



Federal Emergency Management Agency
Region V
536 South Clark Street, 6th Floor
Chicago, IL 60605-1521

October 4, 2000

Mr. James Dyer
Regional Administrator, Region III
U. S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, Illinois 60532-4351

Dear Mr. Dyer:

Enclosed is a copy of the Final Exercise Report for the Biennial Radiological Emergency Preparedness (REP) Exercise conducted on June 6-7, 2000 for the Palisades Nuclear Plant.

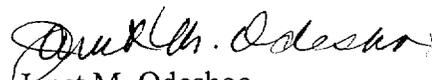
There were no Deficiencies identified during the exercise for the State of Michigan, Allegan, Berrien and Van Buren Counties. There were two Areas Requiring Corrective Actions (ARCAs) identified for the State of Michigan (Objectives #5 and #13), and two ARCAs identified for Allegan County (Objectives #3 and #15), as defined in section 4 of the report. One prior ARCA remains unresolved for the State of Michigan (Objective #12). There were no new or unresolved ARCAs identified in Berrien and Van Buren Counties.

Based on the results of the June 6-7, 2000 exercise, the offsite radiological emergency response plans and preparedness for the State of Michigan, Allegan, Van Buren and Berrien Counties, site-specific to the Palisades Nuclear Plant can be implemented. These plans 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.

Therefore, 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 Plant, granted on July 6, 1982 remains in effect. Copies of the report were also sent to the Nuclear Regulatory Commission (NRC) National Office, FEMA National Office and the State of Michigan.

If there should be any questions, please do not hesitate to let me know or have a member of your staff contact Bruce Pfaff at (312) 408-5365.

Sincerely,


Janet M. Odesho
Acting Regional Director

OCT 13 2000



Final Exercise Report

Palisades Nuclear Plant

Licensee: Consumers Energy

Exercise Date: June 6-7, 2000

Report Date: September 30, 2000

**Federal Emergency Management Agency
Region V
536 South Clark Street, 6th Floor
Chicago, IL 60605-1521**

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I. EXECUTIVE SUMMARY

On June 6-7, 2000, an exercise was conducted in the plume exposure pathway emergency planning zone (EPZ) around the Palisades Nuclear Plant. The purpose of the exercise was to assess the level of State and local preparedness in responding to a radiological emergency. This exercise was held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans (RERP) and procedures.

The most recent exercise at this site was conducted on December 1, 1998. The qualifying emergency preparedness exercise was conducted on July 6, 1982.

FEMA wishes to acknowledge the efforts of the many individuals in the State of Michigan, Berrien, Allegan and Van Buren Counties who participated in this exercise.

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

This report contains the evaluation results of the biennial exercise and the following out-of-sequence activities: on 5 June 2000, Paw Paw High School Public Reception and Decontamination, Van Buren County Health Department Dosimetry Distribution and Decatur-Hamilton Fire Department Emergency Worker Decontamination Center. The Fennville High School Decontamination Center in Allegan County was evaluated on the evening of 6 June 2000. The Fennville High School Congregate Care Center in Allegan County was evaluated on the afternoon of 6 June 2000. The Vocational Technical Center Emergency Worker Decontamination in Allegan County was evaluated on June 7, 2000. The Mattawan High School Public Congregate Care Center in Van Buren County was evaluated on June 7, 2000. The Field Team Center and Field Teams in Coloma, MI. were evaluated on June 7, 2000.

The State and local organizations, except where noted in this report, demonstrated knowledge of their emergency response plans and adequately implemented them. There were no Deficiencies and there are four Areas Requiring Corrective Action (ARCA) identified as a result of this exercise. There is one ARCA from a previous exercise that remains unresolved.

II. INTRODUCTION

On December 7, 1979, the President directed FEMA to assume the lead responsibility for all offsite nuclear planning and response. FEMA's activities are conducted pursuant to 44 Code of Federal Regulations (CFR) Parts 350, 351 and 352. These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

FEMA Rule 44 CFR 350 establishes the policies and procedures for 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 government participation in joint exercises with licensees.

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 radiological emergency response plans (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 NRC pursuant to the Memorandum of Understanding between the NRC and FEMA (Federal Register, Vol. 58, No. 176, dated September 14, 1993); and
- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:
 - U.S. Department of Commerce,
 - U.S. Nuclear Regulatory Commission,
 - U.S. Environmental Protection Agency,
 - U.S. Department of Energy,
 - U.S. Department of Health and Human Services,
 - U.S. Department of Transportation,
 - U.S. Department of Agriculture,
 - U.S. Department of the Interior, and
 - U.S. Food and Drug Administration.

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

Formal submission of the RERPs for the Palisades Nuclear Plant to FEMA Region V by the State of Michigan and involved local jurisdictions occurred on March 22, 1982. Formal approval of the RERPs was granted by FEMA on July 6, 1982, under 44 CFR 350.

A REP exercise was conducted on June 6-7, 2000 by FEMA Region V 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 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 evaluator team, with final determinations made by the FEMA Region V RAC Chairperson, and approved by the Regional Director.

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

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;
- FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual," September 1991; and
- FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September 1991.

Section III of this report, entitled "Exercise Overview," presents basic information and data relevant to the exercise. This section of the report contains a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities, which were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

Section IV of this report, entitled "Exercise Evaluation and Results," presents detailed information on the demonstration of applicable exercise objectives at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues-only format. This section also contains: (1) descriptions of all ARCAs assessed during this exercise, recommended corrective actions, and (2) descriptions of ARCAs assessed during previous exercises and the status of the OROs' efforts to resolve them.

III. EXERCISE OVERVIEW

Contained in this section are data and basic information relevant to the June 6-7, 2000 exercise and out of sequence activities to test the offsite emergency response capabilities in the area surrounding the Palisades Nuclear Plant. This section of the exercise report includes a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities, which were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

A. Plume Emergency Planning Zone Description

The Palisades Nuclear Plant is located in the State of Michigan, and encompasses parts of Allegan, Berrien and Van Buren Counties, and the Eastern Shore of Lake Michigan. The major portion of the EPZ falls within Van Buren County and Lake Michigan. The total 1990 population of the 0 to 10 mile EPZ was 44,289. The following municipalities are located within the EPZ:

Van Buren County (33,800 for county) – Bangor City, Bangor Township, Covert Township, Geneva Township, Hartford City, and South Haven Township.

Allegan County (45,050 for county) – Casco Township.

Berrien County (80,200 for county) – Coloma City, Coloma Township, Hagar Township, Watervliet Township, and Watervliet City.

Within the 10-mile EPZ, located on Lake Michigan, are various summer resorts that offer camping facilities, light-housekeeping cottages, and tourists' attractions. The area has seasonal population, which varies from summer to winter. Peak summer population is estimated to be 78,000 persons. Seasonal fresh fruit and vegetable farming and processing takes place during the spring, summer, and fall. A part of the large seasonal work force is Spanish-speaking. Lake Michigan is the cooling water source for the plant.

The 50-Mile ingestion pathway zone (IPZ) encompasses all or parts of nine counties within the State of Michigan and three counties within the State of Indiana. Michigan counties in the 50-mile ingestion pathway zone include: Allegan, Barry, Berrien, Cass, Kalamazoo, Kent, Ottawa, Van Buren and Saint Josephs; Indiana counties include: Elkhart, LaPorte, and Saint Joseph. The total 1990 population of the 0 to 50 mile IPZ is 983,998.

B. Exercise Participants

The following agencies, organizations, and units of government participated in the Palisades Nuclear Plant exercise on June 6-7, 2000.

STATE OF MICHIGAN

Office of the Governor
Michigan State Police Emergency Management Division
Michigan Department of Transportation
Michigan Department of Environmental Quality
Michigan Department of Natural Resources
Michigan Department of Social Services
Michigan Department of Agriculture
Michigan Department of Military Affairs

RISK JURISDICTIONS (MICHIGAN)

BERRIEN COUNTY

Board of Commissioners
Office of Emergency Management Coordinator
Public Information Officer
Berrien County Health Department
Berrien County Sheriff's Department
Family Interdependence Agency
Fire Services/Hazardous Materials Team
Intermediate School District
Highway Department
Radiation Protection Officer
Michigan State Police Regional Coordinators

VAN BUREN COUNTY

Board of Commissioners
Office of the Emergency Management Coordinator
Public Information Officer
Van Buren County Sheriff's Department
Van Buren County Health Department
Van Buren County Department of Social Services
Van Buren County Road Commission
Police Services
Fire Services
Intermediate School District
Damage Assessment
Michigan State Police Regional Coordinators

ALLEGAN COUNTY

Board of Commissioners (Chief Executive)
Office of the Emergency Management Coordinator (EMC)
Public Information Officer (PIO)
Allegan County Sheriff's Department
Allegan County Health Department
Allegan County Department of Social Services
Allegan County Road Commission
Police Services
Fire Services
Intermediate School District
Damage Assessment
Michigan State Police Regional Coordinators

PRIVATE/VOLUNTEER ORGANIZATIONS

American Red Cross
Amateur Radio Operators
Volunteer Fire Departments

C. Exercise Timeline

Table 1, on the following page, presents the time at which key events and activities occurred during the Palisades exercise on June 6-7, 2000.

Table 1. Exercise Timeline

DATE AND SITE: June 6-7, 2000, Palisades Nuclear Power Plant

Emergency Classification Level or Event	Time Utility Declared						
		Michigan State EOC	Van Buren County EOC	Allegan County EOC	Berrien County EOC	Joint Public Information Center	FTC
Unusual Event							
Alert	0833	0841	0836	0847	0844	0837	0841
Site Area Emergency	1018	1027	1035	1035	1036	1022	1027
General Emergency	1025	1030	1045	1045	1046	1029	1030
Simulated Radiation Release Started	1040	1040	1105	1105	1052	1105	1040
Simulated Radiation Release Terminated:		1230	N/A	N/A	N/A	1255	1255
Facility Declared Operational		0912	1000	1005	1000	0945	1000
Declaration of County Emergency		N/A	1035	1018	1018	N/A	N/A
Declaration State of Emergency		1040	1040	1040	1040	1040	N/A
Exercise Terminated		1245	1250	1252	1252	1300	1300
1 st Protective Action Decision: Shelter animals and provide stored feed and protected water. Shelter: Evacuate: sub areas 1,2,3 to 10 miles and restrict lake activity up to 5 miles.		1045	1045	1045	1050	N/A	N/A
1 st Siren Activation		N/A	1047	N/A	N/A	N/A	N/A
1 st EAS/EBS Message:		N/A	1053	N/A	N/A	N/A	N/A
2 nd Protective Action Decision: Place milk producing animals on stored feed and protected water. Shelter: Evacuate: 1,2,3,4,5 all sectors to 10 miles and Lake Michigan to 10 miles		1105	1107	1110	1108	1105	N/A
2 nd Siren Activation		N/A	1109	N/A	N/A	N/A	N/A
2 nd EBS/EAS Message:		N/A	1115	N/A	N/A	1115	N/A
KI Administration Decision: Emergency Workers sub-areas 1, 2, 3		1050	1102	1108	1108		1050
KI Administration Decision: Emergency Workers sub areas 1,2,3,4,5				1110	1110	1105	1110
KI for institutionalized and homebound in sub-areas 1, 2, 4		1113	1139	1139	1139	1113	N/A

LEGEND: D – Decision Making Jurisdiction A – Activating Jurisdiction N/A – Not Applicable Blank – Not Reported

IV. EXERCISE EVALUATION AND RESULTS

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities, which participated in the drills and June 6-7, 2000, exercise. The exercise was designed to test the offsite emergency response capabilities of State and local governments in the 10-mile Emergency Planning Zone and the 50-mile Ingestion Pathway (for the State) surrounding the Palisades Nuclear Plant.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in exercise objectives contained in FEMA-REP-14, REP Exercise Manual, September 1991. Detailed information on the exercise objectives and the extent-of-play agreement used in this exercise are found in Appendix 3 of this report.

A. Summary Results of Exercise Evaluation

The matrix presented in Table 2, on the following page(s), presents the status of all exercise objectives from FEMA-REP-14 that were scheduled for demonstration during this exercise, by all participating jurisdictions and functional entities. Exercise objectives are listed by number and the demonstration status of those objectives is indicated by the use of the following letters:

- M - Met (No Deficiency or ARCAs assessed and no unresolved ARCAs from prior exercises)
- D - Deficiency assessed
- A - ARCA(s) assessed or unresolved ARCA(s) from prior exercise(s)
- N - Not Demonstrated (Reason explained in Subsection B)

B. Status of Jurisdictions Evaluated

This subsection provides information on the evaluation of each participating jurisdiction and functional entity, in a jurisdiction based, issues only format. Presented below are definitions of the terms used in this subsection relative to objective demonstration status.

- **Met** - Listing of the demonstrated exercise objectives under which no Deficiencies or ARCAs were assessed during this exercise and under which no ARCAs assessed during prior exercises remain unresolved.
- **Deficiency** - Listing of the demonstrated exercise objectives under which one or more Deficiencies was assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.
- **Areas Requiring Corrective Actions** - Listing of the demonstrated exercise objectives under which one or more ARCAs were assessed during the current exercise or ARCAs assessed during prior exercises that remain unresolved. Included is a description of the ARCAs assessed during this exercise and the recommended corrective action to be demonstrated before or during the next biennial exercise.
- **Not Demonstrated** - Listing of the exercise objectives which were not demonstrated as scheduled during this exercise and the reason they were not demonstrated.
- **Prior ARCAs - Resolved** - Descriptions of ARCAs assessed during previous exercises, which were resolved in this exercise, and the corrective actions demonstrated.
- **Prior ARCAs - Unresolved** - Descriptions of ARCAs assessed during prior exercises that were not resolved in this exercise. Included is the reason the ARCA remains unresolved and recommended corrective actions to be demonstrated before or during the next biennial exercise.

The following are definitions of the two types of exercise issues, which are discussed in this report.

- A **Deficiency** is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that could cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant."
- An **ARCA** is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety."

FEMA has developed a standardized system for numbering exercise issues (Deficiencies and ARCAs). This system is used to achieve consistency in numbering exercise issues among FEMA Regions and site-specific exercise reports within each Region. It also expedites tracking of exercise issues on a nationwide basis.

Elements of the Standard Exercise Issue Number

The identifying number of Deficiencies and ARCAs includes the following elements, with each element separated by a hyphen (-).

- **Plant Site Identifier** - A two-digit number, corresponding to the Utility Billable Plant Site Codes.
- **Exercise Year** - Last two digits of the year the exercise was conducted.
- **Objective Number** - A two -digit number corresponding to the objective numbers in FEMA-REP-14.
- **Issue Classification Identifier** (D = Deficiency, A = ARCA) Only Deficiencies and ARCAs are included in exercise reports.
- **Exercise Issue Identification Number** - A separate two (or three) digit indexing number assigned to each issue identified in the exercise.

1. STATE OF MICHIGAN

1.1 State Emergency Operations Center

- a. **MET:** Objectives 1,2,3,4,7,9,10,11,13,23,26,27,28,29 and 30
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** Objective 5

Issue No.: 44-00-05-A-01

Description: The representative of the Michigan Department of Natural Resources (DNR), in the State Emergency Operations Center, failed to provide dosimetry, protection and contamination control for DNR personnel, assigned to clear boat traffic in Lake Michigan. NUREG-0654, H.10, K.3.a, K.3.b.4., J.10.e, K.5.a.b

Recommendation: Revise existing DNR plans and procedures to include providing, and instructing Emergency workers with dosimetry and KI as the situation warrants. Train DNR personnel, who have the potential to evacuate areas within the EPZ, on dosimetry, KI, and decontamination sites.

Schedule of Corrective Action: DNR plans and procedures will be revised to provide DNR emergency workers with dosimetry and KI as the situation warrants. DNR personnel who may serve as emergency workers within the EPZ will be trained on the use of dosimetry, potassium iodide, and state decontamination facility locations.

Completion Date: December 31, 2000

- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ISSUES - RESOLVED:** NONE
- f. **PRIOR ISSUES - UNRESOLVED:** NONE

1.2 Joint Public Information Center (State)

- a. **MET:** Objectives 1,4 and 11
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** Objective 13

Issue No: 44-00-13-A-02

Description: The response time, for the JPIC Rumor Control section, to the Consumers Energy Customer Service Center after the messages were completed ranged from six minutes to 73 minutes. Of the ten messages forwarded, seven took over thirty-six minutes to respond to rumor control questions. This kind of delay results in the service center staff answering the public rumor control questions with potentially obsolete information.

Recommendation: To help ensure that timely and accurate responses to questions are provided to citizens calling at the Royal Oak Consumers Energy Customer Service Center, the JPIC Rumor Control staff should institute measures to decrease the time it takes to provide new information from the JPIC to the Rumor Control Center.

Schedule of Corrective Action: Analysis of this issue has revealed that the root cause of the problem is the use of thermal paper facsimile machines used at the JPIC. Consumers Energy has committed to replace JPIC facsimile machines with plain paper facsimile machines to speed the transfer of information between the JPIC and Consumers Energy customer service centers, which serve as Palisades Rumor Control Centers. This will ensure that timely and accurate responses to questions are provided to the citizens calling at the Royal Oak Consumers Energy Customer Service Center.

Completion Date: December 31, 2000

- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ISSUES - RESOLVED:** NONE
- f. **PRIOR ISSUES - UNRESOLVED:** Objective 12

Issue No.: 15-99-12-A-01

Description: In news statement #3 issued by the JPIC a sentence read, "The release was isolated and stopped at 11:14 a.m." This statement could be misleading since the release from the plant was not completely stopped until 11:42 a.m. This could cause confusion among the general population by assuming that the emergency was over at 11:14 a.m. and the danger had passed. The sentence should have read, "The source of the release was isolated at 11:14 a.m., however diminishing levels of radioactivity are still being released from the plant. Releases to the environment are projected to end in (estimated number of) hours." According to EOF message 11 at 1230 hours, the release was 11,100 mR/hr at 1119 hours, 21 mR/hr at 1137 hours and 1 mR/hr at 1145 hours.

Recommended Corrective Action: This is a training issue. State, County and Utility representatives that discuss and coordinate each news statement should be made aware of the use of plant terminology. Any source of possible confusion to the public should be edited.

Schedule of Corrective Actions: This issue originated from information provided by the plant representatives, which was not verifiable by the state except through state radiological monitoring teams. The State of Michigan contests this ARCA since the root cause is beyond

State control. State, county, and utility representatives that discuss and coordinate each news statement will be reminded during annual training to ensure accuracy when using plant terminology.

FEMA Response: This objective is to be selected and demonstrated at the JPIC during the next exercise.

1.3 Rumor Control (State)

- a. **MET: Objective 13**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

1.4 State Radiological Laboratory

- a. **MET: Objective 25**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

1.5 Department of Environmental Quality Field Team Center

- a. **MET: Objectives 1,2,3,5,14,22,26 and 28**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**

- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

1.6 Department of Environmental Quality Field Team #1

- a. **MET: Objectives 1,4,5,14,22 and 24**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

1.7 Department of Environmental Quality Field Team #2

- a. **MET: Objectives 1,4,5,14 and 24**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

1.8 Department of Environmental Quality Field Team # 3

- a. **MET: Objectives 1,4,5,14 and 24**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

1.9 Department of Agriculture Field Team # 1

- a. **MET: Objectives 1,4,5,14,22 and 24**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

1.10 Michigan Department of Environmental Quality Emergency Worker Decontamination Facility (Fennville)

- a. **MET: Objectives 5,14 and 18**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

1.11 Emergency Worker Monitoring and Decontamination (Paw Paw)

- a. **MET: Objectives 5,14 and 18**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

2. RISK JURISDICTIONS (MICHIGAN)

2.1 Van Buren County

2.1.1 County Emergency Operations Center

- a. MET: Objectives 1,2, 3, 4,10,11, 12, 13 and 15
- b. DEFICIENCY: NONE
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE
- d. NOT DEMONSTRATED: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

2.1.2 Joint Public Information Center (County)

- a. MET: Objective 13
- b. DEFICIENCY: NONE
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE
- d. NOT DEMONSTRATED: NONE
- e. PRIOR ISSUES - RESOLVED: NONE
- f. PRIOR ISSUES - UNRESOLVED: NONE

2.1.3 Radio Station WCSY

- a. MET: Objective 11
- b. DEFICIENCY: NONE
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE
- d. NOT DEMONSTRATED: NONE
- e. PRIOR ISSUES - RESOLVED: NONE

- f. **PRIOR ISSUES - UNRESOLVED: NONE**

2.1.4 Traffic/Access Control Point

- a. **MET: Objectives 5, 14 and 17**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

2.1.5 Dosimetry Distribution

- a. **MET: Objectives 5 and 14**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

2.1.6 Emergency Worker Monitoring/Decontamination (Decatur/Hamilton Fire Department)

- a. **MET: Objectives 5 and 22**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE** ---
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

2.1.7 Reception/Monitoring/Registration/Decontamination (Paw Paw High School)

- a. **MET: Objectives 2,4 and 18**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

2.1.8 Congregate Care (Mattawan High School)

- a. **MET: Objective 19**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

2.1.9 Implementation of Protective Actions (EV-2) Covert High School

- a. **MET: Objective 16**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

3.1 Allegan County

3.1.1 County Emergency Operations Center

- a. **MET:** Objectives 1,2,4,5,10,11, 12, 13, 14, 17 and 30
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** Objectives 3 and 15

Issue No.: 44-00-03-A-03

Description: The State provided the County the second protective action order (PAO) at 1105 hours. The PAO included the requirement to evacuate sub-areas 1, 2, 3, 4 and 5 out to ten miles. This PAO included a portion of Allegan County. There was discussion on the evacuation of 2,500 students from the schools in Van Buren County. However, there was no discussion of the progress, nor completion of the evacuation of the general public and the Special Populations in Allegan County (Objective No. 15) during the roundtable briefings in the Allegan County EOC.

Recommendation: Additional training of staff responsible for reporting on the status, progress and all aspects of the evacuations is recommended.

Schedule of Corrective Action: There are no schools in Allegan County within the 10-mile EPZ; the 2,500 students were from Van Buren County. Interviews conducted with the Allegan County EOC staff on July 24, 2000 indicate that discussions related to evacuation did take place in the Allegan County EOC following the order to evacuate the Allegan County portion of the EPZ. The decision was made by the State of Michigan at 1105. Transmittal of the evacuation order to EAS stations is the responsibility of Van Buren County. Allegan County advises Van Buren County on status of reception centers, Congregate Care Centers, and evacuation impediments. Due to the number of Van Buren County students evacuated, Allegan County activated a second Congregate Care Center. This information was provided to the JPIC at 1215 and indicated that the second Congregate Care Center would be open by 1500. Clearly, Allegan County staff was cognizant of the number of evacuees potentially entering Allegan County facilities. At 1110, Allegan County Family Independence Agency (FIA) staff was instructed to begin activation of the second Congregate Care Center. Between 1105 and 1230, the list of special needs population was being assembled. The FIA EOC Representative shift change occurred at 11:35. At 1230, the list was complete, and staff at the FIA office were instructed to begin calling persons on the list at 1235. The exercise was terminated at 1253. Due to severe time compression during the exercise and termination before calls actually would have been completed, there is no record as having been completed.

Completion Date: Not Applicable

FEMA Response: The ARCA remains and should be fully demonstrated at the next Palisades exercise. Lists of Special Populations were not available during the exercise as required by the Allegan County Emergency Operations Plan, Attachment D, appendix 1, Annex J, page 1-10.

Issue No. 44-00-15-A-04

Description: The FIA Officer did not receive confirmation that simulated telephone calls were made to the special populations. The FIA officer did not confirm that equipment and personnel required to evacuate transportation dependent people to shelter was available.

Recommendation: FIA Officers should follow-up requests to their FIA management staff assuring that all special population residents have been telephoned, provided with information regarding the Palisades Nuclear Plant incident and return the names and needs of residents who require evacuation transportation. If transportation assistance is not needed, this information should be reported to the FIA contact at the Allegan EOC.

Schedule of Corrective Actions: The “FIO” officer should be changed to “FIA”, which is the abbreviation for the Family Independence Agency. As noted in the response to ARCA number 44-00-03-A-03, discussions between the FIA EOC Representative and the FIA office were occurring. Due to the time frame between provision of initial instructions to FIA staff at 1235 and termination of the exercise at 1253 (a period of 18 minutes) FIA staff did not have ample time to complete calls to all persons on the list.

Completion Date: Not Applicable

FEMA Response: The ARCA remains and should be fully demonstrated at the next Palisades exercise. Exercises are terminated when objectives have been fully demonstrated, controllers and players must communicate to prevent ARCA’s being issued and objectives not yet demonstrated due to early exercise termination.

- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

3.1.2 Joint Public Information Center (County)

- a. **MET: Objectives 13 and 14**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**

- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

3.1.3 Traffic/Access Control Point

- a. **MET: Objectives 5, 14 and 17**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

3.1.4 Emergency Worker Monitoring/Decontamination (Fennville Fire Department)

- a. **MET: Objectives 5 and 22**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

3.1.5 Reception/Monitoring/Registration/Decontamination (Fennville High School)

- a. **MET: Objectives 5 and 18**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

3.1.6 Congregate Care

- a. **MET: Objective 19**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

4.1 Berrien County

4.1.1 County Emergency Operations Center

- a. **MET: Objectives 1,2, 3, 4,5,10,11,12,13,18,19 and 22**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

4.1.2 Joint Public Information Center (County)

- a. **MET: Objective 13**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ISSUES - RESOLVED: NONE**
- f. **PRIOR ISSUES - UNRESOLVED: NONE**

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

The following is a list of the acronyms and abbreviations, which were used in this report.

A&N	Alert and Notification
ANL	Argonne National Laboratory
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
CFR	Code of Federal Regulations
ECL	Emergency Classification Level
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EV-2	FEMA Guidance Memorandum EV-2, <i>"Protective Actions for School Children,"</i> <i>November 13, 1986</i>
FEMA	Federal Emergency Management Agency
JPIC	Joint Public Information Center
KI	Potassium Iodide
KLT	K.L. Travis and Associates, Inc.
MSP	Michigan State Police
NRC	U.S. Nuclear Regulatory Commission
NUREG-0654	NUREG-0654/FEMA-REP-1, Rev. 1, <i>"Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants", November 1980</i>
ORO	Offsite Response Organization
PAD	Protective Action Decision

PAO	Protective Action Order
PAR	Protective Action Recommendation
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Service
REP	Radiological Emergency Preparedness
REPEX	Radiological Emergency Preparedness Exercise
RERP	Radiological Emergency Response Plan
RHD	Radiological Health Division
SEOC	State Emergency Operations Center

APPENDIX 2

EXERCISE EVALUATORS AND TEAM LEADERS

The following is a list of the personnel who evaluated the Palisades Nuclear Plant exercise on June 6-7, 2000. Evaluator Team Leaders are indicated by the letters "(TL)" after their names. The organization which each evaluator represents is indicated by the following abbreviations:

FEMA - Federal Emergency Management Agency
 ANL - Argonne National Laboratory
 NRC - Nuclear Regulatory Commission
 FHA - Federal Highway Administration

Exercise Director:	William King	FEMA
Exercise Project Officer:	Bruce Pfaff	FEMA

EVALUATION SITE	EVALUATOR	ORGANIZATION
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STATE OF MICHIGAN

State Emergency Operations Center	Bruce Pfaff (TL)	FEMA
	Roy Smith	ANL
	Richard Grundstrom	ANL
Dose Assessment	Randy Lowden	ANL
State Initial Notification Point	Bruce Pfaff	FEMA
State Laboratory	Richard Grundstrom	ANL
Joint Public Information Center (State)	Bill Small	ANL
Rumor Control (State)	Tracy Green	ANL
Field Team Center	Richard Grundstrom	ANL
	Jerry Stroba	ANL
Field Team #1 DEQ	Kevin Flynn	ANL
Field Team #2 DEQ	Harry Harrison	ANL
Field Team #3 DEQ	Marian Williams	ANL
Field Team #1 MDA	Natalia Meshkov	ANL
Reception Centers/EW/Decon	George Goforth	ANL

VAN BUREN COUNTY

County Emergency Operations Center	Gary Naskrent (TL)	FEMA
Radio Station COSY	Phil Kier	ANL
	Alan Birman	FEMA
	Neil Geata	ANL
Traffic and Access Control	Alan Birman	FEMA
Reception Center	Alan Birman	FEMA

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
Congregate Care	Neil Geata	ANL
Emergency Worker Center	Alan Birman	FEMA
EV-2 Covert High School	Bruce Pfaff	FEMA
	Clint Crackel	FEMA
Dosimetry Issue	Phil Keir	ANL
Decontamination Paw Paw	Alan Birman	FEMA
Joint Public Information Center (County)	Neil Geata	ANL

ALLEGAN COUNTY

County Emergency Operations Center	Cleven Lloyd (TL)	FEMA
	Martha Willis	ANL
	Ron Hatcher	FHA
Traffic and Access Control	Ron Hatcher	FHA
Reception Center	Cleven Lloyd	FEMA
Congregate Care	Cleven Lloyd	FEMA
Emergency Worker Center	Cleven Lloyd	FEMA
Joint Public Information Center (County)	Martha Willis	ANL

BERRIEN COUNTY

County Emergency Operations Center	Carolyn Sturghill (TL)	FEMA
	Rodger Kowalski	ANL
	Les Poch	ANL
Joint Public Information Center (County)	Les Poch	ANL

APPENDIX 3

EXERCISE OBJECTIVES AND EXTENT-OF-PLAY AGREEMENT

This appendix lists the exercise objectives, which were scheduled for demonstration in the Palisades Nuclear Plant exercise on June 6-7, 2000 and the extent-of-play agreement approved by FEMA Region V on May 16, 2000.

PALISADES 2000 REP EXERCISE OBJECTIVES

GROUP A OBJECTIVES

These objectives should be demonstrated in every biennial exercise by all Offsite Response Organizations (OROs) that have responsibility for them.

OBJECTIVE 1: MOBILIZATION OF EMERGENCY PERSONNEL

Demonstrate the capability to alert and fully mobilize personnel for both emergency facilities and field operations. Demonstrate the capability to activate and staff emergency facilities for emergency operations.

State of Michigan:	Yes
Van Buren County	Yes
Allegan County	Yes
Berrien County	No

Extent of Play: Personnel at the State EOC in Lansing and Van Buren and Allegan EOCs will demonstrate alert, mobilization, and activation in sequence with the exercise. Berrien County EOC personnel will be pre-positioned. State Field Team Center personnel will be pre-positioned for day 2 of the exercise only to demonstrate ingestion pathway objectives. Van Buren and Berrien Counties will also demonstrate alert, mobilization, and activation of JPIC personnel. State and Allegan County JPIC personnel will be pre-positioned. Van Buren and Allegan County personnel for emergency worker decontamination centers, public reception/decontamination and congregate care centers will be pre-positioned at their facilities/locations. Alert, mobilization, and activation procedures can be observed at warning entry points (MSP Special Operations and county sheriff departments). Berrien County EOC staff will be limited to the Chief of Staff, Public Information, RADPRO, Fire Services, and Social Services representatives.

Van Buren County and the State of Michigan have applied for credit for this objective based on Y2K rollover response activities.

OBJECTIVE 2: FACILITIES - EQUIPMENT, DISPLAYS, AND WORK ENVIRONMENT

Demonstrate the adequacy of facilities, equipment, displays, and other materials to support emergency operations.

State of Michigan:	Yes
Van Buren County	Yes
Allegan County	Yes
Berrien County	Yes

Extent of Play: This objective will include the demonstration of the setup of the State EOC, the Field Team Center (out of sequence), and the Allegan County EOC, but not the JPIC or the Berrien County EOC. The Van Buren County EOC is permanently setup.

Van Buren County and the State of Michigan have applied for credit for this objective based on Y2K rollover response activities.

OBJECTIVE 3: DIRECTION AND CONTROL

Demonstrate the capability to direct and control emergency operations.

State of Michigan:	Yes
Van Buren County	Yes
Allegan County	Yes
Berrien County	Yes

Van Buren County and the State of Michigan have applied for credit for this objective based on Y2K rollover response activities.

OBJECTIVE 4: COMMUNICATIONS

Demonstrate the capability to communicate with all appropriate emergency personnel at facilities and in the field.

State of Michigan:	Yes
Van Buren County	Yes
Allegan County	Yes
Berrien County	Yes

Van Buren County and the State of Michigan have applied for credit for this objective based on Y2K rollover response activities.

OBJECTIVE 5: EMERGENCY WORKER EXPOSURE CONTROL

Demonstrate the ability to continuously monitor and control radiation exposure to emergency workers.

State of Michigan:	Yes
Van Buren County	Yes
Allegan County	Yes
Berrien County	Yes (Interview only)

Extent of Play: Dosimetry will be distributed to the appropriate personnel for demonstration of access control point demonstrations in Van Buren and Allegan Counties in sequence at the respective EOCs. Emergency Worker Decontamination Center and Public Reception/Decontamination Centers will be demonstrated out of sequence and will be provided dosimetry at the time of the demonstration. Personnel assigned to field teams and the Field Team Center (FTC) will receive dosimetry from the FTC. Berrien County will demonstrate its capabilities via interviews at the BEOC

OBJECTIVE 6: FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION

Demonstrate the appropriate use of equipment and procedures for determining field radiation measurements.

State of Michigan:	No
Van Buren County	N/A
Allegan County	N/A
Berrien County:	N/A

Extent of Play: Simulated plume dose calculations will be provided to the SEOC via control cell. Since this is a partial plume exposure exercise for the State of Michigan, the Field Team Center will not be set up.

OBJECTIVE 7: PLUME DOSE PROJECTION

Demonstrate the capability to develop dose projections and protective action recommendations regarding evacuation and sheltering.

State of Michigan:	Yes
Van Buren County	N/A
Allegan County	N/A
Berrien County	N/A

Extent of Play: The State will use revised plume dose projection procedures to demonstrate this objective. Since the Field Team Center will be activated to demonstrate only ingestion pathway related objectives, plume dose calculations will be provided to the SEOC via control cell.

OBJECTIVE 8: FIELD RADIOLOGICAL MONITORING - AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING

Demonstrate the appropriate use of equipment and procedures for the measurement of airborne radioiodine concentrations as low as 10⁻⁷ (0.0000001) micro curies per cubic centimeter in the presence of noble gases and obtain samples of particulate activity in the airborne plume.

State of Michigan:	No
Van Buren County	N/A
Allegan County	N/A
Berrien County	N/A

OBJECTIVE 9: PLUME PROTECTIVE ACTION DECISION MAKING

Demonstrate the capability to make timely protective action decisions (PADs).

State of Michigan:	Yes
Van Buren County	N/A
Allegan County	N/A
Berrien County	N/A

OBJECTIVE 10: ALERT AND NOTIFICATION

Demonstrate the capability to promptly alert and notify the public within the 10-mile plume pathway emergency planning zone (EPZ) and disseminate instructional messages to the public on the basis of decisions by appropriate state and local officials.

State of Michigan:	Yes
Van Buren County	Yes
Allegan County	Yes
Berrien County	Yes

Extent of Play: Under county plans, the Van Buren County Sheriff's Department is the primary activation point for the public warning system (siren system and public notification [EAS]) for the plume EPZ, acting for Van Buren, Allegan, and Berrien Counties. Allegan and Berrien Counties do not control the sirens or issue a separate EAS message. To demonstrate this objective, the State will provide information to Van Buren County for release in the initial EAS message. Allegan and Berrien Counties will provide information for inclusion only if the initial Protective Action Order includes them.

OBJECTIVE 11: PUBLIC INSTRUCTIONS AND EMERGENCY INFORMATION

Demonstrate the capability to coordinate the formulation and dissemination of accurate information and instructions to the public.

State of Michigan	Yes
Van Buren County	Yes
Allegan County	Yes
Berrien County	Yes

Extent of Play: This objective will be demonstrated through EAS announcements from the Van Buren County EOC and at the JPIC. Also, see Objective 10 Extent of Play.

OBJECTIVE 12: EMERGENCY INFORMATION - MEDIA

Demonstrate the capability to coordinate the development and dissemination of clear, accurate, and timely information to the news media at the JPIC.

State of Michigan	Yes
Van Buren County	Yes
Allegan County	Yes
Berrien County	Yes

The State of Michigan has applied for credit for this objective based on Y2K rollover response activities.

OBJECTIVE 13: EMERGENCY INFORMATION - RUMOR CONTROL

Demonstrate the capability to establish and operate rumor control in a coordinated and timely manner.

State of Michigan	Yes
Van Buren County	Yes
Allegan County	Yes
Berrien County	Yes

Extent of Play: Rumor Control for Palisades is located at a Consumers Energy Customer Service Center utilizing its customer service staff. The service center is connected via fax and phone to the JPIC where the appropriate representative answers questions raised by rumor control and data is provided to the rumor control coordinator.

The State of Michigan has applied for credit for this objective based on Y2K rollover response activities.

GROUP B OBJECTIVES

These objectives should be demonstrated in every biennial exercise by some OROs. Specific participation is dependent on scenario events and exercise play. Should be demonstrated every six years by the responsible ORO.

OBJECTIVE 14: IMPLEMENTATION OF PROTECTIVE ACTIONS - USE OF KI FOR EMERGENCY WORKERS, INSTITUTIONALIZED INDIVIDUALS

Demonstrate the capability and resources to implement potassium iodide (KI) protective actions for emergency workers, institutionalized individuals, and, if the State plan specifies, the general public.

State of Michigan	Yes
Van Buren County	Yes
Allegan County	Yes
Berrien County	No

Extent of Play: Simulated KI will be distributed to emergency workers in Van Buren and Allegan Counties along with their dosimetry if driven by the scenario. The State will demonstrate this objective through decision-making and orders to the counties to implement the PA.

OBJECTIVE 15: IMPLEMENTATION OF PROTECTIVE ACTIONS - SPECIAL POPULATIONS

Demonstrate the capability and resources necessary to implement appropriate protective actions for special populations.

State of Michigan	N/A
Van Buren County	Yes
Allegan County	Yes
Berrien County	No

Extent of Play: Lists of transportation dependent and special needs populations are kept by each county. No personnel will be moved. Equipment lists and rosters will be available in the Van Buren and Allegan County EOCs. No phone calls to transportation dependent persons will be made.

OBJECTIVE 16: IMPLEMENTATION OF PROTECTIVE ACTIONS - SCHOOLS

Demonstrate the capability and resources necessary to implement protective actions for school children within the plume pathway emergency planning zone (EPZ).

State of Michigan	No
Van Buren County	Yes
Allegan County	N/A (No schools within EPZ)
Berrien County	Yes

Extent of Play: EV-2 interview arrangements will be provided in the Table of Facilities submitted with the exercise scenario. Due to partial EOC staffing, Berrien County will only conduct an EV-2 interview. There will be no EOC demonstration of this objective.

OBJECTIVE 17: TRAFFIC AND ACCESS CONTROL

Demonstrate the organizational capability and resources necessary to control evacuation traffic flow and to control access to evacuated and sheltered areas.

State of Michigan	No
Van Buren County	Yes
Allegan County	Yes
Berrien County	No

Extent of Play: Van Buren County and Allegan County will each demonstrate one Access Control Point in sequence with the exercise at locations near the sheriff departments.

OBJECTIVE 18: RECEPTION CENTER - MONITORING, DECONTAMINATION, AND REGISTRATION

Demonstrate the adequacy of procedures, facilities, equipment, and personnel for the radiological monitoring, decontamination, and registration of evacuees.

State of Michigan	Yes
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Van Buren County	Yes
Allegan County	Yes
Berrien County	Yes (interview only)

Extent of Play: *Van Buren and Allegan Counties will each fully demonstrate a reception/decontamination center. These demonstrations will be out of sequence with the exercise, and the personnel manning the centers will not go through alert, mobilization, activation, or shift changes. Berrien County will demonstrate its capabilities through interviews at the BEOC. State DEQ HP personnel will provide assistance as requested during Allegan and Van Buren County demonstrations.*

OBJECTIVE 19: CONGREGATE CARE

Demonstrate the adequacy of facilities, equipment, supplies, personnel, and procedures for congregate care of evacuees.

State of Michigan	No
Van Buren County	Yes
Allegan County	Yes
Berrien County	Yes (interview only)

Extent of Play: *Van Buren and Allegan Counties will each fully demonstrate a congregate care center. These demonstrations will be out of sequence with the exercise, and the personnel manning the centers will not go through alert, mobilization, activation, or shift changes. Berrien County will demonstrate its capabilities in an interview at the BEOC.*

OBJECTIVE 20: MEDICAL SERVICES - TRANSPORTATION

Demonstrate the adequacy of vehicles, equipment, procedures, and personnel for transporting contaminated, injured, or exposed individuals.

State of Michigan	No
Van Buren County	Yes (September 27, 2000)
Allegan County	No
Berrien County	No

OBJECTIVE 21: MEDICAL SERVICES - FACILITIES

Demonstrate the adequacy of the equipment, procedures, supplies, and personnel of medical facilities responsible for treatment of contaminated, injured, or exposed individuals.

State of Michigan	Yes (September 27, 2000)
Van Buren County	Yes (September 27, 2000)
Allegan County	No
Berrien County	No

OBJECTIVE 22: EMERGENCY WORKERS, EQUIPMENT, AND VEHICLES - MONITORING AND DECONTAMINATION

Demonstrate the adequacy of procedures for monitoring and decontamination of emergency workers, equipment, and vehicles.

State of Michigan	Yes
Van Buren County	Yes
Allegan County	Yes
Berrien County	Yes (interview only)

Extent of Play: *Van Buren and Allegan Counties will each fully demonstrate an emergency worker decontamination center. These demonstrations will be out of sequence with the exercise, and the personnel manning the centers will not go through alert, mobilization, activation, or shift changes. Berrien County will demonstrate capabilities through interviews at the BEOC. State DEQ HP personnel will provide assistance as requested during Allegan and Van Buren County demonstrations. The State will also demonstrate this objective through a State emergency worker decontamination facility at the Field Team Center.*

OBJECTIVE 23: SUPPLEMENTARY ASSISTANCE (FEDERAL/OTHER)

Demonstrate the capability to identify the need for external assistance and to request such assistance from federal or other support organizations.

State of Michigan	Yes
Van Buren County	N/A
Allegan County	N/A
Berrien County	N/A

Extent of Play: The SEOC will request federal assistance using appropriate channels.

GROUP C OBJECTIVES

These objectives should be demonstrated at least once every six years by each organization with responsibility for them as determined by the organization's plans and procedures.

OBJECTIVE 24: POST-EMERGENCY SAMPLING

Demonstrate the use of equipment and procedures for the collection and transportation of samples from areas that received deposition from the airborne plume.

State of Michigan	Yes
Van Buren County	N/A
Allegan County	N/A
Berrien County	N/A

Extent of Play: The State will collect soil and vegetation (and water, if applicable) samples. These will be taken to the Field Team Center to be prepared for shipment, but no further transportation of samples will take place.

OBJECTIVE 25: LABORATORY OPERATIONS

Demonstrate laboratory operations and procedures for measuring and analyzing samples.

State of Michigan	Yes
Van Buren County	N/A
Allegan County	N/A
Berrien County	N/A

Extent of Play: The State will demonstrate this objective at its laboratory in Lansing using the following pre-positioned sample types: surface water, milk, soil, grass, and selected crops as available.

OBJECTIVE 26: INGESTION EXPOSURE PATHWAY - DOSE PROJECTION AND PROTECTIVE ACTION (PA) DECISION MAKING

Demonstrate the capability to project dose to the public for the ingestion exposure pathway and to recommend PAs.

State of Michigan	Yes
Van Buren County	N/A
Allegan County	N/A
Berrien County	N/A

OBJECTIVE 27: INGESTION EXPOSURE PATHWAY - PROTECTIVE ACTION IMPLEMENTATION

Demonstrate the capability to implement protective actions for the ingestion exposure pathway.

State of Michigan	Yes
Van Buren County	No
Allegan County	No
Berrien County	No

OBJECTIVE 28: RELOCATION, RE-ENTRY, AND RETURN - DECISION MAKING

Demonstrate the capability to develop decisions on relocation, re-entry, and return.

State of Michigan	Yes
Van Buren County	N/A
Allegan County	N/A
Berrien County	N/A

OBJECTIVE 29: RELOCATION, RE-ENTRY, AND RETURN - IMPLEMENTATION

Demonstrate the capability to implement appropriate measures for relocation, re-entry, and return.

State of Michigan	Yes
Van Buren County	No
Allegan County	No
Berrien County	No

OBJECTIVE 30: CONTINUOUS, 24-HOUR STAFFING

Demonstrate the capability to maintain staffing on a continuous, 24-hour basis through an actual shift change.

State of Michigan	Yes
Van Buren County	No
Allegan County	Yes
Berrien County	No

The State of Michigan has applied for credit for this objective based on Y2K rollover response activities.

OBJECTIVE 31: OFF-SITE SUPPORT FOR THE EVACUATION OF ON-SITE PERSONNEL

Demonstrate the capability to provide off-site support for the evacuation of on-site personnel.

State of Michigan	No
Van Buren County	No
Allegan County	No
Berrien County	No

OBJECTIVE 32: UNANNOUNCED DRILL

Demonstrate the capability to carry out emergency response functions in an unannounced exercise or drill.

State of Michigan	No
Van Buren County	No
Allegan County	No
Berrien County	No

OBJECTIVE 33: OFF-HOURS DRILL

Demonstrate the capability to carry out emergency response functions during an off-hours exercise or drill.

State of Michigan	No
Van Buren County	No
Allegan County	No
Berrien County	No

APPENDIX 4

EXERCISE SCENARIO

This appendix contains a summary of the simulated sequence of events -- Exercise Scenario -- that was used as the basis for invoking emergency response actions by OROs in the Palisades Nuclear Plant exercise on June 6-7, 2000.

This exercise scenario was submitted by the State of Michigan and approved by FEMA Region V on May 16, 2000.

During the exercise, controllers from Michigan gave "inject messages," containing scenario events and/or relevant data, to those persons or locations who would normally receive notification of such events. Response actions taken by OROs were invoked using injected messages.

Palisades Exercise State Emergency Operations Center Time Line, Data, & Actions

Time & Day	Data Provided to Players	Expected Player Actions
0830 – 1200 Day 1	<ul style="list-style-type: none"> Standard Plume Exposure Data 	<ul style="list-style-type: none"> The Usual
1200 – 1300	<ul style="list-style-type: none"> Post Plume Center Line Data on Red Route 1 	<ul style="list-style-type: none"> MDA Confirms Agricultural PAOs MDEQ Assesses Surface Water Concerns SEOC Conveys Information to NRC, DOE, EPA, et. al. Ingestion Pathway Committee Formed
1300 – 1430 Day 1	<p style="text-align: center;">+ 4 Hour Data</p> <ul style="list-style-type: none"> Footprint Data as Generated by DEQ Field Teams 	<ul style="list-style-type: none"> Identify Reentry, Relocation, & Controlled Areas – Recommend PAOs Discuss Decontamination Options Discuss Sampling Regimen Develop EMD-34s (Sampling Locations & Types) Provide a Briefing on Realistic Time Frames for Results
1430 – 1630 Day 1	<p style="text-align: center;">+ 12 Hour Data</p> <ul style="list-style-type: none"> Gross Federal Fly Over Data (500 μR/hour) Hot Sample Results from Lab Including Air Samples, Intake Water, Surface Water, Rivers, Grass, & Soil 	<ul style="list-style-type: none"> Federal Play Begins at SEOC (State/Federal Briefing with Advance Party) Reevaluate PAOs Develop Work Plan for FRMAC & State
0800 – 1000 Day 2	<p style="text-align: center;">+ 24 Hour Data</p> <ul style="list-style-type: none"> 24 Hour Federal Fly Over Data (20 & 500 μR/Hour) 	<ul style="list-style-type: none"> Interplay with Federal Government Develop Advance Party Monitoring & Sampling Plan Develop 2nd round of EMD-34s (samples)
1000 – 1200 Day 2	<p style="text-align: center;">+ 72 Hour Data</p> <ul style="list-style-type: none"> Lab Results Including Water, Soil, Grass, Strawberries, Asparagus, and Milk (with Associated Water, Soil, & Grass) to Accommodate: <ul style="list-style-type: none"> - 2 DOE Teams - 1 MDA Team - 3 DEQ Teams 	<ul style="list-style-type: none"> Reevaluate PAOs Develop Long Term State & Federal Monitoring Plans Re-entry and Return Decisions Recovery Plans

FTC - Field Team Center
PAO - Protective Action Order
PAR - Protective Action Recommendation
EMD-34 - Ingestion Pathway Sampling Form

MDA - Michigan Department of Agriculture
SEOC - State Emergency Operations Center
DOE - US Department of Energy
DEQ - Department of

Time	Data Provided to Players	Expected Player Actions
0800 – 0830	<ul style="list-style-type: none"> • PAOs From Plume Phase • Plume Field Data 	<ul style="list-style-type: none"> • Preparation, Briefing, DEQ Teams Dispatched • One DEQ Team Dispatched To Red Route 1 For Center-Line Readings
0830 – 0845	<ul style="list-style-type: none"> • Centerline Red Route 1 Readings For Deposition (Waist High) 	<ul style="list-style-type: none"> • DEQ Team Records Data And Notifies FTC • HPS Runs Computer Model With Center Line Data • HPS Documents Discussion With SEOC Regarding Agricultural Advisories As Soon As Possible
0830 – 1030	<ul style="list-style-type: none"> • Footprint Data Readings (20 And 500 mR/H Isodose Contours) For Field Teams • Surface Water Sample Contact Beta Readings 	<ul style="list-style-type: none"> • DEQ Field Teams Record Initial Footprint Data And Relay Data Points To FTC • DEQ Field Team Dispatched For Surface Water Sample(s) • HPS Plots Footprint & Sends To SEOC
1030 – 1400	<p style="text-align: center;">+ 4 Hour Data</p> <ul style="list-style-type: none"> • Completed Footprint Isodose Contours • EMD-34s From SEOC • 1 M Above Ground Level Gamma And Sample Contact Beta Readings 	<ul style="list-style-type: none"> • FTC Directs Environmental Sampling of DEQ Teams
1040 – 1400	<ul style="list-style-type: none"> • EMD-34s • 1 M Above Ground Level Gamma And Sample Contact Beta Readings 	<ul style="list-style-type: none"> • FTC Briefs And Dispatches MDA & DOE Teams • FTC Directs DEQ, DOE And MDA Environmental Sampling Teams
1040-1200	<p style="text-align: center;">+ 12 Hour Data</p> <ul style="list-style-type: none"> <input type="checkbox"/> Gross Federal Fly-Over (500 mR/H) <input type="checkbox"/> Hot Sample Results From Lab Including Air Sample (Plume), Surface Water, Grass & Soil 	<ul style="list-style-type: none"> <input type="checkbox"/> HPS Runs Lab Data Through Computer Spreadsheet <input type="checkbox"/> HPS Documents SEOC Discussions On Dose Assessment
1200-1330	<p style="text-align: center;">+ 24 Hour Data</p> <ul style="list-style-type: none"> <input type="checkbox"/> 24 Hour Fly-Over Data (20 And 500 mR/H) 	<ul style="list-style-type: none"> <input type="checkbox"/> HPS/Field Team Center Coordinator Discussions With SEOC <input type="checkbox"/> Updated Footprint Map Produced By HPS
1330-1400	<p style="text-align: center;">+ 72 Hour Data</p> <ul style="list-style-type: none"> <input type="checkbox"/> Lab Results From All Samples: Water, Soil, Grass, Strawberries, Asparagus & Milk From DOE, MDA, & DEQ Field Teams 	<ul style="list-style-type: none"> <input type="checkbox"/> HPS Run Dose Assessment Computer Spreadsheets <input type="checkbox"/> HPS Project Public And Worker Doses <input type="checkbox"/> FTC Coordinator Sends PARs To SEOC
1400-1500	<ul style="list-style-type: none"> • Team Contamination Levels • Sample Package Rad Levels 	<ul style="list-style-type: none"> • Teams Run Through Decontamination at FTC • Samples Packaged & Labeled For Transport To Nuclear Counting Facility in Lansing
1500-1515	<ul style="list-style-type: none"> • Latest PAOs From SEOC 	<ul style="list-style-type: none"> • FTC Coordinator Debriefs All Participants On Data And Decision Making

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SEOC - State Emergency Operations Center

DOE - US Department of Energy

DEQ - Department of Environmental Quality

- Out of Sequence with DEQ Field Teams & Worker Decontamination Center

Palisades REP Exercise 2000 Field Team Center Time Line & Scenario

Time	Data Provided to Players	Expected Player Actions
0800 – 0830	<ul style="list-style-type: none"> • PAOs From Plume Phase • Plume Field Data 	<ul style="list-style-type: none"> • Preparation, Briefing, DEQ Teams Dispatched • One DEQ Team Dispatched To Red Route 1 For Center-Line Readings
0830 –0845	<ul style="list-style-type: none"> • Centerline Red Route 1 Readings For Deposition (Waist High) 	<ul style="list-style-type: none"> • DEQ Team Records Data And Notifies FTC • HPS Runs Computer Model With Center Line Data • HPS Documents Discussion With SEOC Regarding Agricultural Advisories As Soon As Possible
0830 – 1030	<ul style="list-style-type: none"> • Footprint Data Readings (20 And 500 mR/H Isodose Contours) For Field Teams • Surface Water Sample Contact Beta Readings 	<ul style="list-style-type: none"> • DEQ Field Teams Record Initial Footprint Data And Relay Data Points To FTC • DEQ Field Team Dispatched For Surface Water Sample(s) • HPS Plots Footprint & Sends To SEOC
1030 – 1400	<p style="text-align: center;">+ 4 Hour Data</p> <ul style="list-style-type: none"> • Completed Footprint Isodose Contours • EMD-34s From SEOC • 1 M Above Ground Level Gamma And Sample Contact Beta Readings 	<ul style="list-style-type: none"> • FTC Directs Environmental Sampling of DEQ Teams
1040 – 1400	<ul style="list-style-type: none"> • EMD-34s • 1 M Above Ground Level Gamma And Sample Contact Beta Readings 	<ul style="list-style-type: none"> • FTC Briefs And Dispatches MDA & DOE Teams • FTC Directs DEQ, DOE And MDA Environmental Sampling Teams
1040-1200	<p style="text-align: center;">+ 12 Hour Data</p> <ul style="list-style-type: none"> <input type="checkbox"/> Gross Federal Fly-Over (500 mR/H) <input type="checkbox"/> Hot Sample Results From Lab Including Air Sample (Plume), Surface Water, Grass & Soil 	<ul style="list-style-type: none"> <input type="checkbox"/> HPS Runs Lab Data Through Computer Spreadsheet <input type="checkbox"/> HPS Documents SEOC Discussions On Dose Assessment
1200-1330	<p style="text-align: center;">+ 24 Hour Data</p> <ul style="list-style-type: none"> <input type="checkbox"/> 24 Hour Fly-Over Data (20 And 500 mR/H) 	<ul style="list-style-type: none"> <input type="checkbox"/> HPS/Field Team Center Coordinator Discussions With SEOC <input type="checkbox"/> Updated Footprint Map Produced By HPS
1330-1400	<p style="text-align: center;">+ 72 Hour Data</p> <ul style="list-style-type: none"> <input type="checkbox"/> Lab Results From All Samples: Water, Soil, Grass, Strawberries, Asparagus & Milk From DOE, MDA, & DEQ Field Teams 	<ul style="list-style-type: none"> <input type="checkbox"/> HPS Run Dose Assessment Computer Spreadsheets <input type="checkbox"/> HPS Project Public And Worker Doses <input type="checkbox"/> FTC Coordinator Sends PARs To SEOC
1400-1500	<ul style="list-style-type: none"> • Team Contamination Levels • Sample Package Rad Levels 	<ul style="list-style-type: none"> • Teams Run Through Decontamination at FTC • Samples Packaged & Labeled For Transport To Nuclear Counting Facility in Lansing
1500-1515	<ul style="list-style-type: none"> • Latest PAOs From SEOC 	<ul style="list-style-type: none"> • FTC Coordinator Debriefs All Participants On Data And Decision Making

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