



Federal Emergency Management Agency

Washington, D.C. 20472

AUG 2 1983

MEMORANDUM FOR: Federal Radiological Preparedness Coordinating Committee
(FRPCC) Members

FROM: *Richard W. Krimm*
Richard W. Krimm
Chairman
Federal Radiological Preparedness Coordinating Committee

SUBJECT: Review of the Michigan Emergency Preparedness Plan and Local
Radiological Emergency Response (RER) Plans for the
D.C. Cook Nuclear Power Station

In accordance with 44 CFR 350 (proposed), the Federal Emergency Management Agency (FEMA), Region V, has completed an evaluation of the Michigan Emergency Preparedness Plan for Nuclear Power Plants, site-specific to the D.C. Cook Nuclear Power Plant. This evaluation has been accomplished in accordance with the provisions of Section 350.11. Pursuant to Section 350.12, we intend to make a finding and determination with respect to the status of plans and preparedness in the vicinity of the D.C. Cook Nuclear Power Station by August 30, 1983.

The following attachments are for your review and discussion with members of your organization who are directly involved in Regional Assistance Committee (RAC) activity. Attachment A is a copy of the Regional Evaluation; Attachment B is a copy of the October 9, 1980, Exercise Evaluation; Attachment C is a copy of the March 30, 1982, Exercise Evaluation; Attachment D is a copy of the October 21, 1982, Exercise Evaluation; and Attachment E is a copy of the RAC review of the Michigan and Berrien County Plans. Due to excessive volume, the actual plan, exercise scenarios, transcript of the public meeting, and other relevant materials are not attached. They are available for your review in Room 506 of the Donohoe Building, 500 C Street S.W., or by contacting Ms. Terry Feldman at 287-0211.

We solicit your comments as they relate to your agency's responsibilities in this area. If they are to be considered in our findings and determination, they should be provided in writing or by telephone to Ms. Terry Feldman not later than August 15, 1983.

Attachments

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Regional Director's Evaluation
Donald C. Cook Nuclear Power Plant Site Specific
Offsite
Radiological Emergency Preparedness

State of Michigan
Berrien County

I. INTRODUCTION

A. Area Description

1. Facility and Surroundings

The Donald C. Cook Nuclear Power Plant (DCCNPP) has 2 pressurized water reactor units, with capacities of 1,054 and 1,100 MWe. The facility is located in Bridgman, Michigan, on the eastern shore of Lake Michigan. It is owned by the Electric Power Service Company, New York City, and is operated by the Indiana and Michigan Electric Power Company of Bridgman, Michigan. Unit 1 commenced operation in 1975 and Unit 2 was activated in 1978.

2. Governments Within 10-Mile Emergency Planning Zone

The 10-mile emergency planning zone (EPZ) lies within Berrien County. The following municipalities are located within this inhalation pathway EPZ: Baroda Township, Baroda Village, City of Benton Harbor, Benton Township, City of Bridgman, City of Buchanan, Buchanan Township, Chikaming Township, Lake Township, Lincoln Township, Stevensville Village, Cronoko Township, Berrien Springs Village, Royalton Township, City of St. Joseph, St. Joseph Township, Shoreham Village, Sodus Township, and Weesaw Township. The estimated 10-mile EPZ population is 52,600 (1980 census).

3. Governments Within the 50-Mile Emergency Planning Zone

The 50-mile ingestion emergency planning zone encompasses all or parts of the following Michigan Counties: Allegan, Cass, Berrien, Kalamazoo, St. Joseph, Van Buren. This zone also consists of all or part of the following Indiana Counties: Elkhart, Kosciusko, Lake, Laporte, Marshall, Porter, St. Joseph, and Starke. The estimated 50-mile EPZ population is 823,100 (1980 census).

4. Special Circumstances and Considerations

- a. There are special areas of concern that must be considered in the planning effort, to circumvent potential vast impediments to implementing the radiological emergency preparedness (REP) plans. These impediments, for example, may be a large anticipated influx of transient people into the area who are not knowledgeable about the plans to protect them from a nuclear power plant accident. Other concerns may relate to businesses, industries, etc., having products that are highly susceptible to the effects of radiation and, therefore must be afforded protection appropriate to their individual needs. Below is a list of such areas of concern that were of consideration in the site specific planning effort for the Donald C. Cook nuclear power plant.
 - (1) Within the 10-mile EPZ, located on Lake Michigan, are various summer resorts which offer camping facilities, light housekeeping cottages, and tourists attractions. Special attention was given to evacuation planning of the Warren Dunes State Park, which has a capacity for 22,000 persons.
 - (2) The area has a seasonal population which varies from summer to winter. The permanent population under consideration is 56,000 persons. Peak summer population is estimated to be 78,000 persons.
 - (3) Seasonal fresh fruit and vegetable farming and processing takes place during the spring, summer, and fall, therefore, special concern must be taken regarding the contamination of these consumables. A part of the large seasonal work force is Spanish-speaking. Communications of emergency information must be provided to the population in a bilingual manner.
 - (4) Lake Michigan is the cooling water source for the plant; therefore, special planning consideration must be afforded this factor.

B. Emergency Planning Authority and Organization

Michigan Act 390 (Public Acts of 1976), entitled the Emergency Planning Act, and Michigan Executive Directive 80 delegate authority to coordinate all Federal, State, county and municipal disaster prevention, mitigation, relief and recovery operations within the State of Michigan to the Michigan Department of State Police's Emergency Services Division (ESD).

The Director of the Department of State Police, or his authorized representative, is responsible for emergency response to any radiological incident at a nuclear power plant, whether located in Michigan or in a contiguous State with an emergency planning zone that encompasses Michigan. The responsibilities of the ESD in radiological emergency planning and preparedness are detailed in the Michigan Emergency Preparedness Plan (MEPP).

C. History and Status of Planning and Preparedness

1. Plan Development

The Michigan Emergency Preparedness Plan is the plan for radiological emergency response in the State of Michigan. The current revision is dated January 1981. MEPP comprises a basic State plan, and a series of annexes for direction and control, warning, communications, and 19 State agencies. Associated with this plan is a 4-volume "Nuclear Facility Emergency Response Plan of the Michigan Department of Public Health, Division of Radiological Health (DRH)," and the "Berrien County Emergency Operations Plan: Nuclear Power Plant Incident Procedures." The Regional Assistance Committee (RAC), for FEMA Region V, has reviewed both the initial and revised Michigan and Berrien County radiological emergency preparedness plans. The purpose of these reviews was to assist each jurisdiction in complying with criteria in NUREG 0654/FEMA-REP-1, Rev. 1. The RAC review comments, dated July 21, 1981, are appended to this report (Tab H).

2. Public Meeting

A public meeting, at which the Michigan and Berrien County radiological emergency response plans were presented, was held at St. Joseph, Michigan, on December 11, 1980. Comments from the public were accepted. A transcript of this meeting is appended to this report (Tab I).

3. Exercises

A joint small-scale exercise, to test the emergency preparedness of the licensee and of Berrien County, was conducted on March 30, 1982. The onsite exercise was evaluated by staff members of Region III of the Nuclear Regulatory Commission (NRC). The offsite portion of the exercise was evaluated by FEMA Region V and members of other Federal agencies that participate in the RAC. The exercise was followed by a public meeting at which the observations of Federal observers were presented.

This public critique was held on March 31, 1982, in St. Joseph, Michigan. The exercise scenario and final exercise report are appended to this report (Tab J).

Participation by the State of Michigan in the 1982 exercise of the DCCNPP (DCNPP-1982) was limited in scope. Therefore, this evaluation of the capabilities of the State to respond to a radiological emergency at DCCNPP was based, in part, on the State's performance at two other full-scale exercises: the DCCNPP exercise of October 9, 1980 (DCCNPP-1980), and the Enrico Fermi Atomic Power Plant (EFAPP) exercise of February 1-2, 1982 (EFAPP-1982). The exercise scenarios and final exercise reports for DCCNPP-1980 and EFAPP-1982 are appended to this report (Tabs K and L).

D. Documentary Evidence Available for Examination

The following materials are available for review:

1. State of Michigan Emergency Preparedness Plan (MEPP), dated January 1981.
2. Nuclear Facility Emergency Response Plan of the Michigan Department of Public Health, Division of Radiological Health (Appendix 1 to Annex Q of MEPP), dated April 1980. This plan is also cited as the Radiological Emergency Response Procedures.
3. Berrien County Emergency Operations Plan: Nuclear Power Plant Incident Procedures, dated March 1980.
4. Regional Assistance Committee Review Comments on the D. C. Cook Nuclear Power Plant Site Specific State and Local Plans (References 1-3, cited above), dated July 21, 1981.
5. Transcript of the public meeting for the presentation of D. C. Cook Nuclear Power Plant site specific State and Local plans, December 11, 1980.
6. Exercise scenario, joint small-scale exercise, DCCNPP, March 30, 1982.
7. Final exercise report for the D. C. Cook Nuclear Power Plants Exercise of March 30, 1982, dated May 11, 1982.
8. Exercise scenario, joint full-scale exercise, DCCNPP, October 9, 1980.
9. Post-exercise evaluation, DCCNPP exercise of October 9, 1980.
10. Exercise scenario, joint full-scale exercise of Enrico Fermi Atomic Power Plant, February 1-2, 1982.
11. Final Report, EFAPP exercise of February 1-2, 1982.

II. EVALUATION OF PLAN AND EXERCISE

A. Assignment of Responsibility (Organizational Control)

1. State of Michigan

The 1980 full-scale exercise at the Donald C. Cook nuclear power plant adequately demonstrated assignment of emergency response functions to organizations represented at the EOC.¹ The capability to sustain continuous (24-hour) emergency response activities was demonstrated by a shift change.² These capabilities were further demonstrated at the 1982 full-scale exercise at Fermi II. At that exercise, functional responsibilities were clearly designated at the on-scene EOC (OSEOC) and the alternate State EOC.³

The respective EOC directors established firm control of their respective operations and coordinated activities of the EOC staff through frequent oral briefings.⁴ A capability for continuous operations was again demonstrated through a shift change.⁵ The State plan includes a table allocating emergency responsibilities among response agencies in the event of a nuclear attack and should be corrected to reflect responsibilities for a radiological emergency at a nuclear power plant.⁶

2. Berrien County

The 1982 exercise adequately demonstrated assignment of primary and support functions to emergency response organizations.⁷ The Berrien County Board Chairman was effectively in charge of emergency response activities.⁸ The capability for 24-hour initial emergency response is provided by the sheriff's office, which maintains a 24-hour communications facility.⁹ The capability for continuous (24-hour) emergency response operations was demonstrated by a nearly-complete shift change.¹⁰ However, the County Board Vice Chairman, who replaced the Chairman as EOC Director, was not fully familiar with emergency response procedures.⁸

B. This criteria applies to the utility and, therefore, is not evaluated.

C. Emergency Response Support and Resources

1. State of Michigan

Available Federal resources for emergency assistance are listed in the State plan. Specific guidelines and procedures for obtaining this assistance are not found, however.

At the 1982 Fermi exercise, a call for Federal assistance was placed in a timely fashion.

2. Berrien County

A county commissioner was assigned to the utility's nearsite Emergency Operations Facility (EOF). However, as the EOF has not yet been established, he was not actually dispatched.¹¹ The county plan does not identify specific local resources available to support a Federal response.¹²

D. Emergency Classification System

State of Michigan/Berrien County

Although the Emergency Classification System used during the exercise is consistent with that used by the utility,^{13,14} the county plan should reference the NUREG 0654/FEMA-REP-1, Rev. 1, classification system, rather than NUREG 0610.¹⁵ The action level procedures used by the county were consistent with utility recommendations and local offsite conditions.^{16,17}

E. Notification Methods and Procedures

1. State of Michigan

During the 1980 exercise, the State demonstrated an adequate capability to notify and mobilize emergency response organizations and staff,¹⁸ yet the State plan does not provide procedures for alerting, notifying and mobilizing emergency response staff of State agencies (with the exception of the DRH).¹⁹

2. At the 1982 exercise, Berrien County demonstrated procedures for notifying emergency response organizations. However, the county's verification procedures were not observed.²⁰ The county plan does not provide for message verification, required by NUREG 0654/FEMA-REP-1, Rev. 1.²¹ Call lists were available to alert, notify, and mobilize emergency response personnel; however, implementation of this system was not demonstrated. Section H.2. of this report indicates that emergency response personnel appeared in the EOC more by prearrangement than by emergency notification. This function could be improved by listing emergency response personnel by the Emergency Classification Level at which each is to be mobilized. Pocket pagers, for EOC staff that do not now carry them, would also improve alerting procedures.²²

Berrien County has adequately demonstrated a system to disseminate information to the public during an emergency. The sheriff's dispatcher has direct access to the Emergency Broadcast System (EBS).²³ The prompt alerting and notification system comprises 14 sirens, covering the entire 10-mile EPZ. The system was activated during the March 30, 1982, exercise, and observers confirmed that 5 of 14 sirens were operational. The siren system was activated within 8 minutes of notification to the county by the State. The prompt alerting and notification

system requires a full evaluation by FEMA. ²⁴ The county plan does not specify the 15-minute deadline for completion of initial notification of the public, as required by NUREG 0654/FEMA-REP-1, Rev. 1. ²⁵ The utility has issued instructional materials to the public within the 10-mile EPZ. ²⁶

F. Emergency Communications

1. State of Michigan

The State has demonstrated adequate primary and secondary communications systems with adjacent State and local governments, the utility EOF, and local EOCs. These communications systems include commercial and dedicated telephone lines, radio, teletype, and CDNARS. ²⁷ Communications equipment for initial activation of emergency response activities and for alerting and mobilizing response personnel are adequate. ²⁸ The State plan does not describe radio communications with adjacent States, ²⁹ communications with field teams and the nearsite EOF, ³⁰ or communications with fixed and mobile medical facilities. ³¹

2. Berrien County

The county EOC has adequate primary and backup communications systems. Use of commercial telephone lines, police radios, and the Law Enforcement Information Network (LEIN) were demonstrated at the latest exercise. ³² Communications with the State onsite EOC were via commercial telephone lines (CTL), police radio, and LEIN³³; and with the utility by CTL and dedicated line. ³⁴ Adequate communications systems with ambulance services and hospitals are available but their use was not demonstrated in this exercise. ³⁵ The plan makes no provision for communications between the EOC and radiological monitoring teams. ³⁶

G. Public Information

1. State of Michigan and Berrien County

The county has demonstrated adequate evidence of dissemination of information to the permanent and transient population within the 10-mile EPZ. A brochure is mailed annually to residents of Berrien County with information pamphlets delivered to hotels, motels, and other public facilities within the EPZ. Observers recommend a followup to insure that this information is accessible to the transient population. ³⁷

Adequacy of joint media facilities and staffing has been demonstrated by the fact that the JPIC facilities included adequate telephone lines, typewriters and working space for the media, and ample working space for State, county and utility staff. Space can be provided for Federal agency

personnel as needed with activation of the facility within 2 hours.³⁸ The State, county, and utility PIOs present at the JPIC maintained close contact with their respective EOCs and coordinated all information releases.³⁹ Press briefings were held on a timely basis, with press releases issued immediately following briefings.⁴⁰

H. Emergency Facilities and Equipment

1. State of Michigan

The State EOC, which is located in various rooms of a Lansing hotel, is a temporary facility and is very small and poorly equipped. These undesirable conditions have persisted for 4 years and definite improvement is needed in the facility, display areas, telephone system, security, and space.⁴¹ Internal communications, consisting of written messages, were handled adequately. Regular oral communications and briefings are recommended.⁴² The State EOC was fully staffed with most organizations represented by backup personnel.⁴³ State field teams are provided with adequate equipment to monitor radiation levels and to take air, soil and vegetation samples. The field samples were transferred to a mobile laboratory by the State police; the evaluation data were radioed directly to the EOC by the State police.

2. Berrien County

The EOC working space and amenities were adequate, with internal communications and message handling procedures adequately demonstrated. Installation of a large status board would be an improvement.⁴⁶ Activation and staffing of the EOC were not demonstrated because the staff reported at 8:30 a.m., by prearrangement rather than in response to a notification procedure.⁴⁷ Instrumentation for offsite radiological monitoring is limited to civil defense-type monitors of beta/gamma radiation, resulting in capabilities that are limited due to a heavy reliance on the State Health Department for accident assessment. The county capabilities for field assessment would be enhanced by obtaining equipment to monitor air, water, and soil activity.⁴⁸ The county plan does not adequately provide for periodic inspection and calibration of monitoring equipment.⁴⁹

I. Accident Assessment

1. State of Michigan

During the 1982 Fermi II Exercise, the State Environmental Radiation Monitoring Teams were dispatched in a timely manner. The teams' composition, transportation,

communications, and monitoring equipment were generally adequate to assess radiological conditions. Their overall capability and resources for environmental radiation monitoring in the plume EPZ are adequate; yet, team members need some instruction and training for collecting surface samples.⁵⁰ Radioiodine measurements in the field are taken by collecting samples on silver zeolite filters and measuring the radiation on the filter. These samples are evaluated with equipment available in the mobile laboratory, which permits detection of radioiodine concentrations of 10^{-7} uCi/cc, as required by NUREG 0654/FEMA-REP-1, Rev.1.⁵¹ The State exhibited the capability of taking release rate data from the utility and the U. S. Weather Service and using this data in estimating dose rates.⁵²

2. Berrien County

The County Radiological Monitoring Team had equipment to measure gamma exposure rates only, with State teams expected to provide the capability to monitor particulate and gaseous releases.⁵³ Although the county team had monitoring equipment available, familiarity with its use was not demonstrated.⁵⁴

J. Protective Response

1. State of Michigan

At the 1982 Fermi II Exercise, the State demonstrated an adequate capability to select and implement protective actions. Evacuation was delayed approximately an hour after the recommendation to evacuate came from the licensee. This delay was attributed to the State Health authorities' completing an independent assessment of the need to evacuate.⁵⁵

Once the evacuation decision was reached, the State provided capable support and assistance to the counties in implementing the procedure. During the evacuation, the State police cooperated with county authorities in establishing traffic control points. Also, the State Department of Transportation provided continuous snow plowing service, and responded promptly to a report of an accident blocking traffic flow.⁵⁶

Methods for evacuating mobility impaired persons were not demonstrated; however, observers noted an adequacy of resources and procedures for fulfilling this function.⁵⁷

The State Department of Agriculture adequately provided for the sheltering of farm animals, and was aware of the location of dairy and food processing plants within the EPZ.⁵⁸

The State developed criteria for administering KI for the general public and has relocated supplies locally for distribution to the affected population. The management of administering KI is being coordinated effectively through the county medical officer.⁵⁹ The observers noted that, although the State monitoring teams maintain a supply of KI, use of it was left up to the discretion of the individual team member which is a deviation of procedure. During the exercise, team members took KI when there was no release of radioactive iodine, which deviates from criteria established in the Michigan Radiological Emergency Response Plan.⁶⁰

The maps and displays in the EOC were adequate, with two exceptions: the map of population by sector within the EPZ, and the map of radiation monitoring and environmental sampling points were not displayed.⁶¹ The plan does not adequately address the criteria for distributing KI, especially to the general public and excessive discretion is given to local health officers in this regard.⁶² The means for registering and monitoring evacuees at relocation centers are not adequately addressed in the plan.⁶⁴

2. Berrien County

Berrien County demonstrated the capability to implement protective responses recommended by the State. The county response was initiated by transmitting the State recommendations via Emergency Broadcast System.⁶⁵

The county EOC had a map of the population distribution within the EPZ on display.⁶⁶ Maps of evacuation routes, relocation centers, and shelter areas, although in the plan, were not displayed.⁶⁷ The county had adequate plans for relocation of the population. The availability of buses and drivers for evacuation purposes was verified, yet the dispatch of these buses to schools and nursing homes was simulated. The plan includes lists of mobility-impaired persons within the EPZ and the methods for their protection were not demonstrated in this exercise.⁶⁸ Although the plan provides for dealing with impediments to evacuation, the exercise scenario did not test this capability.⁶⁹

County health officials have established supplies of KI and procedures for distributing KI to emergency workers and institutionalized persons, although the actual distribution of KI has not been exercised.⁷⁰ The county plan provision for distribution of KI to the general population is not consistent with the State plan.⁷¹ Facilities for congregate care were excellent in that staffing and supplies were adequate to demonstrate a capability for long-term care of evacuees.⁷² Procedures

for processing, monitoring and decontaminating evacuees were adequately demonstrated.⁷³

K. Radiological Exposure Control

1. State of Michigan

At the 1982 Fermi II Exercise, personnel at the onsite EOC were not issued appropriate dosimetry instruments and personnel exposure records were not maintained; yet, it was noted, some State monitoring teams maintained excellent exposure records.⁷⁴ The plan identifies action levels for decontamination.⁷⁵ However, the capability to decontaminate personnel and equipment has not been demonstrated.⁷⁶

2. Berrien County

The county has adequate procedures and resources available to measure the dose received by emergency workers and to maintain exposure records for emergency personnel. During the 1982 D.C. Cook Exercise, the assignment of dosimeters and actual records management were simulated, therefore, these capabilities were not actually demonstrated.⁷⁷ The plan adequately provides for a decision chain to authorize exposure for emergency workers in excess of PAGs.⁷⁸ The plan also establishes action levels for decontamination. Staff at relocation centers demonstrated adequate familiarity with these procedures.⁷⁹

L. Medical and Public Health Support

State of Michigan and Berrien County

The capabilities to provide medical and public health support have not been observed at the recent exercises of D. C. Cook and Fermi II. The county and State plans do not adequately provide for the transportation of victims of radiological accidents. For example, lists of ambulance companies in the plan should be supplemented by a discussion of implementing procedures.⁸⁰

M. Recovery and Reentry Planning

1. State of Michigan

At the 1982 Fermi II Exercise, response organizations were promptly informed when recovery and reentry operations could commence. Procedures demonstrated during recovery operations included traffic control and assignment of agriculture inspectors to begin sampling milk from dairy plants. The radiological health confirmation of information

from the on-scene State EOC could have been accomplished sooner.

2. Berrien County

The county demonstrated adequate familiarity with recovery procedures through the deactivation of shelters, removal of roadblocks, notification of schools, medical facilities, and other institutions of the change in emergency status. Actual telephone calls were made to initiate recovery activities, yet actual implementation procedures beyond the calls were simulated. Future exercises should more fully demonstrate reentry and recovery activities, relying less on simulation.⁸²

N. Exercise and Drills

State of Michigan and Berrien County

The D. C. Cook Exercise in 1982 tested the response capabilities of most organizations present in the EOC.⁸³ Many participants found the experience useful as preparation for a radiological accident. Others found the activity needlessly duplicative of actual experience in responding to flood emergencies.⁸⁴ The exercise scenario was weak in that agencies in the EOC were not tested to their fullest capabilities. The scenario called for sheltering, yet evacuation was not demonstrated. Excessive simulation was relied upon, to the exclusion of a full demonstration of emergency response capabilities.⁸⁵

The capabilities of State of Michigan response organizations were adequately tested at the 1982 Fermi II Exercise, with the exception of the State's alternate EOC.⁸⁶

The MEPP provides for periodic drills and exercises, except that it does not provide for unannounced exercises, or exercises conducted during evening and early morning hours.⁸⁸

O. Radiological Emergency Response Training

State of Michigan and Berrien County

The MEPP directs the training unit, Emergency Services Division, to develop, implement, and evaluate State training programs dealing with radiological planning and response, and to coordinate participation by State and local personnel in all training programs sponsored by Federal and State agencies. The county emergency services coordinator is responsible for coordinating the training program for emergency workers in his area of responsibility.

P. Responsibility for Planning Effort

State of Michigan

The MEPP provides adequately for the training of planners and the coordination of activities required to develop, review, and update the plan.⁹⁰ The State and Berrien County plans do not adequately identify procedures required to implement these plans.⁹¹ The elaborate organization of the MEPP, with various tabs, appendices, attachments and annexes, makes it cumbersome to use. A simplified and consistent page numbering system would make the plan easier to use.⁹²

III. REGIONAL DIRECTOR'S SUMMARY

A. Adequacy of Preparedness

On the basis of the information presented in the foregoing evaluation, I am of the opinion that the State of Michigan and Berrien County are adequately prepared to protect the population within the 10-mile emergency planning zone in the event of a radiological accident at the Donald C. Cook Nuclear Power Plant. The following sections identify areas in which additional planning, resources and training are required to bring the State and county into compliance with the criteria set forth in NUREG-0654/FEMA-REP-1, Revision 1. It is recommended that the site specific plans for the D. C. Cook nuclear power plant be approved conditioned with the understanding that as a minimum the significant deficiencies listed below are corrected in a reasonable time frame.

B. Listing of Significant Deficiencies

1. State of Michigan

a. Deficiencies in Plans

- . The MEPP table which allocated emergency responsibilities among response agencies should refer to radiological emergencies at nuclear power plants rather than a nuclear attack.⁶
- . The plan does not provide procedures for alerting, notifying, and mobilizing emergency response staff.¹⁹
- . The plan does not describe radio communications with adjacent States, communications with field teams, the near-site EOF, and fixed and mobile medical facilities.³¹
- . Criteria for distributing KI are not adequately defined.⁶²
- . Criteria for evaluating the decision to shelter do not adequately treat expected protection factors of residential units.⁶³
- . Means for registering and monitoring evacuees at relocation centers are not treated in the plan.⁶⁴
- . The plan organization is excessively cumbersome. A simplified and consistent page numbering system should be established.⁹²

b. Deficiencies in Resources

- . The temporary State EOC is small and poorly equipped. Improved facilities, displays, telephones, security, and space are required. 41

c. Deficiencies in Training

- . State field monitoring teams require instruction in the proper use of KI. 60
- . Personnel at the onsite EOC require training in maintenance of exposure records. 74
- . The capability to decontaminate personnel and equipment has not been demonstrated. 76

2. Berrien Countya. Deficiencies in Plans

- . Verification of emergency messages is not provided for. 21
- . Procedures for protecting mobility-impaired persons are not identified. 68
- . County plan provisions for distribution of KI are not consistent with the State plan. 71
- . Procedures for transportation of victims of radiological accidents are missing. 80

b. Deficiencies in Resources

- . The prompt alerting and notification system requires a full evaluation by FEMA. 24
- . Maps of evacuation routes and relocation centers were not displayed at the EOC. 67

c. Deficiencies in Training

- . The second shift EOC director requires additional training in emergency response procedures. 8
- . Activation and staffing of the EOC were not demonstrated. 47
- . County monitoring teams did not demonstrate familiarity with the use of monitoring equipment. 54

- . Assignment of dosimeters and management of dose records have not been demonstrated.⁷⁷
- . Medical and public health support functions have not been demonstrated.⁸⁰

FOOTNOTES

<u>Document</u>		<u>Page</u>	NUREG-0654 <u>Criterion</u>
1.	Post-Exercise Evaluation, DCCNPP-1980	10	A.2.a
2.	Post-Exercise Evaluation, DCCNPP-1980	10	A.4
3.	Final Report, EFAPP-1982	3	A.2.a
4.	Post-Exercise Evaluation, DCCNPP-1980	3	A.1.d
5.	Post-Exercise Evaluation, DCCNPP-1980	2	A.4
6.	RAC Review, DCCNPP Plans	1	A.2.a
7.	RAC Review, DCCNPP Plans	11	A.2.a
8.	RAC Review, DCCNPP Plans	11	A.1.d
9.	RAC Review, DCCNPP Plans	9	A.1.e
10.	RAC Review, DCCNPP Plans	9	A.4
11.	RAC Review, DCCNPP Plans	10	C.2.a
12.	Staff observation, DCCNPP-1982		C.1.c
13.	Final Report, DCCNPP-1982	11	D.3
14.	Post-Exercise Evaluation, DCCNPP-1980	13	D.3
15.	RAC Review, DCCNPP Plans	1	D.3
16.	Final Report, DCCNPP-1982	12	D.4
17.	Post-Exercise Evaluation, DCCNPP-1980	13	D.4
18.	Post-Exercise Evaluation, DCCNPP-1980	14	E.1, E.2
19.	RAC Review, DCCNPP Plans	1	E.2
20.	Final Report, DCCNPP-1982	9	E.1
21.	RAC Review, DCCNPP Plans	1	E.1
22.	Final Report, DCCNPP-1982	9	E.2
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25.	RAC Review, DCCNPP Plans	1	E.6
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27.	Final Report, DCCNPP-1982	7	F.1.b, F.1.d
28.	Final Report, DCCNPP-1982	10	F.1.a, F.1.e
29.	RAC Review, DCCNPP Plans	1	F.1.b
30.	RAC Review, DCCNPP Plans	1	F.1.d
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33.	Final Report, DCCNPP-1982	7	F.1.d
34.	Final Report, DCCNPP-1982	7	F.1.d
35.	Final Report, DCCNPP-1982	10	F.2
36.	RAC Review, DCCNPP Plans	2	F.1.d
37.	Final Report, DCCNPP-1982	14	G.1, G.2
38.	Final Report, DCCNPP-1982	14	G.3.a
39.	Final Report, DCCNPP-1982	14, 15	G.4.a, G.4.b
40.	Final Report, DCCNPP-1982	14	G.3.a
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42.	Final Report, DCCNPP-1982	7	H.3
43.	Final Report, DCCNPP-1982	10	H.4
44.	Final Report, EFAPP-1982	5	H.7, H.12
45.	Final Report, DCCNPP-1982	7	H.3
46.	Final Report, DCCNPP-1982	7	H.3
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49.	RAC Review, DCCNPP Plans	2	H.10

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51.	Final Report, EFAPP-1982	*	I.9
52.	Final Report, EFAPP-1982	5	I.10
53.	Final Report, DCCNPP-1982	16	I.7, I.8
54.	Staff observation, DCCNPP-1982	*	I.7
55.	Final Report, EFAPP-1982	6	J.9
56.	Final Report, EFAPP-1982	6	J.10.j, J.10.k
57.	Final Report, EFAPP-1982	6	J.10.d
58.	Final Report, EFAPP-1982	6	J.11
59.	Final Report, EFAPP-1982	7	J.10.f
60.	Final Report, EFAPP-1982	7	J.10.e
61.	Final Report, EFAPP-1982	1,2	J.10.a, J.10.b
62.	RAC Review, DCCNPP Plans	2	J.10.e
63.	RAC Review, DCCNPP Plans	2	J.10.m
64.	RAC Review, DCCNPP Plans	2	J.12
65.	Final Report, DCCNPP-1982	17	J.9
66.	Final Report, DCCNPP-1982	8	J.10.b
67.	Final Report, DCCNPP-1982	8	J.10.a
68.	Final Report, DCCNPP-1982	17, 18	J.10.g, J.10.d
69.	Final Report, DCCNPP-1982	18	J.10.k
70.	Final Report, DCCNPP-1982	19	J.10.e
71.	RAC Review, DCCNPP Plans	2	J.10.f
72.	Final Report, DCCNPP-1982	18	J.10.h
73.	Final Report, DCCNPP-1982	18	J.12
74.	Final Report, EFAPP-1982	10	K.3.a, K.3.b
75.	Final Report, EFAPP-1982	10	K.5.a
76.	Final Report, EFAPP-1982	10	K.5.b
77.	Final Report, DCCNPP-1982	19	K.3.a, K.3.b
78.	Final Report, DCCNPP-1982	19	K.4
79.	Final Report, DCCNPP-1982	20	K.5.a
80.	RAC Review, DCCNPP Plans	3	L.4
81.	Final Report, EFAPP-1982	7	M.1, M.3
82.	Final Report, DCCNPP-1982	21	M.1
83.	Final Report, DCCNPP-1982	22	N.1.a
84.	Final Report, DCCNPP-1982	22	N.1.a
85.	Final Report, DCCNPP-1982	21	N.1.b
86.	Final Report, EFAPP-1982	8	N.1.a, N.1.b
87.	MEPP	A38-A39	N
88.	RAC Review, DCCNPP Plans	3	N.1.b
89.	MEPP	A37-A38	0
90.	MEPP	BP12, A14, A36	P.1-P.5
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