regarding the patient to South Haven Hospital so they can prepare for receipt of a contaminated patient. MDEQ personnel will accompany the patient to the hospital along with the ambulance, bringing instrumentation to provide radiation readings and guidance to the hospital.

South Haven Hospital will implement their plan for receipt, isolation and treatment of an injured contaminated patient. Two hospital staff members will demonstrate proper donning and doffing of full personal protective equipment (PPE). Upon completion of this portion of demonstration PPE requirements may be relaxed with the concurrence of the lead controller and FEMA evaluator. Medical personnel will utilize universal precautions and good housekeeping practices to minimize the spread of contamination, and will focus on treating the patient's medical condition. Simple decontamination efforts will be demonstrated after the patient has been medically stabilized. MDEQ personnel will discuss the need to take additional samples for further radiological analysis. Hospital personnel will demonstrate their knowledge of who to call beyond MDEQ for assistance in Radiological Accidents (e.g., REAC/TS).

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

The drill will conclude with hospital representatives and MDEQ personnel supervising the removal of protective clothing and surveying of the emergency room and hospital personnel. MDEQ will also advise on the proper procedure for release or disposal of contaminated material. Termination will be at the discretion of the Lead Controller, MSP/EMHSD Controller and FEMA Evaluator(s) based on successful demonstration of objectives.

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

STATE OF INDIANA 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.

2012 Palisades IPX: Indiana Extent-of-Play

17 January 2012

Assessment Area 1 - Emergency Operations Management

Sub-element 1.a – Mobilization

Criterion 1.a.1: OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654/FEMA-REP-1, A.1.a, e; A.3, 4; C.1,4, 6; D.4; E.1, 2; H.3, 4)

The Indiana Department of Homeland Security (IDHS) will be fully activated, along with response and support partners identified in the Indiana Ingestion Pathway Plan. The IDHS Watch Officers will implement notification procedures as defined in the Ingestion Pathway Plan and current Standard Operating Procedures. Additional partner state agency liaisons will be contacted and will report to the State Emergency Operations Center (SEOC). No personnel will be pre-positioned in the SEOC, except those individuals who work in this area daily.

Indiana's Forward Operating Center (FOC) will be located at Indiana State Police Post 24 in Bremen, IN, 1425 Miami Trail, Bremen, IN 46506. The FOC will be fully activated with state and local personnel. FOC and sampling team members will be sent to Bremen the night before, to expedite opening of the FOC on the day of exercise play.

Sub-element 1.b – Facilities

Criterion 1.b.1: Facilities are sufficient to support the emergency response. (NUREG-0654/FEMA-REP-1, H.3; G.3.a; J.10.h; J.12; K.5.b)

This criterion will be demonstrated at the SEOC in Indianapolis and FOC in Bremen.

Sub-element 1.c – Direction and Control

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. (NUREG-0654/FEMAREP-1, A.1.d; A.2.a, b; A.3; C.4, 6)

The ability to direct and control emergency response activities will be demonstrated at the SEOC and FOC, by leadership of those facilities, in accordance with current plans and procedures.

Sub-element 1.d – Communications Equipment

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. (NUREG-0654/FEMA-REP-1, F.1, 2)

The IDHS Watch Desk serves as the 24-hour, 7-day a week initial answering and notification point for all state emergencies. Communications resources available to the Watch Desk Officers are WebEOC, voice-over-internet-protocol telephones, one (800) telephone line, telephonic and web conferencing capabilities, several two-way radio systems (800MHz, VHF, HF, satellite, and HAM), facsimile, microwave connection, and satellite linkage. These same capabilities are found within the SEOC, with some SEOC positions having different capabilities than others.

The primary communication between the FOC and SEOC will be via cellular telephone and WebEOC. The FOC will also have access to email, voice-over-internet-protocol telephones, satellite linkage, and two-way radio. Sampling teams will primarily communicate with the FOC via 800MHz radios, with back-up being cellular phones.

Sub-element 1.e – Equipment and Supplies to Support Operations

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

Demonstration on the use of maps, equipment, and displays to support emergency operations will take place at the SEOC, FOC, and State Radiochemistry Lab. The availability of dosimetry will be demonstrated at the FOC and State Radiochemistry Lab. An equipment check will be performed at the FOC as well.

Assessment Area 2 - Protective Action Decision-Making

Sub-element 2.a – Emergency Worker Exposure Control

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. (NUREG-0654/FEMA-REP-1, C.6; J.10. e, f; K.4)

Exposure control will be demonstrated at the FOC and by sampling teams. With the minimal level of contamination expected in Indiana following an incident, many

portions of this element may not be demonstrated. Exposure limits will be kept in accordance with current plans and procedures.

Sub-element 2.d – Radiological Assessment and Decision Making for the Ingestion Exposure Pathway

Criterion 2.d.1: Radiological consequences for the ingestion pathway are assessed and appropriate protective action decisions are made based on the ORO's planning criteria. (NUREG-0654/FEMA-REP-1, A.3; C.1, 4; D.4; J.9,11)

The ability to assess radiological consequences will be demonstrated during the post-emergency phase of the exercise. Field measurements from sampling teams through the FOC will be supplied to the SEOC, along with measurements from the State Radiochemistry Lab to facilitate protective action decision making. This will be conducted in accordance with current plans and procedures.

Assessment Area 3 - Protective Action Implementation

Sub-element 3.a – Implementation of Emergency Worker Exposure Control

Criterion 3.a.1: The OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to emergency workers in accordance with the plans/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. OROs maintain appropriate record-keeping of the administration of KI to emergency workers. (NUREG-0654/FEMA-REP-1, J.10.e; K.3.a, b; K.4)

All sampling team and laboratory staff who will be gathering, processing, and analyzing radioactive samples, will have dosimetry. Some laboratory staff will have permanent dosimetry, but any person without permanent dosimetry will have either non-self reading or self-reading dosimeters.

Sub-element 3.e – Implementation of Ingestion Pathway Decisions

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. NUREG-0654/FEMA-REP-1, A.3; C.1, 4; J.11)

Acquiring this information will be demonstrated in the SEOC, along with access being available at the FOC. All information will be obtained and used in accordance with current plans and procedures.

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.
(NUREG-0654/FEMA-REP-1, G.1, J.9, 11)***

This criterion will be demonstrated in the SEOC during the post-emergency phase.

Assessment Area 4 - Field Measurements And Analysis

Sub-element 4.b – Post-Plume Phase Field Measurements and Sampling

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 will be demonstrated by the sampling teams. Samples appropriate to the area and season will be collected and transported in accordance with standard operating procedures. This will be conducted at the direction of the FOC. Three (3) field teams will be evaluated.

Sub-element 4.c – Laboratory Operations

Criterion 4.c.1: The laboratory is capable of performing required radiological analyses to support protective action decisions. (NUREG-0654/FEMA-REP-1, C.1, 3; J.11)

The Indiana State Department of Health Radiochemistry Lab will be at full operation. Samples appropriate to the area will be delivered on the morning of the exercise to the lab in an out of sequence play operation. Samples will then be prepared and analyzed in accordance with standard operating procedures.

Assessment Area 5 - Emergency Notification And Public Notification

Sub-element 5.b – Subsequent Emergency Information and Instructions for the Public and the Media

***Criterion 5.b.1: OROs provide accurate subsequent emergency information and instructions to the public and the news media in a timely manner.
(NUREG-0654/FEMA-REP-1, E.5, 7; G.3.a, G.4.a, c)***

The IDHS Public Information Officer (PIO) is responsible for the preparation and dissemination of media advisories to the public upon approval by the Governor, or his/her designee. Pre-scripted advisories are the primary method of notification to the public of the possible or actual emergency and are included in the Indiana Ingestion Pathway Plan. They were developed for use by the PIO to expedite the process of obtaining final approval by the Governor's office. During the exercise, the PIO will monitor actions and decisions made by the appropriate officials at the EOC. Media briefings will be conducted at the SEOC/JIC. An advisory will be issued to the media from the SEOC/JIC.

Assessment Area 6 - Support Operations/Facilities

Sub-element 6.b – Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles

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. (NUREG-0654/FEMA-REP-1, K.5.a, b)

This will be demonstrated at the FOC. One portal monitor will be set up during the demonstration. The ability to monitor and decontaminate emergency workers will be demonstrated. This will be conducted when sampling teams return to the FOC from the field.

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