



DOCKET NUMBER **50-413/4140L**  
 PROD & UTIL. FAC...  
**Federal Emergency Management Agency**

**SEP-3**  
**5/9/84**

Region IV 1375 Peachtree Street, NE Atlanta, Georgia **30309**

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 USNRC

April 18, 1984

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MEMORANDUM FOR: RICHARD W. KRIMM, ASSISTANT ASSOCIATE DIRECTOR  
 OFFICE OF NATURAL AND TECHNOLOGICAL HAZARDS SL-NT

FROM: *RW* Major P. May,  
 Regional Director

SUBJECT: Interim Findings Report - Plant Catawba,  
 South Carolina

Attached is the Interim Findings Report on the adequacy of off-site preparedness in the vicinity of Plant Catawba, South Carolina, as requested by the Nuclear Regulatory Commission.

The January 1984 revisions of the North Carolina and South Carolina Radiological Emergency Plans, as well as York (South Carolina), Gaston and Mecklenburg (North Carolina) Counties Plans were reviewed by the Regional Assistance Committee (RAC) on March 21, 1984. The RAC comments on the revised plans were provided to the States on March 23, 1984, with the suggestion that the States' responses and/or plan changes be submitted to this office by April 13, 1984.

The Plant Catawba Exercise was conducted on February 15-16, 1984, and copies of the Exercise Report sent to FEMA National Office and to the States on March 30, 1984.

Based on a review of the above information, this office finds that the States' and local emergency plans are adequate and capable of being implemented, and that the exercise demonstrated that the off-site preparedness is adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of the public living in the vicinity of Plant Catawba in the event of a radiological emergency.

Attachment

NUCLEAR REGULATORY COMMISSION

Docket No. 50-413/414 Official Ex. No. Staff EP-3  
 In the matter of Duke, Catawba 192  
 Staff  IDENTIFIED   
 Applicant  RECEIVED   
 Intervenor  REJECTED   
 Cont'g. Off'r   
 Contractor  DATE 5/9/84  
 Other  Witness   
 Reporter M. Metzger

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# Federal Emergency Management Agency

Region IV 1375 Peachtree Street, NE Atlanta, Georgia 30309

INTERIM FINDINGS REPORT  
on the Adequacy of  
Radiological Emergency Response Preparedness  
for  
Plant Catawba, South Carolina

April 17, 1984

Prepared by the  
Federal Emergency Management Agency  
Region IV  
Technological Hazards Branch

## TABLE OF CONTENTS

	<u>page</u>
I. INTRODUCTION	
A. General Characteristics of Plant Catawba	1
B. Emergency Response Organizations	1
C. Plans	1
D. Basis for Findings	2
E. Evaluation Format	2
II. EVALUATION OF EMERGENCY PREPAREDNESS FOR PLANT CATAWBA	
A. Assignment of Responsibility	3
B. On-Site Emergency Organization	4
C. Emergency Response Support and Resources	5
D. Emergency Classification System	6
E. Notification Methods and Procedures	7
F. Emergency Communications	8
G. Public Education and Information	9
H. Emergency Facilities and Equipment	10
I. Accident Assessment	11
J. Protective Response	12
K. Radiological Exposure Control	14
L. Medical and Public Health Support	15
M. Recovery and Reentry Planning and Post-Accident Operations	16
N. Exercises and Drills	17
O. Radiological Emergency Response Training	18
P. Responsibility for the Planning Effort: Development, Periodic Review and Distribution of Emergency Plans	19

## I. INTRODUCTION

### A. General Characteristics of Plant Catawba

This nuclear power facility is located on the western shore of Lake Wylie approximately six miles north of the City of Rock Hill, South Carolina, and about ten miles southwest of the city limit boundary of Charlotte, North Carolina. The plant is owned by Duke Power Company, the licensee. The 10-mile Emergency Planning Zone (EPZ) encompasses portions of York County, South Carolina and portions of Gaston and Mecklenburg Counties, North Carolina. The 50-mile EPZ includes 11 counties in South Carolina and 13 counties in North Carolina.

### B. Emergency Response Organizations

#### South Carolina:

The South Carolina Radiological Emergency Response (RER) organization consists of the Department of Health and Environmental Control (Bureau of Radiological Health) for off-site technical control, the Office of the Adjutant General (Emergency Preparedness Division) for off-site operational control, and those state resources available to local governments during a fixed nuclear facility radiological accident. State RER forces will be operational on order of the Governor.

The county and municipal RER organization consists of those emergency service departments and other agencies organic to local governments disaster operations. The county RER organizations will be activated on order of authorized county officials.

#### North Carolina:

The Departments of Crime Control and Public Safety (DCCPS) and Human Resources (DHR) have the primary responsibility for responding to emergencies resulting from an incident at the Catawba Station. However, any State agency may be tasked with an emergency mission.

### C. Plans

#### South Carolina:

- South Carolina Comprehensive Disaster Preparedness Plan (State Plan)
- South Carolina Operational Radiological Emergency Response Plan (SCORERP)
- Catawba Nuclear Station Site-Specific Radiological Emergency Response Plan (Part 4, SCORERP)
- State Technical Radiological Emergency Response Plan (STRERP)

York County, South Carolina, Plan for Emergency  
Operations of Municipal and County Government

North Carolina:

North Carolina Emergency Response Plan in Support  
of the Catawba Nuclear Station,  
Rev. 1, January 1984 (Parts I, II, III)  
Part I: State Procedures  
Part II: Gaston County Procedures  
Part III: Mecklenburg County Procedures

D. Basis for Findings

The status of emergency preparedness for off-site response to possible incidents at Plant Catawba has been based on:

- (1) The FEMA/RAC review of the South Carolina Operational Radiological Emergency Response Plan (SCORERP), Part 4: Catawba Nuclear Station Site-Specific Radiological Emergency Response Plan, Rev. 1, January 1984; the York County, South Carolina, Plan for Emergency Operations of Municipal and County Government, Rev. 1, January 1984; and the North Carolina Emergency Response Plan in Support of the Catawba Nuclear Station, Rev. 1, January 1984 (Parts I, II, III)  
Part I: State Procedures  
Part II: Gaston County Procedures  
Part III: Mecklenburg County Procedures
- (2) The FEMA/RAC evaluation of the Catawba Nuclear Station Exercise, February 15-16, 1983.

E. Evaluation Format

The following report combines the previous evaluations into an overall Interim Findings Evaluation for each planning standard (A through P) of the criteria contained in NUREG-0654-FEMA-REP-1, Rev. 1. Narrative statements follow and address each planning standard. These statements generally are divided into three parts, numbered (1), (2), and (3):

- (1) The FEMA/RAC evaluation of State and county emergency plans and the exercise.
- (2) The State and county response to FEMA/RAC evaluations.
- (3) A determination of the current adequacy of the planning standard based on the above evaluations and on the States and counties response.

If the FEMA/RAC review of the plans, and the exercise report, indicate no deficiencies or problems, no State or local response was necessary, and a simple statement of the adequacy of the planning standard is given.

## II. EVALUATION OF EMERGENCY PREPAREDNESS FOR PLANT CATAWBA

### A. Assignment of Responsibility (Organization Control)

#### Planning Standard

Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations within the Emergency Planning Zones have been assigned. The emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.

- (1) The FEMA/RAC review of the plans indicated a need for letters of agreement for some private sector agencies having emergency roles in both South Carolina and North Carolina plans. The exercise; however, was not hindered because of this need. The exercise evaluation report found no deficiencies in this planning standard.
- (2) The States have been asked to obtain the necessary letters of agreement and have indicated this will be accomplished by May 1, 1984.
- (3) When both States obtain the additional letters of agreement this planning standard will be adequately addressed.

## B. On-Site Emergency Organization

### Planning Standard

On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available, and the interfaces among various on-site response activities and off-site support and response activities are specified.

Technically, this standard applies only to the licensee, Duke Power Company. However, there are, of course, off-site implications. During the plan development stages, South Carolina and North Carolina worked closely with the utility to establish coordination procedures for on and off-site response.

C. Emergency Response Support and Resources

Planning Standard

Arrangements for requesting and effectively using assistance resources have been made, that arrangements to accommodate State and local staff at the licensees near-site Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified.

- (1) The FEMA/RAC plan review indicates that, in the North Carolina plans, additional letters of agreement are needed and some l.o.a.'s, which are contained in the plans reviewed, need to be updated.
- (2) Response to this deficiency is expected by May 1, 1984.
- (3) When North Carolina obtains the letters of agreement, this planning standard will be adequately addressed.



D. Emergency Classification System

Planning Standard

A standard emergency classification and action level scheme, the basis of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimal initial off-site response measures.

This planning standard is adequately addressed in the plans and was demonstrated by the States and counties during the exercise.

E. Notification Methods and Procedures

Planning Standard

Procedures have been established for notification, by the licensee of State and local response organizations and for notification of emergency personnel by all response organizations; the content of initial and follow-up messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zones have been established.

This standard is adequately addressed in the plans and was demonstrated by the States and counties during the exercise.

F. Emergency Communications

Planning Standard

Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.

- (1) In the York County EOC, South Carolina, during the exercise it was observed that backup radio communications were either unavailable or were inadequately tested.
- (2) Response to this deficiency is expected by May 1, 1984.
- (3) The "Emergency Communications" planning standard is, overall, adequately addressed; however, the installation of additional radio equipment in York County and the elimination of any excessive simulation in the York County EOC will enhance the response capability of that facility and enable a more adequate evaluation of equipment, procedures and depth of personnel training in future exercises.

G. Public Education and Information

Planning Standard

Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors) the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established.

- (1) One FEMA/RAC review comment of the South Carolina plan stated that "A narrative discussion is needed giving specific responsibilities for rumor control and describing coordination arrangements".
- (2) The State responded that rumor control is adequately addressed in the State plan.
- (3) This standard is adequately addressed in the plans and was evaluated as adequate in the exercise report.

## H. Emergency Facilities and Equipment

### Planning Standard

Adequate emergency facilities and equipment to support the emergency response are provided and maintained.

- (1) The review of plans indicated that the South Carolina plans did not include a listing of emergency kits by general category.
- (2) The South Carolina response indicated this listing will be in place by May 1, 1984.
- (3) Although this planning standard is adequately addressed overall, response capability will be enhanced when the emergency kit listing is accomplished.

I. Accident Assessment

Planning Standard

Adequate methods, systems and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.

- (1) Although the exercise evaluation report suggested some improvements in the area of assessment and monitoring in South Carolina, the plans and exercise report indicate no deficiencies in this area.
- (2) The States' response is expected by May 1, 1984.
- (3) This planning standard is adequately addressed in the plans and was adequately demonstrated by the States and counties during the exercise.

## J. Protective Response

A range of Protective Actions have been developed for the Plume Exposure Pathway EPZ for emergency workers and the public. Guidelines for the choice of protective actions are developed and in place and protective actions for the Ingestion Exposure Pathway EPZ appropriate to the locale have been developed.

- (1) South Carolina Plans: The FEMA/RAC review stated that,
  - (a) the preselected radiological sampling and monitoring points for the plume exposure pathway are not on the operations map;
  - (b) there is no listing of special facilities for the mobility-impaired or institutionalized and no listing of resources to assist in the evacuation of this segment of the population;
  - (c) the plan does not define "special facilities";
  - (d) does not indicate that York County has identified the mobility-impaired; and
  - (e) the plan needs clarification of procedures by which the York County Transportation Coordinator would deal with evacuation problems, especially potential impediments to evacuation routes.

The York County EOC portion of the exercise evaluation report pointed out that no list of the mobility-impaired was available, but that one is being developed.

North Carolina Plans: The FEMA/RAC review stated that

- (a) the radiological sampling and monitoring points for the plume exposure pathway are not on the operations map submitted;
- (b) a letter of agreement from the Red Cross is needed and should include the "registering and monitoring of evacuees" as a Red Cross responsibility.

(c) The Gaston County portion of the exercise evaluation report indicated that more staff is needed which is knowledgeable in radiation detection and decontamination procedures and equipped with proper radiation detection instruments.

- (2) South Carolina:
  - (a) The State has indicated that the Department of Health and Environmental Control has maps depicting the preselected sampling and monitoring points which will be immediately available when and where they are needed and will be prestocked at the FEOC and SEOC.
  - (b) The State response indicated that the comprehensive listing of special facilities contained in the PRC Voorhees Study, "Catawba Nuclear Station Evacuation Analysis," April 1983, will be included in the plan and that resources needed are stipulated in the York County Plan.
  - (c) "Special facilities" is defined in the Catawba Site-Specific Plan, Annex D.
  - (d) York County will have a listing of the mobility-impaired, according to the State response, by May 1, 1984.

(e) Procedures of the Transportation Coordinator are adequately outlined in the York County Plan, Annex M.

North Carolina: (a) North Carolina has in place essentially the same procedures as South Carolina. (b) The Red Cross letter of agreement is expected to be obtained by May 1, 1984. (c) A State response to this item is expected by May 1, 1984.

- (3) This planning standard will be considered adequate when the expected corrections are accomplished.



K. Radiological Exposure Control

Planning Standard

Means for controlling radiological exposure in an emergency are established for emergency workers. The means for controlling radiological exposure shall include exposure guidelines consistent with EP2 Emergency Worker and Lifesaving Activity Protective Action Guides.

- (1) The FEMA/RAC review of the South Carolina Plan stated that the plan should provide for the issuance of low-range dosimeters to emergency workers. The exercise evaluation report also suggested that low-range dosimeters be issued to emergency workers in counties of South Carolina and North Carolina. Additionally, some emergency workers in Mecklenburg County need more radiological training.
- (2) The South Carolina response stated that the State is in the process of obtaining funding from the utility for these instruments. The North Carolina response is expected by May 1, 1984.
- (3) This planning standard will be adequate when appropriate dosimeters are procured and distribution arrangements and training have been accomplished.

L. Medical and Public Health Support

Planning Standard

Arrangements are made for medical services for contaminated individuals.

This planning standard is adequately addressed in the plans, but was not observed during the course of the Catawba exercise.

M. Recovery and Reentry Planning and Post-Accident Operations

Planning Standard

General plans for recovery and reentry are developed.

This planning standard is adequately addressed in the plans. Although recovery and reentry operations were not demonstrated during the Catawba exercise, both North Carolina and South Carolina have demonstrated capability in previous exercises.

N. Exercise and Drills

Planning Standard

Periodic exercises will be conducted to evaluate major portions of emergency response capabilities. Periodic drills will be conducted to develop and maintain key skills and deficiencies identified as a result of exercises, or drills will be corrected.

This planning standard has been adequately addressed.

O. Radiological Emergency Response Training

Planning Standard

Radiological emergency response training is provided to those who may be called upon to assist in an emergency.

- (1) The exercise report suggested that additional radiological emergency response training in the area of monitoring and decontamination be accomplished.
- (2) States' responses expected by May 1, 1984.
- (3) This planning standard is, overall, adequately addressed; however, local capability could be improved by instituting a more thorough training program.

P. Responsibility for the Planning Effort: Development, Periodic Review and Distribution of Emergency Plans

Planning Standard

Responsibility for plan development and review and for distribution of emergency plans are established, and planners are properly trained.

This planning standard is adequately addressed.