FERMI 2 EXERCISE MANUAL FERMEX 87 AUGUST 1987

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# FERMI 2

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# EXERCISE MANUAL

# TABLE OF CONTENTS

PART I:	GENERAL DESCRIPTION AND OVERVIEW	Page
	SECTION 1 - INTRODUCTION	5
	SECTION 2 - PURPOSE	7
	SECTION 3 - SCOPE, OBJECTIVES, AND SIMULATIONS FOR FERMEX 87	9
	3.1 Detroit Edison 3.2 Offsite Response Organizations	10 12

PART I: GENERAL DESCRIPTION

AND OVERVIEW

SECTION 1

1 1

INTRODUCTION

The Radiological Emergency Response Preparedness (RERP) Program for Fermi 2 consists of the RERP Plan, the RERP Implementing Procedures (EPs), RERP Administrative Procedures (EPAs), and related emergency preparedness plans and procedures of Federal, State, and local government agencies. The purpose of the program is to provide protection of plant personnel and the general public, to restrict the release of radioactivity, and to secure plant systems in a stable and safe configuration in the event of an emergency situation at Fermi 2. The Fermi 2 RERP Program has the following objectives:

- Effective coordination of emergency activities among onsite and offsite organizations having an emergency response role,
- Early warning and clear instructions to the general public in the affected area in the event of a radiological emergency.
- Continued assessment of actual or potential consequences both onsite and offsite.
- Effective and timely implementation of emergency measures.
- Continued maintenance of an adequate state of emergency.

The RERP Plan describes the RERP Program, including the nature of emergency response activities and the available emergency response resources and facilities.

The RERP Plan is applicable to Fermi 2 and its environs, including a plume exposure pathway Emergency Planning Zone (EPZ) extending 10 miles and an ingestion pathway EPZ extending 50 miles. The 10-mile EPZ for the plume exposure pathway includes all areas within 10 miles of Fermi 2 in Monroe County, Michigan, a small portion of the southern tip of Wayne County, Michigan, and a small portion of the Province of Ontario, Canada. The 50-mile ingestion pathway includes portions of Michigan, Ohio, and Canada.

The Michigan Emergency Preparedness Plan, the Monroe County Emergency Operations Plan, the Wayne County Emergency Operations Plan, and the Brownstown Township Emergency Operations Plan describe the emergency planning and response for the respective government agencies. The Fermi 2 RERP Plan describes the interrelationships between the various Emergency Response Organizations.

The RERP Plan provides a description of the RERP Program as required by 10 CFR 50, Section 50.47. Appropriate criteria from NUREG-0654/FEMA-REP-1, Revision 1, November 1980, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" are also considered.

SECTION 2

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PURPOSK

Radiological Emergency Response Preparedness (RERP) planning for an incident at Fermi 2 is a cooperative effort involving Detroit Edison; local government agencies (county, city, village, and township); the States of Michigan and Ohio; Federal Government agencies; local and provincial agencies in Ontario, Canada; and various organizations that provide support for these agencies. Emergency Planning Zones (EPZs) have been established to assist in the planning effort.

Each organization has the responsibility to assure, through coordinated planning and regularly scheduled exercises, such as FERMEX 87, that it can provide an effective emergency response 24 hours a day. SECTION 3

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SCOPE, OBJECTIVES

AND SIMULATIONS FOR FERMEX 87

## SECTION 3 - SCOPE, OBJECTIVES, AND SIMULATIONS FOR FERMEX 87

### 3.1 DETROIT EDISON

## 3.1.1 SCOPE

FERMEX 87 is scheduled as a "Licensee-Only" exercise to be evaluated by the NRC. However, the Counties of Monroe, Wayne and Brownstown Township may participate. Since it is not a scheduled year for local participation, the local Emergency Response Organizations will not be evaluated by FEMA. As a result, the State of Michigan will participate on a limited basis to pass through the information needed by the Counties to exercise their response organizations. The EXERCISE is designed to test Edison's response to various plant emergencies; to establish the communications and coordination between Edison and offsite governmental Emergency Response Organizations and Facilities; and address the specific responsibilities, capabilities, and interfaces of each organized element of the Fermi 2 RERP Plan and Implementing Procedures.

A simulated abnormal radiological incident at Fermi 2 will escalate from an UNUSUAL EVENT to a GENERAL EMERGENCY. As the capabilities of Edison and the various offsite governmental response organizations are brought into play, the effectiveness and efficiency of Fermi 2's response will be independently evaluated by the NRC.

## **OBJECTIVES**

The specific objectives of FERMEX 87 will demonstrate:

- 1. The adequacy of the RERP Plan and its Implementing Procedures and test the proficiency of the Emergency Response Organization to select and use the appropriate procedures for response to the emergency.
- 2. The capability of the Control Room operators to respond to a radiological incident at Fermi 2, by manipulating the simulator controls, with a minimum of exercise messages and exercise Controller interface and to use the Simulator Control Room communications to conduct an exercise. (The Simulator is not being evaluated).
- 3. The integrated capability of the Emergency Response Organization to respond to a simulated emergency event.
- 4. The effectiveness of the interfaces among the Simulator Control Room and the permanent Emergency Response facilities, (Operational Support Center, Technical Support Center, and Emergency Operations Facility).
- 5. The adequacy and effectiveness of the permanent TSC emergency communications network between Fermi 2, the State of Michigan, Monroe County, Wayne County and Canada.
- 6. Proficiency in recognizing, understanding, and applying the Emergency Action Levels in classifying emergency events.
- 7. The capability of the Simulator Control Room to properly use the procedures and forms provided for notification of the State and local governmental agencies within 15 minutes of classification of the emergency event and provide followup reports on a periodic basis.
- The capability of the Control Room to notify the NRC within 1 hour of declaration of the emergency event.
- 9. The capability of the Control Room to recognize when a release limit from an effluent stack is exceeded.
- 10. The capability of the TSC and EOF (when functional) to properly notify State and local governmental agencies within 15 minutes of classification of the event, and provide followup reports on a periodic basis.
- 11. The capability to perform timely and effective offsite dose assessment based on plant conditions, potential/actual radiological releases, and meteorological conditions through the use of computer software.

- 12. The capability to recommend to the responsible State officials protective actions for the general public in the 10-mile EPZ based on plant conditions, potential and/or actual radiological releases and meteorological data on a timely basis (within 15 minutes of declaring a GENERAL EMERGENCY).
- 13. The capability to recommend to the responsible State officials protective actions for the general public in the 10-mile EPZ based on meteorological forecasts.
- 14. The capability of the Offsite RETs to locate and track the plume, to obtain air samples (if requested) and collect environmental samples and deliver them to the EOF Laboratory.
- 15. The use of personnel dosimetry by the Emergency Response Organization in the Control Room, OSC, TSC and EOF.
- 16. The capability of Health Physics personnel to establish control points at the TSC and EOF and perform routine radiological surveys in the facilities.
- 17. The capability of Health Physics personnel to perform inplant surveys with the proper procedures and instrumentation.
- 18. The capability to authorize exceeding 10 CFR 20 exposure limits within the plant when requested.
- 19. The capability to use inplant iodine monitoring.
- 20. The capability to obtain iodine grab samples, analyze, and properly use the results in offsite dose assessment.
- 21. The capability to obtain and analyze PASS samples as may be requested.
- 22. The capability to evacuate an injured/contaminated worker from the site to a hospital offsite for decontamination and treatment.
- 23. The capability of the Offsite RETs to observe ALARA monitoring practices while performing offsite monitoring.
- 24. To perform Assembly and Accountability within 30 minutes.
- 25. The capability to conduct a shift change of the Emergency Response personnel within the TSC and EOF.

## 3.1.3 SIMULATED CONDITIONS

#### 1. Simulator

For purposes of FERMEX 87, the simulated power level history and other aspects such as nonoperational equipment are defined in the scenario summary by the initial Simulator conditions.

There are conditions the Simulator is not programmed to provide as described below:

- a. The area radiation monitor (ARM) channels will respond and indicate offscale. The ARM readings are simulated within the plant according to the location of the release and the area of concern.
- b. Stack effluent radiation monitors for SGTS, Turbine, Radwaste, and Reactor Building stacks are not available from the Simulator. Releases to the environment are simulated according to accident conditions.

## 2. Other

- a. The capability to take chemistry samples for analysis will be demonstrated. The analytical results are simulated according to accident conditions.
- b. Participation by Detroit Edison onsite personnel directly involved in responding to an emergency shall be carried out to the fullest extent possible - including the deployment of Fire Brigade, Radiological Monitoring Teams, Damage Control and Rescue Teams, and other emergency workers.
- c. All actions are to be played out, as much as possible, in accordance with emergency plan and procedures as if it were a real emergency. Actions that cannot be played out should be identified to the CONTROLLER stating the reason why the action cannot be continued or must be simulated.

# 3.2 OFFSITE RESPONSE ORGANIZATIONS

#### 3.2.1 STATE OBJECTIVES

The State of Michigan will have only limited participation and will not be establishing objectives.

### 3.2.2 WAYNE COUNTY OBJECTIVES

Wayne County will have only limited participation at the Joint Public Information Center and will not be establishing objectives.

# 3.2.3 BROWNSTOWN TOWNSHIP OBJECTIVES

Brownstown Township will have only limited participation at the Joint Public Information Center and will not be establishing objectives.

# 3.2.4 MONROE COUNTY OBJECTIVES

Monroe County will have only limited participation at the Joint Public Information Center and will not be establishing objectives.

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