

ESD/MSP
12/8/81

FEX-82

EXERCISE MANUAL

FULL-SCALE JOINT EMERGENCY EXERCISE
(February 1 & 2, 1982)

ENRICO FERMI ATOMIC POWER PLANT, UNIT 2
(Detroit Edison Company)

PLANT SITE EMERGENCY PLAN

MONROE COUNTY EMERGENCY OPERATIONS PLAN

WAYNE COUNTY EMERGENCY OPERATIONS PLAN
(and the Brownstown Twp. Emergency Preparedness Plan)

MICHIGAN EMERGENCY PREPAREDNESS PLAN

REC'D
13 JAN 82 11 18
05671
BATTLE CREEK

Emergency Services Division
Department of State Police
State of Michigan

8205050333 820322
PDR ADOCK 05000341
F PDR

OBJECTIVES
(Off-site Authorities)

The following objectives are meant to test and exercise the basic integrated capability and major elements of those emergency preparedness plans and organizations applicable to a simulated nuclear accident at the Enrico Fermi Atomic Power Plant, Unit 2:

1. To demonstrate that all parties to the exercise are aware of their operational management responsibilities during a nuclear accident and that proper organization control and support is maintained pursuant to Act 390, P.A. 1976 and the concept of operations delineated in the Michigan Emergency Preparedness Plan.
2. To familiarize state and local government emergency services personnel with the emergency organization and the interrelationships between local, state, federal, and Detroit Edison plans for response to all levels of radiological emergencies.
3. To exercise and evaluate the ability of agencies and individuals to properly execute their plans according to a consistent emergency action level scheme.
4. To familiarize all parties with notification and reporting arrangements and alerting and mobilization procedures for emergency personnel.
5. To exercise communications links between the plant and all off-site facilities, disaster relief forces, and contiguous governments, including understanding the content of messages received and message administration.
6. To exercise the Joint Public Information Center concept of information exchange, media briefing, rumor control, press activities, and release coordination.
7. To provide for the development of written messages intended for the public and to exercise procedures for initiation of public alerting and notification.
8. To provide for the annual program to acquaint news media with procedures to be followed during a nuclear accident during the exercise.
9. To establish emergency operating centers as specified in the plans to demonstrate their adequacy in terms of 24 hour staffing capability and physical setting.
10. To exercise the alternate State EOC as identified in the Michigan Emergency Preparedness Plan.

11. To exercise the radiological monitoring and accident assessment capabilities of the state and local jurisdictions (staff and field operations, monitoring, equipment, technical calculations, use of PAGS, etc.) and to provide for a central point for the receipt and analysis of this information.
12. To demonstrate the ability of participants to implement correct protective actions to protect the public (sheltering, evacuation, reception and care, transportation, etc.).
13. To demonstrate the ability of participants to take adequate exposure control measures and to institute decontamination procedures as necessary.
14. To exercise the hospital and medical transportation support of local governments for potentially contaminated victims.
15. To provide sufficient pre-exercise training specified in NUREG 0654 to familiarize participants in the radiological emergency response concepts, procedures, and actions delineated in the Michigan Emergency Preparedness Plan and the Emergency Operations Plans of political subdivisions whose boundaries are wholly or partially within ten miles of the Enrico Fermi Atomic Power Plant.

DRAFT COPY

DETROIT EDISON COMPANY

JOINT EMERGENCY EXERCISE
ENRICO FERMI ATOMIC POWER PLANT
UNIT 2

EXERCISE MANUAL

B. Objectives

Specific objectives for the EXERCISE will be demonstrated in various phases to emphasize the free play aspect of the EXERCISE.

1. Demonstrate adequacy of the Radiological Emergency Response Plan and the Emergency Plan Implementing Procedures (EPP). The Plan is in compliance with 10CFR50.47 and NUREG-0654.
2. Test the integrated capability and a major portion of the basic elements existing within the station emergency plan and organization.
3. Test and demonstrate the adequacy and effectiveness of plant emergency facilities, equipment, and communication networks.
4. Demonstrate the necessary understanding of Emergency Action Levels (EAL) and proficiency in recognizing and classifying emergency conditions.
5. Demonstrate proficiency in determining appropriate procedures to be used in response to and recovery from an emergency.
6. Demonstrate effective and proper procedure for alerting and notifying, and reporting to the Federal, State, Local, Corporate, and plant personnel.

DRAFT COPY

7. Demonstrate timely and effective estimation and assessment of radiological releases and the radiological consequences of accidents or accidental releases.
8. Demonstrate familiarity with Radiological Emergency Protective Action Guides (PAGs) and demonstrate protective actions considered and used to protect people and other resources both on-site and off-site.
9. Demonstrate capability to produce public information releases and handle public inquiries.
10. Demonstrate proper procedure for communicating with state and local governments within the plume exposure emergency planning zone (10 mile EPZ)
11. Demonstrate proper procedure for on-site and off-site radiological monitoring to include collections and analysis of all sample media and provision for communications and record keeping associated with these survey and monitoring activities.
12. Conduct a fire drill utilizing off-site fire fighting assistance. Conduct a medical emergency with simulated contaminated casualties involving local support services.

ISSUED AT 4:30P

FERMEX MESSAGE

THIS IS AN EXERCISE

PROCLAMATION

1982-

WHEREAS, in the early afternoon hours of February 1, 1982, a hazardous peacetime radiological incident occurred at the Enrico Fermi Atomic Power Plant, Unit 2 in Monroe County resulting in the imminent threat of widespread and severe damage, injury, and loss of life and property; and

WHEREAS, the areas affected are the Primary Emergency Planning Zone consisting of Ash Township, Carleton Village, Berlin Township, Estral Beach Village, Exeter Township, South Rockwood Village, Frenchtown Township, Monroe City, Monroe Township, and Raisinville Township in Monroe County; Brownstown Township (part), Gibraltar City, Flat Rock City, and Rockwood City in Wayne County; and the Secondary Emergency Planning Zone consisting of Lenawee County, Livingston County, Macomb County, Monroe County, Oakland County, Washtenaw County, and Wayne County.

WHEREAS, the conditions causing the disaster resulted from an accident cause; and

NOW, THEREFORE, I, WILLIAM G. MILLIKEN, Governor of the State of Michigan, pursuant to the Constitution of the State of Michigan and the provisions of Act No. 390 of the Public Acts of 1976, do hereby proclaim a state of disaster exists in the aforementioned local political subdivisions.

FURTHERMORE, the Emergency Services Division of the Department of State Police shall coordinate and maximize all state efforts, including such units and individuals of the Michigan National Guard which may be activated to state service, to assist the local political subdivisions and may call upon all state departments to utilize resources at their avail to assist in the disaster areas pursuant to the Michigan Emergency Preparedness Plan; and

FURTHERMORE, termination of this disaster will occur at such time as emergency conditions no longer exist and appropriate programs have been implemented to recover from the affects of this disaster, but in no case longer than February 14, 1982, unless extended as provided by the Act.

FERMEX MESSAGE

THIS IS AN EXERCISE

FERMEX-82

EXERCISE SCENARIO

INITIAL CONDITIONS

The reactor has been operating the equivalent of 300 full power days since refueling and is currently at 100 percent power.

The Loose Parts Monitoring System is alarming. Alarms are indicating an abnormality in the vicinity of the Reactor Recirculation Pump "A" discharge flow element.

The RHR Division I check valve inside the drywell failed a routine test and is suspected to be jammed against its seat in the closed position (Ell-F050A). The Nuclear Shift Supervisor has declared Division I of RER inoperable and has seven days to repair per the Technical Specifications.

Plant management has decided to bring the plant down for inspection of the RHR piping inside the Drywell. The Drywell is being deinerted in preparation for the planned shutdown. Electrical load is being reduced at a controlled rate.

The Nuclear Shift Supervisor has received a call from the System Supervisor requesting that Fermi II temporarily remain at 50 percent load because of frozen coal problems at the Monroe Power Plant. The Nuclear Shift Supervisor has ordered the control room operator to continue to deinert, but not to drop any more electrical load until further notice.

The RCIC is out of service for repair; it is not expected to be returned to service for another 72 hours. The Center Station Air Compressor is out of service for required maintenance. The plant is operating with the reactor coolant system specific activity at its Technical Specification limit of 0.2 microcurie/gm dose equivalent I-131.

All other plant systems are considered to be operable.

METEOROLOGICAL CONDITIONS

Initial and subsequent: As advised by controller. During radioactive release: Wind is from 200 degree at 7 mph. Stability is class "C".

Day One

.. (February 1, 1982)

(Note: Day One involvement for offsite authorities will constitute only receipt and retransmittal of exercise messages. All other mobilization actions and support will be simulated, except for the fire and medical emergency unusual events.)

- 12:30P - Initial conditions.
- 12:35P - Operator notifies the Control Room that he has slipped and fallen in the Reactor Water Cleanup Pump "B" Room and is unable to walk (considered potentially contaminated).
- Approx. 1:00P - UNUSUAL EVENT declared.
- 1:00P - State, Initial Notification Message of a nuclear incident classified as a "NOTIFICATION OF UNUSUAL EVENT" received by SP25 (Flat Rock); Local, same message received by Monroe Joint Communications Center.
- 1:05P - State, SP25 forwards Post Disaster Report and Initial Notification Message via LEIN to (a) District Headquarters, (b) Operations Division, and (c) Emergency Services Division (ESD); Local, Monroe Joint Communications Center forwards Initial Notification Message to appropriate local officials and Wayne County via the Flat Rock City Police Department.)
- 1:10P - State, Operations Division notifies Department of Public Health Emergency Services Coordinator and Radiological Health Division (RHD); ESD/MSP and RDH/DPH concur via telecon that incident does not warrant Governor's proclamation or activation of state plan at this time; standby status initiated; Local, local officials in Monroe and Wayne counties also conclude no mobilization is necessary at this time but prepare to provide routine security, fire fighting, emergency medical assistance, etc., if necessary.
- 1:35P - Fire alarm for 1st floor turbine building area northwest zone.
- 1:45P - Center and East station air compressors on fire. Offsite assistance required.
- 2:45P - Reactor feed pump controller fails and drives feed pumps to high speed stops.
- 2:45P - Main turbine trips on high reactor vessel water level and causes reactor scram.
- 2:50P - Reactor feed pumps trip when reactor water level is at main steam lines.
- 3:15P - Small steam leak in steam tunnel.
- 3:35P - MSIV's isolate on high area temperature.

3:36P - SRV's lift.

3:40P - One SRV ruptures and continues to release steam to drywell atmosphere.

3:50P - Reactor water level is stabilized at normal operating level with HPCI operating.

Approx. 3:55P - ALERT is declared.

4:00P - State, Follow-up Message of nuclear incident classified as "ALERT" received by SP25 (Flat Rock); Local, same message received by Monroe Joint Communications Center.

4:05P - State, SP25 forwards Post Disaster Report and Follow-up Message; Local, Monroe Joint Communications Center forwards Follow-up Message to appropriate local officials and Wayne County.

4:06P - State, Operations Division notifies ESD/MSP and RDH/DPH; ESD/MSP notifies Governor's office; Governor's office stands by for evaluation; Local, Monroe County Chairman declares "State of Emergency" resulting in order to mobilize county EOC and disaster relief forces. Wayne County and Brownstown Township do likewise.

4:15P - State, ESD/MSP and RDH/DPH confer via telecon to recommend Governor to issue a "State of Disaster" proclamation; Governor's office notified; Local, emergency personnel in process of mobilization.

4:15P - Plant Status Update Message #1 received by SP25 and Monroe Joint Communications Center and forwarded as appropriate.

4:25P - Governor declares "State of Disaster" pursuant to Act 390, P.A. 1976. (See attached proclamation.)

4:30P - State, upon notification by ESD/MSP the MDA, DOC, DMA, DNR, DPH, DSS, MSP, and DOT dispatch departmental emergency services coordinators to the State EOC (Lansing); sufficient personnel arrive and are operationally in place to establish EOC operations at 4:40 p.m.; the SEOC establishes open telephone lines with county EOC's and utility EOC's which are maintained until OSEOC is established; Local, county EOC's are operational at 4:35 p.m. and await directions from state.

4:30P - Plant Status Update Message #3 received by SEOC and relayed to county EOC's.

4:40P - Upon notification by ESD/MSP, Operations Division dispatches a command trailer to the predesignated location of the OSEOC (estimated to be set up and operational by 8:00 p.m.). Also RDH/DPH dispatches Radiological Response Teams to the scene (estimated to be operational on-scene by 6:00 p.m.).

- 4:45P - State, communications checks established with county EOC's and utility EOC; Local, EOC's on standby and preparation for action.
- 4:45P - Plant Status Update Message #4 received by SEOC and relayed to county EOC's.
- 4:50P - SEOC notifies FEMA and requests DOE assets placed on standby; also officially notifies State of Ohio and Province of Ontario, Canada.
- 5:00P - The Governor's Press Section issues a news release that the Governor has declared a "State of Disaster" for a nuclear accident at the Fermi II Atomic Power Plant. The release stated no protective actions were necessary at this time, and that state and local emergency response personnel have been mobilized and are on standby status.
- 5:00P - Plant Status Update Message #5 received by SEOC and relayed to county EOC's.
- 5:00P - Exercise secured for Day One.
- 10:00P - (A fire emergency occurs at the SEOC which causes the State Director of Emergency Services to deem a threat exists which could result in the SEOC becoming inoperable. Based on this imminent threat, he orders the SEOC to be relocated to the 2nd District Headquarters in accordance with the Michigan Emergency Preparedness Plan as the alternate site. The SEOC is moved by echelon so as to maintain communications and operations control while relocation occurs. Relocation is completed and full operations are established.)

Day Two

(February 2, 1982)

(During the break in exercise play, the OSEOC is established and operational direction and control is transferred from the SEOC to the OSEOC; the JPIC is established at the Administrative Building, Monroe County Community College; and DPH Radiological Response Teams and mobile laboratory are set up and operational. Offsite authority's actions will be simulated until 8:30 a.m. Offsite EOC workers will not report for duty until 8:00 a.m. after which they will be briefed on exercise play until 8:30 a.m. Exercise participation will commence at that time.)

- 7:00A - Exercise resumes with Plant Status Update Message #6 received by OSEOC and relayed to SEOC and county EOC's.
- 7:15A - HPCI trips and isolates.
- 7:30A - RHR system fails to inject water in reactor vessel.
- 7:40A - Reactor core is uncovered.
- 7:45A - Reactor water level is reestablished with Core Spray Systems.
- 8:00A - Containment Area High Range Radiation Monitor indicates significant fuel damage has occurred.
- Approx. 3:00A - SITE AREA EMERGENCY is declared.
- 8:00A - Follow-up Message of a nuclear incident classified as a "SITE AREA EMERGENCY" received by OSEOC and relayed to SEOC and county EOC's.
- 8:30A - (Exercise play commences for offsite authorities.)
- 10:15A - Primary containment isolation valves for SGTS fail and open.
- 11:00A - SGTS effluent monitor indicates a release of radioactive material to the environment.
- Approx. 11:00A - GENERAL EMERGENCY is declared.
- 12:00N - Inboard SGTS primary containment isolation valve is shut. Release is terminated.
- 1:30P - Offsite radiation levels return to background.
- Approx. 1:25P - Emergency is de-escalated.
- Approx. 1:30P - Recovery is initiated.
- 3:00P - Exercise is terminated.