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 AUTH. NAME      AUTHOR AFFILIATION  
 FITZPATRICK, E.      Indiana Michigan Power Co. (formerly Indiana & Michigan Ele  
 RECIP. NAME      RECIPIENT AFFILIATION  
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SUBJECT: Forwards 1997 emergency plan exercise scope & objectives for  
           970722 exercise, which will include partial state & county  
           participation.

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April 22, 1997

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Docket Nos.: 50-315  
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U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D. C. 20555

Gentlemen:

Donald C. Cook Nuclear Plant Units 1 and 2  
1997 EMERGENCY PLAN EXERCISE SCOPE AND OBJECTIVES

This letter is to inform you that we are submitting the scope and objectives for the July 22, 1997, Cook Nuclear Plant emergency plan exercise to Mr. James R. Creed of your radiological programs section. This action is in accordance with A. B. Davis' NRC - Region III March 16, 1987, letter and FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual".

The July 22, 1997, exercise will include partial state and county participation.

The exercise will be conducted using the unit 2 simulator and the simulated technical support center in the Cook Nuclear Plant training center. Controller information and simulation data are also being developed to provide backup for the exercise in the event of simulator equipment problems.

Also, in accordance with FEMA-REP-14, sixty days in advance of the exercise we will submit the complete exercise scenario package with all controller information and simulation data, including plant data, radiation level data, and release rate data.

Sincerely,

A handwritten signature of E. E. Fitzpatrick is written over the typed name.

E. E. Fitzpatrick  
Vice President

vlb

Attachment

c: A. A. Blind  
A. B. Beach  
J. R. Creed, NRC - Region III - w/attachment  
MDEQ - DW & RPD  
NRC Resident Inspector  
J. R. Padgett

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**COOK NUCLEAR PLANT**

**1997**

**EMERGENCY PLAN EVALUATED EXERCISE**

**SCOPE AND OBJECTIVES**

## PURPOSE

The purpose of this emergency preparedness exercise is to meet the conditions of 10CFR50, Appendix E,(IV)(F)(2)(b), which requires a licensee to conduct an exercise of its onsite emergency plan every 2 years.

## SCOPE

This exercise will take place between the hours of 0800 and 1400 on July 22, 1997. It will include actions by the Cook Nuclear Plant, the American Electric Power (AEP) Nuclear Generation Group Headquarters and Engineering Support Groups, AEP St. Joseph, Michigan District Office, and AEP Public Affairs. State EOC and field survey team operations will be conducted along with Berrien County EOC and field activities. Some local field demonstrations will be conducted out of sequence with the main exercise timeline.

The Cook Plant Unit 2 simulator will be utilized to drive scenario events and all emergency response facilities will be activated. They include the Operations Staging Area (OSA), Simulated Technical Support Center (TSC), Emergency Operations Facility (EOF) and the Joint Public Information Center (JPIC). Recently implemented NUMARC-based EALs will be utilized in this exercise.

Simulated events at the plant will begin shortly after 0800. Shortly after that, a turbine first stage pressure transmitter will fail low and cause the reactor control rods to be automatically driven in. The operators will have to assume manual control and call on I & C to trip the appropriate bistables within one hour. Concurrent with this, a small break LOCA will occur in #3 cold leg and continue to grow until the RCS inventory cannot be maintained with one charging pump. The unit will now be manually tripped and simultaneously a larger LOCA occurs in #4 cold leg; the main turbine will not auto-trip and a loose parts alarm will be received. Based on loss of fission barriers and/or rising containment radiation levels, an ALERT or SITE AREA EMERGENCY will be declared at this time.

The control room will stabilize the unit and progress toward containment recirculation as the RWST level drops below 35%. Once on recirculation, the unit will experience a loss of offsite power. One emergency diesel generator will fail to start and the other will start but its output breakers will not close. Once the output breakers are manually closed, that diesel will be used to power ECCS loads. Upon starting the East RHR pump, a break will occur in its suction line from the containment sump creating a pathway for a radioactive release from containment. This will result in a GENERAL EMERGENCY. The release will be terminated when an alternate power supply is available and the West RHR pump can be started and the East pump secured.

## EXERCISE OBJECTIVES

The exercise objectives dictate the scope of the scenario. The objectives for this exercise were developed based upon the Donald C. Cook Nuclear Plant (DCCNP) Emergency Plan Administrative Manual.

Situations will be presented in the scenario to prompt the desired player response for each objective. Where appropriate, specific objectives and criteria for adequate demonstration will be included in the exercise messages for Controller/Observer use.

### A. OVERALL LICENSEE OBJECTIVES

1. Demonstrate the ability of the emergency response organization to implement DCCNP Emergency Plan Procedures, and the AEP Emergency Response Manual.
2. Demonstrate the ability to establish emergency management command and control, and maintain continuity of this function for the duration of the postulated event.
3. Demonstrate the ability to establish communications and information flow between DCCNP emergency response facilities and participating offsite agencies.
4. Demonstrate the ability to designate subsequent shifts of the Emergency Response Organization (ERO).

### B. CONTROL ROOM OBJECTIVES

1. Demonstrate the ability to recognize symptoms and parameters indicative of degrading plant conditions and to classify degraded conditions as emergencies.
2. Demonstrate the ability to initiate notification of offsite authorities and plant personnel.
3. Demonstrate communications and information flow to and from the Technical Support Center.

4. Demonstrate the ability to transfer emergency authorities and responsibilities from the on-shift emergency organization to the DCCNP emergency response organization.
5. Demonstrate the duties of the Control Room Emergency Organization as described in procedure OHI-2080.
6. Demonstrate the ability to perform dose projections given appropriate input data.

#### C. TECHNICAL SUPPORT CENTER OBJECTIVES

1. Demonstrate the ability to activate the facility within one hour of declaration of an emergency requiring facility activation.
2. Demonstrate the ability to provide analytical assistance and operational guidance to the Control Room.
3. Demonstrate the ability to coordinate onsite activities in response to the emergency.
4. Demonstrate the ability to establish and maintain hard copy communications with the EOF and verbal communications with the EOF, OSA, HSG, and JPIC.
5. Demonstrate the ability to provide analytical radiological assistance to the OSA and Control Room.
6. Demonstrate the ability to obtain data from the Plant Process Computer (PPC).
7. Demonstrate the ability to request emergency response teams from the OSA.
8. Demonstrate the ability to evaluate the results of TSC/OSA habitability surveys and assess the need to evacuate these facilities.
9. Demonstrate the ability to recognize degrading plant conditions and classify plant conditions as an emergency.
10. Demonstrate the ability to direct the implementation of site assembly, accountability and evacuation.
11. Demonstrate the ability to evaluate site evacuation routes and determine an appropriate route based on indicated radiological and meteorological conditions.

12. Demonstrate the actions required to be taken in the TSC if the emergency involves a breach of the reactor coolant system.
13. Demonstrate the ability to designate a second shift for TSC operations.

#### D. OPERATIONS STAGING AREA OBJECTIVES

1. Demonstrate the ability to activate the facility within one hour of declaration of an emergency requiring facility activation.
2. Demonstrate the ability to assemble, brief, and dispatch, within an average time of 20 minutes or less after being requested, the following emergency response teams:
  - a. Damage Control
  - b. Chemistry Sampling
  - c. Re-Entry and Rescue
  - d. On-site Radiation Monitoring
  - e. Off-site Radiation Monitoring
3. Demonstrate the ability to designate a second shift for OSA operation.
4. Each emergency response team assembled and dispatched shall demonstrate the following actions as applicable to the team type and mission:
  - a. Assembly of tools/equipment;
  - b. Pre-operation checks of equipment and communications devices;
  - c. Performance of appropriate radiological precautions;
  - d. Performance or simulation of team mission;
  - e. Post-mission debriefing and radiological controls;
5. Demonstrate the ability to provide emergency radiological support. As a minimum, the following activities should be demonstrated:
  - a. Establishment of emergency dosimetry and exposure tracking system;
  - b. Determination and establishment (if necessary) of emergency control points;
  - c. Performance of habitability surveys prescribed by procedure;
  - d. Analysis of radiological conditions to be encountered by emergency

response teams;

- e. Specification of radiological controls and precautions for emergency response teams;
6. Demonstrate the ability to perform offsite radiological monitoring. As a minimum, two teams should be dispatched and direct radiation monitoring as well as airborne radioactivity analysis should be demonstrated.
  7. Demonstrate the ability to implement damage control activities in accordance with applicable Emergency Plan Procedures.
  8. Demonstrate the ability to perform onsite radiological monitoring in accordance with applicable Emergency Plan Procedures. This monitoring should include direct radiation surveys and analysis of airborne radioactivity samples.
  9. Demonstrate the ability to obtain post accident samples from one of the following mediums and complete appropriate chemical and isotopic analysis within three hours of the sample request.
    - a. RCS Loop
    - b. Containment Sump
  10. Demonstrate the ability to assess the need for, and process request for potassium iodide administration.

#### E. EMERGENCY OPERATIONS FACILITY OBJECTIVES

1. Demonstrate the ability to activate the facility within one hour of declaration of an emergency requiring facility activation.
2. Demonstrate the ability to establish overall command and control of the DCCNP emergency response within one hour of declaration of a site area emergency or higher classification, as applicable.
3. Demonstrate the ability to establish and maintain effective emergency communications with each of the following agencies and facilities:
  - a. State of Michigan
  - b. Berrien County
  - c. NRC
  - d. Technical Support Center



- e. Joint Public Information Center
  - f. Headquarters Support Group
4. Demonstrate the ability to establish and maintain hard copy data transmission and reception with each of the following facilities:
    - a. Technical Support Center
    - b. Joint Public Information Center
    - c. State of Michigan EOC
  5. Demonstrate the ability to direct Offsite Radiation Monitoring Teams in order to determine the geographical location and radiological magnitude of the postulated plume.
  6. Demonstrate the ability to update the State of Michigan on the status of the emergency at 15 minute intervals.
  7. Demonstrate the ability to respond to inquiries from the TSC, JPIC, HSG, and State of Michigan in a timely manner.
  8. Demonstrate the ability to project the magnitude of offsite dose using the Dose Assessment Program.
  9. Demonstrate corporate augmentation of the EOF staff.
  10. Demonstrate recovery planning associated with the emergency termination.
  11. Demonstrate the ability to designate a second shift for EOF operations.
  12. Demonstrate the ability to develop protective action recommendations based on projected dose and/or core and containment status.

#### F. PUBLIC AFFAIRS OBJECTIVES

1. Demonstrate activation of the Joint Public Information Center.
2. Demonstrate the ability to conduct media briefings.
3. Demonstrate the ability to respond to actual or simulated inquiries from media representatives.
4. Demonstrate the ability of rumor control personnel to respond to simulated

inquiries from the general public.

5. Demonstrate the ability to monitor media transmissions and respond to inaccurate information being transmitted by the media.
6. Demonstrate coordination of news announcement content with State, County and Federal authorities.