



Federal Emergency Management Agency
Region IV
3003 Chamblee-Tucker Road
Atlanta, Georgia 30341

October 16, 2001

Mr. Luis A. Reyes
Regional Administrator - RII
Nuclear Regulatory Commission
61 Forsyth Street, SW, Suite 23T85
Atlanta, Georgia 30303

Dear Mr. Reyes:

Enclosed is a copy of the final exercise report for the August 14, 2001, partial participation plume exposure pathway exercise of the offsite radiological emergency response plans site-specific to the McGuire Nuclear Station. This report addresses the evaluation of the plans and preparedness for the State of North Carolina and the Counties of Catawba, Gaston, Iredell, Lincoln and Mecklenburg, that are within the 10-mile EPZ and the Host County of Cabarrus. Copies of this report will be forwarded to the State of North Carolina and FEMA and NRC Headquarters by my staff.

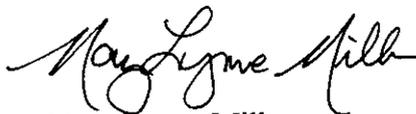
All objectives of the exercise were demonstrated. No Deficiencies were identified. However, one Area Requiring Corrective Action (ARCA) was identified during the exercise. The planned corrective actions from the State of North Carolina have been incorporated into this report. FEMA Region IV staff will work with the State of North Carolina in resolving the Areas Requiring Corrective Action. The correction of the ARCAs from the 1999 exercise was demonstrated during this exercise.

Based on the results of the August 14, 2001, exercise and FEMA's review of the Annual Letters of Certification for 2000 and 2001, the offsite radiological emergency response plans and preparedness for the State of North Carolina and the affected local jurisdictions site-specific to the McGuire Nuclear Station can be implemented and are adequate to provide reasonable assurance that appropriate measures can be taken offsite to protect the health and safety of the public in the event of a radiological emergency at the site.

The Title 44 CFR, Part 350, approval of the State of North Carolina's offsite radiological emergency response plans and preparedness site-specific to McGuire Nuclear Station granted on June 4, 1981, will remain in effect.

Should you have questions, please contact Robert E. Perdue at 770/220-5464.

Sincerely,



Mary Lynne Miller
Acting Regional Director

Enclosure

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Final Exercise Report

McGuire Nuclear Station

Licensee: Duke Power Company

Exercise Date: August 14, 2001

Report Date: October 16, 2001

FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION IV
3003 Chamblee Tucker Road
Atlanta, Georgia 30341

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I. EXECUTIVE SUMMARY

On August 14, 2001, a partial participation, plume pathway exercise was conducted in the emergency planning zone (EPZ) around the McGuire Nuclear Station by the Federal Emergency Management Agency (FEMA) Region IV. The purpose of the exercise was to assess the level of State and local preparedness in responding to a radiological emergency. This exercise was held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans (RERP) and procedures. The previous exercise at this site was conducted on August 24, 1999, and the qualifying emergency preparedness exercise was held in December 1980.

FEMA wishes to acknowledge the efforts of the many individuals who participated in this exercise from the State of North Carolina, the Risk Counties of Catawba, Gaston, Iredell, Lincoln and Mecklenburg, and the support County of Cabarrus.

Protecting the public health and safety is the full-time job of some of the exercise participants and an additional assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork by all the participants was evident during this exercise.

This report contains the evaluation of the biennial exercise as well as the evaluation of out-of-sequence activities that included: Traffic control points, emergency worker decontamination, protective action for schools, lake warning and a medical services drill. The efforts of the volunteers, which is vital to the successful emergency response operation, is especially noted.

The State and local organizations, except where noted in this report, demonstrated knowledge of their emergency response plans and procedures and effectively implemented them. No Deficiencies and one Area Requiring Corrective Action (ARCA) were identified during this exercise. The ARCA concerned the format of the Emergency Alert System (EAS) message and confusion that could have happened because of its wording and timing of a news release by the State. The two ARCAs identified during the 1999 McGuire exercise were corrected.

II. INTRODUCTION

On December 7, 1979, the President directed FEMA to assume the lead responsibility for all offsite nuclear planning and response. FEMA's activities are conducted pursuant to 44 Code of Federal Regulations (CFR) Parts 350, 351 and 352. These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

FEMA Title 44 CFR 350 establishes the policies and procedures for FEMA's initial and continued approval of state and local governments' radiological emergency planning and preparedness for commercial nuclear power plants. This approval is contingent, in part, on state and local government participation in joint exercises with licensees.

FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include:

- Taking the lead in off-site emergency planning and in the review and evaluation of RERPs and procedures developed by state and local governments;
- Determining whether such plans and procedures can be implemented on the basis of observation and evaluation of exercises of the plans and procedures conducted by state and local governments;
- Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated June 17, 1993 (Federal Register, Vol. 58, No. 176, September 14, 1993); and
- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:
 - Department of Commerce
 - Nuclear Regulatory Commission
 - Environmental Protection Agency
 - Department of Energy
 - Department of Health and Human Services
 - Department of Transportation
 - Department of Agriculture
 - Department of the Interior
 - Food and Drug Administration

Representatives of these agencies serve on the FEMA Region IV Regional Assistance Committee (RAC) which is chaired by FEMA.

Formal submission of the RERPs for the McGuire Nuclear Station to FEMA Region IV by the State of North Carolina and involved local jurisdictions occurred on March 18, 1981. Formal approval of the RERP was granted by FEMA on June 4, 1981, under 44 CFR 350.

A REP exercise was conducted on August 14, 2001, by FEMA Region IV to assess the capabilities of State and local emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the McGuire Nuclear Station. The purpose of this exercise report is to present the exercise results and findings on the performance of the off-site response organizations (ORO) during a simulated radiological emergency. The findings presented in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the Chief Evaluator and the Region IV RAC Chairman, and approved by the Regional Director.

The criteria utilized in the FEMA evaluation process are contained in :

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;
- FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual," September 1991; and
- FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September 1991.

Section III of this report, entitled "Exercise Overview," presents basic information and data relevant to the exercise. This section contains a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities which were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

Section IV of this report, entitled "Exercise Evaluation and Results," presents detailed information on the demonstration of applicable exercise objectives at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues-only format. This section also contains: (1) descriptions of all Deficiencies and ARCAs assessed during this exercise, recommended corrective actions, and the State and local governments' schedule of corrective actions for each identified exercise issue and (2) descriptions of unresolved ARCAs assessed during previous exercises and the status of the ORO's efforts to resolve them.

III. EXERCISE OVERVIEW

Contained in this section are data and basic information relevant to the August 14, 2001, exercise to test the offsite emergency response capabilities in the area surrounding the McGuire Nuclear Station.

A. Plume Emergency Planning Zone Description

The McGuire Nuclear Station is located in northwest Mecklenburg County, approximately 17 miles northwest of Charlotte, North Carolina. The topography of the 10-mile EPZ varies from the shoreline of Lake Norman and the Catawba River to the west, to hills from the north, east, south and west.

The 10-mile EPZ contains a total population of approximately 116,458 within the five counties of Mecklenburg, Lincoln, Gaston, Iredell and Catawba. The land use within the EPZ is predominately rural, non-farm residential and recreational with a small amount being used to support dairy and beef cattle, and fruit and vegetable farming. There are five parks in the EPZ.

The area is served by various forms of transportation. Interstate 77, US Highway 21, and North Carolina 115 to the east; North Carolina Highway 16 to the west and North Carolina Highway 73 to the south of the site. The CSX Railroad passes within four miles to the west, with a spur that travels to the McGuire site. There is seasonal boat traffic on the Catawba River. The EPZ is divided into 20 sub-areas.

B. Exercise Participants

The following agencies, organizations, and units of government participated in the McGuire Nuclear Station exercise on August 14, 2001.

STATE OF NORTH CAROLINA

Governor's Office	Division of Forest Resources
Department of Crime Control and Public Safety	Department of Agriculture
Division of Emergency Management	Department of Human Resources
State Highway Patrol	Division of Social Services
National Guard	Emergency Medical Services Section
Civil Air Patrol	Division of Facility Services
Department of Environment, Health and Natural Resources	Wildlife Resources Commission
Division of Highways	Division of Radiation Protection
Department of Transportation	Division of Environmental Health
Department of Administration	Division of Motor Vehicles
	Division of Solid Waste Management

RISK JURISDICTIONS

Catawba County
Gaston County
Iredell County
Lincoln County
Mecklenburg County

SUPPORT JURISDICTION

Cabarrus County

PRIVATE/VOLUNTEER ORGANIZATIONS

American Red Cross
Amateur Radio Emergency Service

C. Exercise Timeline

Table 1, on the following page, presents the time at which key events and activities occurred during the plume phase of the McGuire Nuclear Station exercise on August 14, 2001. Included are times notifications were made to the participating jurisdictions/functional entities.

Table 1. Exercise Timeline

DATE AND SITE: August 14, 2001 - McGuire Nuclear Station

		SEOC		JIC	CATAWBA COUNTY	GASTON COUNTY	IREDELL COUNTY	LINCOLN COUNTY	MECKLENBURG COUNTY	CABARRUS COUNTY - Host
Unusual Event	0829	0843			0840	0850	0840	0843	0843	
Alert	0836	0902		0843	0902	0914	0903	0902	0902	0920
Site Area Emergency	1016	1030		1042	1050	1035	1035	1054	1040	1038
General Emergency	1132	1150		1140	1144	1150	1155	1132	1155	1149
Simulated Rad. Release Started	0832	0932		0934	0832	0953	0953	0835	0832	0832
Simulated Rad. Release Terminated	End Ex 1338									
Facility Declared Operational		0930		0934	0910	0940	0855	1001	0902	0840
State Direction and Control:		1206		1200	1200	1200	1200	1200	1200	1200
Declaration of State of Emergency										
Local:										
State:		1208		1253	1230	1208	1135	1203		1258
						1220				
Exercise Terminated		1345		1355	1352	1350	1353	1400	1356	1354
Early Precautionary Actions:										
School Relocation:							0937		1030	
Special Needs and Institutions										
Evacuation:							1100		1110	
Lake Warning:							1033	1032	1030	
Parks									1035	
1st Protective Action Decision										
Public Notification:					1100	1100	1100	1101	1100	
1st Siren Activation					1102	1102	1102	1102	1102	
1st EAS Message and NOAA Tone Alert Radio		1105			1105	1105	1105	1105	1105	
2nd Protective Action Decision										
Evacuate Zones: A,B,C,D,L,M,N		1210			1210	1210	1210	1210	1210	
Shelter-in-place Zones: All Others										
2nd Siren Activation					1212	1212	1213	1213	1212	
2nd EAS Message					1215	1215	1215	1215	1215	

IV. EXERCISE EVALUATION AND RESULTS

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities which participated in the August 14, 2001 exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the McGuire Nuclear Station.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in exercise objectives contained in FEMA-REP-14, REP Exercise Manual, September 1991. Detailed information on the exercise objectives and the extent-of-play agreement used in this exercise are found in Appendix 3 of this report.

A. Summary Results of Exercise Evaluation - Table 2

The matrix presented in Table 2, on the following page presents the status of all exercise objectives from FEMA-REP-14 which were scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Exercise objectives are listed by number and the demonstration status of those objectives is indicated by the use of the following letters:

- M - Met (No Deficiency or ARCAs assessed and no unresolved ARCAs from prior exercises)**
- D - Deficiency assessed**
- A - ARCA(s) assessed or unresolved ARCA(s) from prior exercise(s)**
- N - Not Demonstrated (Reason explained in Subsection B)**
- C - Credit Granted for response to actual emergencies**

Table 2. Summary of Exercise Evaluation

DATE AND SITE: August 14, 2001 – McGuire Nuclear Station

Jurisdiction/Functional Entity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33			
STATE OF NORTH CAROLINA																																				
State Emergency Opera. Center	M	M	M	M						M	M	A												M												
Dose Assessment				M			M		M																											
Joint Information Center	M	M										M	M																							
Emergency Operations Facility	M			M	M																															
CATAWBA COUNTY																																				
Emergency Operations Center	M	M	M	M						M	M	M		M		M																				
Traffic Control Points					M														M						M											
Emergency Worker Decon					M																															
Reception and Congregate Care					M															M	M															
GASTON COUNTY																																				
Emergency Operations Center	M	M	M	M																																
Protective Action for Schools											M	M	M		M		M																			
Traffic Control Points					M																															
Reception and Congregate Care					M																															
IREDELL COUNTY																																				
Emergency Operations Center	M	M	M	M																																
Protective Action for Schools																																				
Traffic Control Points					M																															
Emergency Worker Decon					M																															
Reception and Congregate Care					M																															
LINCOLN COUNTY																																				
Emergency Operations Center	M	M	M	M																																
Protective Action for Schools																																				
Traffic Control Points					M																															
Emergency Worker Decon					M																															
Reception and Congregate Care					M																															
MECKLENBURG COUNTY																																				
Emergency Operations Center	M	M	M	M																																
Protective Action for Schools																																				
Traffic Control Points					M																															
Lake Waring					M																															
Emergency Worker Decon					M																															
Medical Services Drill (MS-1)					M																															
CABARRUS COUNTY - HOST																																				
Emergency Operations Center	M	M	M	M																																
Traffic Control Points					M																															
Reception and Congregate Care					M																															

LEGEND: M = Met A = ARCA D = Deficiency

B. Status of Jurisdictions Evaluated

This subsection provides information on the evaluation of each participating jurisdiction and functional entity, in a jurisdiction based, issues only format. Presented below is a definition of the terms used in this subsection relative to objective demonstration status.

- **Met** - Listing of the demonstrated exercise objectives under which no Deficiencies or ARCAs were assessed during this exercise and under which no ARCAs assessed during prior exercises remain unresolved.
- **Deficiency** - Listing of the demonstrated exercise objectives under which one or more Deficiencies was assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.
- **Area Requiring Corrective Actions** - Listing of the demonstrated exercise objectives under which one or more ARCAs were assessed during the current exercise or ARCAs assessed during prior exercises remain unresolved. Included is a description of the ARCAs assessed during this exercise and the recommended corrective action to be demonstrated before or during the next biennial exercise.
- **Not Demonstrated** - Listing of the exercise objectives which were not demonstrated as scheduled during this exercise and the reason they were not demonstrated.
- **Prior ARCAs - Resolved** - Descriptions of ARCAs assessed during previous exercises which were resolved in this exercise and the corrective actions demonstrated.
- **Prior ARCAs - Unresolved** - Descriptions of ARCAs assessed during prior exercises which were not resolved in this exercise. Included is the reason the ARCA remains unresolved and recommended corrective actions to be demonstrated before or during the next biennial exercise.

The following are definitions of the two types of exercise issues which are discussed in this report.

- A **Deficiency** is defined in FEMA-REP-14 as "...an observed or identified inadequacy organizational performance in an exercise that could cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant."

- **An ARCA is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety."**

FEMA has developed a standardized system for numbering exercise issues (Deficiencies and ARCAs). This system is used to achieve consistency in numbering exercise issues among FEMA Regions and site-specific exercise reports within each Region. It is also used to expedite tracking of exercise issues on a nationwide basis.

The identifying number for Deficiencies and ARCAs includes the following elements, with each element separated by a hyphen (-).

- **Plant Site Identifier - A two-digit number corresponding to the Utility Billable Plant Site Codes.**
- **Exercise Year - The last two digits of the year the exercise was conducted.**
- **Objective Number - A two-digit number corresponding to the objective numbers in FEMA-REP-14.**
- **Issue Classification Identifier - (D = Deficiency, A = ARCA). Only Deficiencies and ARCAs are included in exercise reports.**
- **Exercise Issue Identification Number - A separate two (or three) digit indexing number assigned to each issue identified in the exercise.**

1. STATE OF NORTH CAROLINA

1.1 State Emergency Operations Center

The Director of the State Emergency Response Team (SERT) provided excellent direction and control to the State emergency operation and involved the staff in the decision making process. The REP technical advisor, the plant liaison, and the radiation protection staff played a significant role in the development and implementation of the evacuation and sheltering-in-place protective action decision (PAD). The SERT staff consistently coordinated with the EPZ counties, the utility, FEMA and other external organizations. The redesign of the State Emergency Operations Center (SEOC) has provided the key decision makers with a separate room and the rearranged tables facilitated the interaction and cooperation of the staff. The staff was professional and effectively carried out their responsibilities, except as noted below.

- a. **MET: Objectives 1, 2, 3, 4, 9, 10 and 23**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION:**

Issue No.: 37-01-11-A-01

Description: At 1210, following the General Emergency declaration the State in concurrence with the counties decided to order the evacuation of "Protective Action Zones": A, B, C, D, L, M, and N, and to shelter in place all other zones. The pre-scripted message was filled out during the conference call between the State and the Counties. The message had blank spaces to be filled in prior to broadcast and had two options to choose from. Option two was selected. The first blank is for the emergency classification level, which just indicated General, not General Emergency, the second blank in option two is to indicate a direction from the plant. The copy of the message from the SEOC had "NE" filled in. A handwritten note was added at the bottom of the message and no instructions were provided with the note. The first part of the note was "EVAC - L M N A B C D," then a line was drawn and below the line "Shelter K- R - S - IJ OPQ EFGH". The message as written could cause confusion at the EAS station, as to what should be broadcast and had the potential to cause confusion among the public. One of the hand written protective actions said shelter, when it should have been shelter in place.

The message was faxed to the Joint Information Center (JIC), where the staff developed a media release for the PAD. The PAD information was correctly relayed to the media during a briefing at approximately 1223. However, the first media release, also at approximately 1223, listed all 19 zones as "evacuation zones" instead of "Protective Action Zones" as indicated in the plant calendar." This

message could have caused confusion, because of the incorrect wording and its release concurrent with the media briefing on the PAD. Fifteen minutes later another media release was issued that included the exact protective action zones affected by the PAD.

Schedule of Corrective Actions: North Carolina EAS messages have been modified to provide a space to indicate which areas are included in the PAD. Media advisories and JIC procedures are being reviewed to ensure compatibility with utility documents.

- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

1.2 Dose Assessment

The State of North Carolina Division of Radioactive Protection (DRP) Assistant Director successfully directed the activities of the dose assessment group. The dose assessment leader and his staff promptly conducted dose analysis using dose assessment software (MGDOS and MGPRE) which were consistent with the utility's software (RADDOSE V). The primary and back-up communication and dose assessment methods were effectively demonstrated during the exercise.

- a. **MET: Objectives 4, 7 and 9**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

1.3 Joint Information Center

The knowledgeable and professional public information team at the JIC coordinated news releases and information from the McGuire Nuclear Station, SEOC, and emergency operations centers (EOC) of the five affected counties for dissemination to the media. The plan calls for the SEOC to create and disseminate EAS messages. The JIC released follow-up instructional news releases that provided detailed health and safety information for the

public (see SEOC ARCA concerning the JIC's release of follow-up instructions and information after the PAD). The JIC is well designed and equipped. News conferences were well organized and timely. The mock media personnel were exceptionally well trained and prepared for their roles and asked provocative questions that added realism to the exercise. The effort to prepare for and execute the response to this exercise in a "real world" mode was noteworthy and a tribute to all participants.

- a. **MET: Objectives 1, 2, 12 and 13**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

1.4 Emergency Operations Facility

The Emergency Operations Facility (EOF), located in the utility's corporate office, is an excellent facility from which all participating organizations can effectively manage ongoing emergency operations. Communication, coordination and the flow of technical information among the State officials deployed to the EOF and with the utility operator were exemplary. All of the State officials at the EOF were well trained, knowledgeable, followed applicable procedures and overall, performed their respective responsibilities in an efficient and professional manner.

- a. **MET: Objectives 1, 3 and 4**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2. RISK JURISDICTIONS

2.1 Catawba County

2.1.1 Emergency Operations Center

The Emergency Services Director effectively coordinated with the staff and provided recurring guidance to the staff on response activities. The EOC staff demonstrated the capability to alert and notify the public. All members of the EOC staff displayed a professional and positive attitude as they performed their duties. The EOC is able to alert and mobilize personnel to support field operations and is well equipped and staffed to support operations during an emergency.

- a. MET: Objectives 1, 2, 3, 4, 9, 10, 11, 13, 15 and 23**
- b. DEFICIENCY: NONE**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. NOT DEMONSTRATED: NONE**
- e. PRIOR ARCAs - RESOLVED: NONE**
- f. PRIOR ARCAs - UNRESOLVED: NONE**

2.1.2 Traffic Control Points

Traffic control point (TCP) procedures were successfully demonstrated through interviews with an officer from the North Carolina State Highway Patrol (NCSHP) at the Sherrills Ford Fire Department and Rescue Service and two officers from the Catawba County Sheriff's Department at the County EOC. The officers had 0-20 R and 0-200 mR direct-reading dosimeters and a simulated thermoluminescent dosimeter (TLD) and emergency worker exposure record forms. They were knowledgeable of the 1R administrative limit, the turn back value of 5 R, and the purpose and side effects of ingesting potassium iodide (KI). The officers discussed the actions they would take to establish a TCP and how they would obtain backup logistical support (e.g., cones, barriers) from the Department of Transportation (DOT) if required. Each individual interviewed displayed a high degree of professionalism and knowledge.

- a. MET: Objectives 5 and 17**
- b. DEFICIENCY: NONE**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE**

- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.1.3 Emergency Worker Decontamination

Members of the Sherrills Ford Fire Department and Rescue Service, a volunteer organization, demonstrated emergency worker and vehicle decontamination. The participating volunteers exhibited a high degree of professionalism and a conscientious approach to their assignment. They followed procedures to set up the portal monitor, had appropriate dosimetry and were knowledgeable of exposure control procedures. The area for the receipt, monitoring and decontamination of emergency personnel and vehicles was well organized and facilitated the separation of contaminated and clean personnel and equipment.

- a. **MET: Objectives 5 and 22**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.1.4 Reception and Congregate Care

Members of the Maiden Volunteer Fire Department, the Catawba County Emergency Management Agency (EMA), and the Catawba County Chapter of the American Red Cross (ARC) successfully demonstrated reception center and congregate care activities at the Maiden High School. Together, the fire department and EMA personnel displayed an understanding of both personal radiological protective measures, and the correct procedures for establishing and conducting the monitoring and decontamination of evacuees. ARC volunteers, with assistance from Catawba County EMA, accomplished the establishment and operation of the congregate care facility. The facility is equipped and staffed to meet the needs of handicapped population. Volunteers were well versed in their responsibilities and extremely professional in their manner.

- a. **MET: Objectives 5, 18 and 19**

- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.2 GASTON COUNTY

2.2.1 Emergency Operations Center

The Emergency Management Coordinator and his staff did an excellent job. They were knowledgeable of operating procedures and performed their responsibilities very well. The Coordinator displayed excellent leadership and empowered all participants to exercise a full range of authority in carrying out their duties. He held several detailed briefings and encouraged staff participation. A representative from Duke Power Company gave briefings on plant conditions.

The Chairman of the County Commission, Vice Chairman, and a Commission member were present for the exercise and actively participated in the decision making process. Communications, to include the 911 operations center, worked well throughout the exercise. Two members of the Amateur Radio Emergency Services (ARES) did an excellent job in transmitting and relaying traffic between county and state personnel. An officer from the Gaston Police provided EOC security, and maintained the sign-in rosters. All participants should be commended for doing an excellent job.

- a. **MET: Objectives 1, 2, 3, 4, 9, 10, 11, 13, 15 and 23**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.2.2 Protective Actions For Schools

Interviews for the Gaston County school relocation were conducted at Stanley Middle School on June 18, 2001. Participants in the interviews included the principal and assistant principal of Stanley Middle School, principals of Kiser and Springfield Elementary Schools, Director of Operations from the Superintendent's office, Gaston County Emergency Manager and the Assistant County Emergency Manager. All of the schools have current relocation plans and the County has school relocation plans as a part of its comprehensive emergency plan. School officials were very knowledgeable of relocation procedures and all staff are provided annual in-service training.

The Director of Operations has a compilation of the number of students at each school, number of buses assigned to each school and the host school to which the students would be relocated. Each private school and daycare center has been presented a relocation plan and the County will provide transportation assistance if requested. Law enforcement personnel have dosimetry and escort buses as they travel in convoy. Teachers ride the buses to keep track of the students during their relocation. The staff is conscientious about their duties and have obviously planned well for school relocation, including sending parents school relocation information as does the McGuire Nuclear Station.

- a. **MET: Objective 16**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCA_s - RESOLVED: NONE**
- f. **PRIOR ARCA_s - UNRESOLVED: NONE**

2.2.3 Traffic Control Points

The NCSHP and Gaston County Police Department personnel demonstrated TCPs through an interview at the Gaston County EOC on June 18, 2001. Local and State personnel who were well trained for their responsibilities demonstrated three TCPs. All law enforcement personnel were knowledgeable of dosimetry use, ingestion of KI, evacuation routes, reception center and congregate care locations, turn-back values and what to do if road impediments had to be removed. The highway patrol has kits that contain KI, dosimetry, exposure records and other required materials.

- a. **MET: Objectives 5 and 17**

- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.2.4 Reception and Congregate Care

Members of Gaston County Emergency Management and the Gaston County Fire Department successfully demonstrated reception center activities at Gaston College. Fire department and emergency management personnel displayed an understanding of both personal radiological protective measures, and the correct procedures for establishing and conducting monitoring and decontamination of evacuees. Members of the Gaston County ARC Chapter successfully demonstrated congregate care activities at North Gaston High School. ARC volunteers, with assistance from ARES, Gaston County Emergency Management, and Gaston County Department of Social Services (DSS) established and operated the congregate care facility. In the event of an emergency, the facility can be equipped and staffed to meet the requirements of over 3000 evacuees. Emergency management and fire department employees and volunteers were well versed in their responsibilities and extremely professional in their manner.

- a. **MET: Objectives 5, 18 and 19**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.3 IREDELL COUNTY

2.3.1 Emergency Operations Center

The EOC operation was highly professional in all respects and demonstrated the capability to take necessary actions to safeguard the public. The Assistant EMA Director effectively managed activities in the EOC. He conducted numerous EOC briefings and updates and

fully involved all staff in the decision-making effort. A significant factor in the successful execution of EOC responsibilities is that EOC positions are staffed by the Directors of county agencies which were represented in the EOC. This, coupled with the active involvement of the County Manager, allowed for timely decision-making of early precautionary decisions. This level of representation streamlined inter-agency coordination and the resolution of issues regarding responsibilities.

The EOC, and the co-located communications center, are well equipped to conduct continuous operations in an emergency situation. The introduction of the SeNTinel WebEOC system has streamlined the tracking and display of activities and the sharing and recording of information within the EOC. It interfaces with the State's EM-2000 system and provides a greater capability to coordinate externally. All personnel designated to represent their department or agency in the EOC were well trained on the system and comfortable with its use.

- a. **MET: Objectives 1, 2, 3, 4, 9, 10, 11, 13, 15 and 23**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCA_s - RESOLVED: NONE**
- f. **PRIOR ARCA_s - UNRESOLVED: NONE**

2.3.2 Protective Action for Schools

The school relocation interview for Iredell County was conducted at Bradley Middle School on June 26, 2001. Officials participating in the interview included the State Area Coordinator, the Iredell County Emergency Manager, the County Deputy School Superintendent and the Assistant Principal of South Iredell School. All officials were professional and very familiar with the current school relocation plans.

There are 56 buses used for student evacuation, which are mobilized from Brawley School, where they are parked. It takes approximately 15 minutes to move the buses to the schools. Assistant principals, teachers and custodians who are located at the schools serve as bus drivers. All school personnel are provided training two or three times per year. The McGuire Nuclear Station and all schools send school relocation information to parents, and also provide information at school meetings. The Iredell County Sheriff's Department personnel, who have radio communication, escort the school buses that travel in convoy. Teachers are assigned to buses to keep track of students while they are being transported. Schools have tone alert radios over which they are notified when a school relocation order

has been issued. Iredell County has ample resources and a workable school relocation plan.

- a. **MET: Objective 16**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.3.3 Traffic Control Points

An interview was conducted at the Iredell County EOC with an Iredell County Deputy Sheriff and a North Carolina Highway Patrolman. Both individuals successfully demonstrated their knowledge of individual radiological protection and TCP procedures. They responded to questions fully and were confident. Both law enforcement agencies have prepared detailed folders addressing all aspects of individual radiological protection and the responsibilities involved in manning TCPs.

- a. **MET: Objectives 5 and 17**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.3.4 Emergency Worker Decontamination

Members of the Statesville Fire Department, the West Iredell Volunteer Fire Department, and the Greater Carolinas Chapter of the ARC successfully demonstrated reception center and congregate care activities at South Iredell High School. The fire department personnel displayed an understanding of both personal radiological protective measures, and the correct procedures for establishing and conducting the monitoring and decontamination of evacuees. ARC volunteers, with assistance from ARES and the Iredell County Sheriff's

Department, set up the congregate care facility. The facility is equipped and staffed to meet the requirements of the evacuee population. Volunteers were well versed in their responsibilities and extremely professional in their manner.

- a. **MET: Objectives 5 and 22**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.3.5 Reception and Congregate Care

Members of the Statesville Fire Department, West Iredell Volunteer Fire Department, and the Greater Carolinas Chapter of the ARC successfully demonstrated reception center and congregate care activities at South Iredell High School. The fire department personnel displayed an understanding of both personal radiological protective measures, and the correct procedures for establishing and conducting the monitoring and decontamination of evacuees. ARC volunteers, with assistance from ARES and the Iredell County Sheriff's Department, set up the congregate care facility. The facility is equipped and staffed to meet the needs of the evacuee population. Volunteers were well versed in their responsibilities and extremely professional in their actions.

- a. **MET: Objectives 5, 18 and 19**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.4 LINCOLN COUNTY

2.4.1 Emergency Operations Center

The Director of Emergency Management provided excellent direction and control of the on-going operations at all times. The Director of Emergency Management provided continuous agency briefings and requested agency updates. Although several members of the EOC staff were new, it was difficult to distinguish the new staff members from the more seasoned members because they worked so effortlessly and smoothly in carrying out their assigned tasks. All EOC staff members displayed a professional attitude at all times. Highlighting the EOC exercise was the involvement of the Chairman of the County Commissioners and the County Manager.

The EOC, although small, is well equipped and designed to facilitate the staff's efforts in providing the best direction and control in conducting continuous 24-hour emergency operations.

- a. **MET: Objectives 1, 2, 3, 4, 9, 10, 11, 14, 15 and 23**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- d. **PRIOR ARCA - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.4.2 Protective Action For Schools

The Lincoln County Superintendent of Schools, Associate Superintendent of Schools and Transportation Coordinator for East Lincoln High School participated in an interview pertaining to protective actions taken within the county school system in the event of an incident at the McGuire Nuclear Station. It was emphasized that although the implementation of protective actions taken to safe guard the students is a joint school system/emergency management decision, the Superintendent can initiate earlier and broader precautionary measures. The staff and faculty receive in-service training annually. Parents and students are notified of procedures through student handbooks and parental packets developed by the schools. In an emergency parents would be notified by an emergency news release and/or EAS message

The East Lincoln High School Plan was provided as a sample of school plans. It addressed alert and notification procedures, responsibilities and actions to take in the event that

sheltering or evacuation is directed, bus assignments for staff and faculty, and checklists to assist staff and faculty. The school system is prepared to safeguard students in their charge in the event of a potential or actual radiological release.

There are no private schools in the Lincoln County EPZ, however, there are two rest homes and three day care centers that the school system could assist with transportation assets by using its activity buses.

- a. **MET: Objectives 5 and 16**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.4.3 Traffic Control Points

Law enforcement officers from both the Lincoln Police Department and NCSHP successfully demonstrated TCP procedures during an interview at the Lincoln County EOC. Both officers were issued direct reading dosimeters, TLDs and recording forms for emergency workers. They were knowledgeable and conversant about administrative and field turn-back values, actions to take when receiving increased readings and KI procedures. The individuals were professional, positive and exhibited a working knowledge of the TCP mission and personal protection measures.

- a. **MET: Objectives 5 and 17**
- b. **DEFICIENCY: NONE**
- b. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.4.4 Emergency Worker Decontamination

Members of the Boger City Volunteer Fire Department successfully demonstrated their objectives. The demonstration area was fully set up for the efficient receipt, monitoring, and decontamination of emergency vehicles and personnel. Individual low range self-reading dosimeters, TLDs, and exposure records were issued and appropriately recorded. Members equipped with the Inspector EXP portable monitor demonstrated its activation and proper functioning. Members demonstrated how to detect contamination of the probe and discussed the frequency of post-activation operational checks. The monitoring and decontamination of a single vehicle and driver reflected an understanding of the principles involved in safeguarding emergency personnel and vehicles. Because of the heat, monitoring and decontamination teams discussed, but did not wear, standard protective clothing, but had a supply available for inspection. Personnel generally minimized cross-contamination. The personnel were enthusiastic and thorough in demonstrating activities.

- a. **MET: Objectives 5 and 22**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCA - RESOLVED: NONE**
- f. **PRIOR ARCA - UNRESOLVED: NONE**

2.4.5 Reception and Congregate Care

Members of the Lincolnton Fire Department, the Lincolnton County DSS, and the ARC successfully demonstrated reception center and congregate care activities at Lincolnton High School. The fire department personnel displayed an understanding of both personal radiological protective measures, and the correct procedures for establishing and conducting the monitoring and decontamination of evacuees and evacuee vehicles. DSS personnel demonstrated the proper use of personal radiological protective measures, and the correct procedures for conducting the monitoring and decontamination of evacuees. ARC volunteers demonstrated the establishment and operation of the congregate care facility. The facility is equipped and staffed to meet the requirements of evacuees. Volunteers clearly understood their responsibilities and were highly professional in executing them.

- a. **MET: Objectives 5, 18 and 19**
- b. **DEFICIENCY: NONE**

- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.5 MECKLENBURG COUNTY

2.5.1 Emergency Operations Center

The EOC is co-located with the County's EMS Communication Center and has back up power. The EOC is well designed and equipped to handle emergency operations. The EOC staff was knowledgeable and diligently carried out their duties. Several volunteer agencies, representatives from the State and utility, the Assistant City Manager and the Assistant County Manager participated adding realism to the EOC operation. The Emergency Management Director provided frequent briefings to the staff and conferred with the Assistant Managers on precautionary and PADs affecting the county. The EM2000 was used in lieu of status boards to keep the staff informed of actions taking place in the EOC. PADs were appropriate for plant conditions and alert and notification were completed within the required time.

- a. **MET: Objectives 1, 2, 3, 4, 9, 10, 11, 15 and 23**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED:**

Issue No.: 37-99-10-A-02

Description: Mecklenburg County received the Alert at 0942, followed by the Site Area Emergency (SAE) at 1112. The extent-of-play for objective 10 states that: "Mecklenburg County, as Lead County will do coordination and development of messages and implementation of alert and notification activity." Coordination did not occur following the evacuation of schools in response to the SAE at 1112. This resulted in the failure to issue a coordinated EAS message or news release on the precautionary evacuation of the EPZ schools. In addition, the County failed to institute the clearing of Lake Norman until after the State took direction and control.

Corrective Action Demonstrated: During the July 25, 2000, Catawba exercise Mecklenburg County issued a news release notifying parents and the public that schools had been evacuated. Mecklenburg County did not have lake warning responsibility during the Catawba exercise, but some of its news releases did reference the warning in South Carolina. This corrects the ARCA received by Mecklenburg County during the 1999 McGuire exercise.

f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.5.2 Protective Action for Schools

An interview was conducted at Hornets Nest Elementary School with the Assistant Principals from Hornets Nest, Davidson, and Long Creek Elementary Schools as well as Davidson I.B. Middle School. The Director of Safety for the Charlotte-Mecklenburg Schools, who has the responsibility for coordinating safety in the public schools, was also present during the interview along with the Hazardous Materials Coordinator. All school officials were professional, very knowledgeable of school relocation plans and were conscientious about the performance of their responsibilities. The school bus transportation coordinator has the responsibility for mobilizing the buses to relocate students to designated host schools. It would take 15 to 30 minutes to get the buses to the schools. Teachers with class rolls are assigned to ride each of the buses to keep track of the students. Buses travel in convoy and are escorted by local law enforcement.

Parents are sent relocation information annually by each school and the McGuire Nuclear Station. Parents are also provided information at PTA meetings. Teachers and all staff are provided training on the relocation plans. Procedures are in place to contact bus drivers when needed. Private schools have their own evacuation plans and transportation resources. Charlotte-Mecklenburg will provide resources to private schools upon request to facilitate their relocation of students. The Charlotte-Mecklenburg County school system has well-developed school plans and ample resources to relocate students to designated host schools.

- a. **MET: Objective 16**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.5.3 Traffic Control Points

The NCSHP, and personnel from the Charlotte-Mecklenburg, Davidson, Hunterville and Cornelius Police Departments demonstrated TCPs through interview at the EOC on June 19, 2001. They have the capability and resources necessary to control evacuation traffic and control access to evacuated areas. Law enforcement personnel were very knowledgeable of personal dosimetry, turn-back values, TLDs, KI procedures, evacuation routes, reception center and congregate care center locations and road impediment removal.

The NCSHP officers are provided kits that contain KI, evacuation maps, and reception center and congregate care locations. Local law enforcement personnel are provided the same equipment by the EOC before they arrive at their TCP location.

- a. **MET: Objectives 5 and 17**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCA_s - RESOLVED: NONE**
- f. **PRIOR ARCA_s - UNRESOLVED: NONE**

2.5.4 Lake Warning

Procedures for the warning and notification of boaters were successfully demonstrated through zone patrolling of Lake Norman, Mountain Island Lake, and the Catawba River within the 10-mile EPZ. Boat #7 demonstrated the patrolling of zone EE and part of zone GG of Lake Norman (corresponding roughly to the water areas of EPZ - A and B). The Mobile Command Post was operational. Documentation from the Mobile Command Post on the zone patrolling of the water areas within the 10-mile EPZ of McGuire was reviewed. Officers arrived at their starting areas with appropriate dosimetry, KI, and record forms for emergency worker exposure, appropriate procedures and lake maps. The procedures contained detailed instructions regarding the responsibilities of the officers. The officers displayed a thorough knowledge of their mission and personal protection.

- a. **MET: Objectives 5 and 10**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**

- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.5.5 Emergency Worker Decontamination

Members of Charlotte-Mecklenburg Fire Station 21 demonstrated emergency worker decontamination. The demonstration area was fully set-up for the efficient receipt, monitoring, and decontamination of emergency vehicles and personnel. Individual high and low range direct reading dosimeters, TLDs and exposure records were issued and recorded in accordance with plans. Personnel equipped with the Victoreen hand held monitors demonstrated its activation and discussed how to detect contamination of the probe and the frequency of post-activation operational checks. The monitoring and decontamination of a single vehicle and driver reflected an understanding of the procedures involved in safeguarding emergency personnel and vehicles. Fire Station 21 staff demonstrated the proper wearing of a Level B suit and had the level B personal protective equipment (PPE) for each firefighter. Personnel were enthusiastic and professional in their approach.

- a. **MET: Objectives 5 and 22**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.5.6 Medical Services Drill

The McGuire Nuclear Station medical service drill was conducted on June 21, 2001, within the 10-mile EPZ. Participating organizations were Mecklenburg County Emergency Medical Services (MEDIC) and University Hospital. A resident was contaminated when he returned to the contaminated EPZ to rescue his cats and in the process fell off a ladder receiving injuries on the forehead and arms.

The Mecklenburg Emergency Medical Service (EMS) personnel arrived at the accident site fully dressed in protective clothing and wore appropriate direct reading and permanent record dosimetry. The EMS personnel called the ER staff on their arrival at the accident

site. EMS personnel monitoring and contamination control procedures were excellent. The EMS personnel placed two sheets on the contaminated area and set the survey meters and medical supplies on the sheet. Another sheet was placed on the ground and the patient was placed on this sheet before he was laid on the backboard. The MEDIC personnel appropriately surveyed the patient, removed his contaminated clothing and placed it in a plastic lined container. The ambulance floor and sides were covered with protective plastic.

After treating the patient's wound, EMS personnel carefully carried the patient to the gurney and placed him in the ambulance. They placed a follow-up call to the University Hospital Emergency Room (ER) staff providing the estimated time of arrival (ETA), radiation level and relevant medical information. On arrival at University Hospital the MEDIC personnel appropriately transferred the patient to the ER staff. The MEDIC operations supervisor at the accident scene provided excellent advice to the staff on survey and contamination control procedures. The ER staff was well prepared to receive the patient.

In the ER, the staff was professional in their use of appropriate monitoring, contamination control and decontamination procedures. Wounds on the forehead were carefully surveyed, and ER staff thoroughly cleaned each wound, removed soiled and moistened drapes, and re-monitored the wound. This procedure was repeated until each wound was decontaminated to the lowest possible level. The ER staff uses a plastic lined disposable decontamination table and solutions that drained into a container. Nasal, wound, saliva and ear samples were taken to determine if the patient had received internal contamination. The charge nurse provided excellent instructions to the ER staff on contamination control and decontamination procedures. The staff wore appropriate self-reading and permanent-record dosimetry. The ER staff used appropriate exit procedures, carrying the patient out of the ER and methodically surveying each individual before allowing him or her to leave the ER. The EMS personnel and vehicle were appropriately monitored and released back into service.

The MEDIC and ER staff worked well as a team, and their performance reflected excellent training and commitment.

- a. **MET: Objectives 5, 20 and 21**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

3. SUPPORT JURISDICTION

3.1 CABARRUS COUNTY

3.1.1 Emergency Operations Center

The EOC is equipped and staffed to support continuous 24-hour operations during an emergency situation. The EOC is large, comfortable, and has impressive communications capabilities, including three methods to receive emergency notification messages and a new digital telephone system. The County Director of Emergency Management effectively coordinated the efforts of the EOC staff and provided regular updates on the incident activities occurring at the plant and in the counties. The Director was in regular contact with the Mecklenburg County EOC to ensure that assistance to that county would be provided without delay when requested. All members of the EOC staff displayed a professional and positive attitude as they successfully carried out their duties.

- a. **MET: Objectives 1, 2, 3 and 4**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- c. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

3.1.2 Traffic Control Points

A member from the Sheriff's Department and one from the NCSHP successfully demonstrated individual radiological protection and TCP procedures during an interview at the County EOC. Since the county is outside the EPZ, Sheriff's Department personnel are only issued low range (0-200 mR) self-reading dosimeters. The State patrolmen may have assignments in or out of the EPZ so they are issued both low and high (0-20 R) range dosimeters.

- a. **MET: Objectives 5 and 17**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**

- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

3.1.3 Reception and Congregate Care

Members of the Cabarrus County Emergency Management Agency and the Odell Fire Department staffed the reception center. The ARC and Cabarrus County Health Alliance (Health Department) staffed the congregate care facility. Both were set up in an orderly and professional manner. All personnel were well trained and aware of their mission. Radiation monitoring and decontamination methodologies were demonstrated. The emergency kits contained sealed packages, each of which had a complete set of protective clothing with instructions for donning and removing them. ARC and health personnel were fully knowledgeable of their responsibilities in registering and caring for evacuees.

- a. **MET: Objectives 5, 18 and 19**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

4. SUMMARY OF AREAS REQUIRING CORRECTIVE ACTION (ARCA)

4.1 2001 ARCA

4.1.1 37-01-11-A-01 SEOC

Description: At 1210, after the General Emergency declaration, the State in concurrence with the counties decided to order the evacuation of "Protective Action Zones": A, B, C, D, L, M, and N, and to shelter in place all other zones. The prescribed message was filled out during the conference call between the State and the Counties. The message had blank spaces to be filled in prior to broadcast and two options to choose from. Option two was selected. The first blank is for the emergency classification level, which just indicated General, not General Emergency, the second blank in option two is to indicate a direction from the plant. The copy of the message from the SEOC had "NE" filled in. A handwritten note was added at the bottom of the message and no instructions were provided with the note. The first part of the note was "EVAC - L M N A B C D," then a line was drawn and below the line "Shelter K- R - S - IJ OPQ EFGH". The message as written could cause confusion at the EAS station, as to what should be broadcast and had the potential to cause confusion among the public. One of the hand written protective actions said shelter, when it should have been shelter-in-place.

The message was faxed to the Joint Information Center (JIC), where the staff developed a media release for the PAD. The PAD information was correctly relayed to the media during a briefing at approximately 1223. However, the first media release, also at approximately 1223, listed all 19 zones as "evacuation zones" instead of "Protective Action Zones" as indicated in the plant calendar." This message could have caused confusion, because of the incorrect wording and its release concurrent with the media briefing on the PAD. Fifteen minutes later another media release was issued that included the exact protective action zones affected by the PAD.

Schedule of Corrective Actions: North Carolina EAS messages have been modified to provide space to indicate which areas are included in the PAD. Media advisories and JIC procedures are being reviewed to ensure compatibility with utility documents.

4.2 Prior ARCAs - Resolved

4.2.1 37-99-06-A-01 Field Teams

Description: The Red Field Team did not follow the Division of Radiation Protection SOPs for Radiological Emergency Sampling Monitoring Team Members. The team did not enclose the survey instruments and/or instrument probes in thin plastic as required in Section 2, Item 3. The procedures states: *Survey meters should be placed inside plastic bags to protect the instruments from particulate contamination. It may be appropriate to only cover the probe with protective plastic.* During the air sample collection, the team did not take the open and closed window measurements with the GM survey meter at the beginning and middle of the sample collection. Section 3, Item 5, Emergency Procedures for use of Low Volume Air Samplers, Note 1 (b) states: *open and closed measurements with the GM survey meter should be taken and recorded near the beginning, the middle and the end of the sample collection period to assure constant plume presence during the sampling period.*

Corrective Action Demonstrated: The field monitoring teams correctly took radiological readings before, during and after taking an air sample to verify that the sample was from the airborne plume. The field teams properly wrapped their survey instruments in plastic to prevent contamination. This was corrected during the 2001 Shearon Harris Nuclear Power Plant exercise.

4.2.2 37-99-10-A-02 Mecklenburg County EOC

Description: Mecklenburg County received the Alert at 0942, followed by the Site Area Emergency (SAE) at 1112. The extent-of-play for objective 10 states that: "Mecklenburg County, as Lead County will do coordination and development of messages

and implementation of alert and notification activity.” Coordination did not occur following the evacuation of schools in response to the SAE at 1112. This resulted in the failure to issue a coordinated EAS message or news release on the precautionary evacuation of the EPZ schools. In addition, the County failed to institute the clearing of Lake Norman until after the State took direction and control.

Corrective Action Demonstrated: During the July 25, 2000, Catawba exercise Mecklenburg County issued a news release notifying parents and the public that schools had been evacuated. Mecklenburg County did not have lake warning responsibility during the Catawba exercise, but some of its news releases did reference the warning in South Carolina. This corrects the ARCA received by Mecklenburg County during the 1999 McGuire exercise.

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

The following is a list of the acronyms and abbreviations, which may have been used in this report.

ACP	Access Control Point
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
CD-V	Civil Defense - Victoreen
CFR	Code of Federal Regulations
CPM	Counts Per Minute
DEM	Division of Emergency Management
DHHS	Department of Health and Human Services
DOC	Department of Commerce
DOE	Department of Energy
DOI	Department of the Interior
DOT	Department of Transportation
DRD	Direct Reading Dosimeter
EAS	Emergency Alert System
EEM	Exercise Evaluation Methodology
EMA	Emergency Management Agency
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
EPZ	Emergency Planning Zone
EW	Emergency Worker
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FEOC	Forward Emergency Operations Center
FMT	Field Monitoring Team
FR	Federal Register
GE	General Emergency
JIC	Joint Information Center
KI	Potassium Iodide

mR	milliroentgen
mR/h	milliroentgen per hour
NCDT	North Carolina Department of Transportation
NCDA	North Carolina Department of Agriculture
NCDRP	North Carolina Division of Radiation Protection
NCHP	North Carolina Highway Patrol
NCWRC	North Carolina Wildlife Resources Commission
NRC	Nuclear Regulatory Commission
NUREG-0654	NUREG-0654/FEMA-REP-1, Rev. 1, <i>"Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980</i>
ORO	Offsite Response Organization
PAD	Protective Action Decision
PAR	Protective Action Recommendation
PIO	Public Information Officer
R	Roentgen
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Service
RC	Reception Center
RCA	Radiation Control Agency
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
R/h	Roentgen(s) per hour
SEOC	State Emergency Operations Center
SOP	Standard Operating Procedures
TCP	Traffic Control Point
TLD	Thermoluminescent Dosimeter
USDA	U.S. Department of Agriculture

APPENDIX 2

EXERCISE EVALUATORS

The following is a list of the personnel who evaluated the McGuire Nuclear Station exercise on August 14, 2001. The organization represented by each evaluator is indicated by the following abbreviations:

FEMA	- Federal Emergency Management Agency
ICF	- ICF Consultants, Incorporated
NRC	- Nuclear Regulatory Commission
USDA	- U. S. Department of Agriculture

Lawrence A. Robertson

RAC Chairman

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
Robert E. Perdue	Chief Evaluator	FEMA
STATE OF NORTH CAROLINA		
State Emergency Operations Center	Robert Perdue	FEMA
Dose Assessment	Lori Thomas	USDA
Joint Media Center	Brett Kriger	ICF
Emergency Operations Facility	Robert Trojanowski	NRC
Catawba County		
Emergency Operations Center	Brent Fenstermaker Wayne Davis	ICF ICF
Traffic Control Points	Robert Perdue Bill Larrabee	FEMA ICF
Emergency Worker Decontamination	Robert Perdue Bill Larrabee	FEMA ICF
Reception and Congregate Care	Brent Fenstermaker	ICF

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
Gaston County		
Emergency Operations Center	Eddie Hickman	FEMA
Protective Action for Schools	Robert Perdue Bill Larrabee	FEMA ICF
Traffic Control Points	Robert Perdue Bill Larrabee	FEMA ICF
Reception and Congregate Care	Wayne Davis Brent Fenstermaker	ICF ICF
Emergency Worker Decontamination	Bill Serrano	ANL
Iredell County		
Emergency Operations Center	Bill Larrabee	ICF
Protective Action For Schools	Robert Perdue Bill Larrabee	FEMA ICF
Traffic Control Points	Robert Perdue Bill Larrabee	FEMA ICF
Emergency Worker Decontamination	Hank Buchanan	ICF
Reception and Congregate Care	Bill Larrabee	ICF
Lincoln County		
Emergency Operations Center	Lawrence Hughes	ICF
Protective Action For Schools	Robert Perdue Bill Larrabee	FEMA ICF
Traffic Control Points	Robert Perdue Bill Larrabee	FEMA ICF
Emergency Worker Decontamination	Walter Gawlak	ICF

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
Reception and Congregate Care	Walter Gawlak	ICF
Mecklenburg County		
Emergency Operations Center	Joseph Canoles	FEMA
Protective Actions for Schools	Robert Perdue Bill Larrabee	FEMA ICF
Traffic Control Points	Robert Perdue Bill Larrabee	FEMA ICF
Lake Warning	Melody Geer	ICF
Emergency Worker Decontamination	Lynn Mariano	ICF
Medical Drill	Robert Perdue Bill Larrabee	FEMA ICF
Cabarrus County		
Emergency Operations Center	Chuck Richey	ICF
Traffic Control Points	Robert Perdue Bill Larrabee	FEMA ICF
Reception and Congregate Care	Hank Buchannan	ICF

APPENDIX 3

EXERCISE OBJECTIVES AND EXTENT-OF-PLAY AGREEMENT

This appendix lists the exercise objectives which were scheduled for demonstration in the McGuire Nuclear Station exercise on August 14, 2001 and the extent-of-play agreement approved by FEMA Region IV.

A. Exercise Objectives

On the following pages are the specific radiological emergency preparedness objectives scheduled for demonstration during this exercise.

B. Extent-of-Play Agreement

The extent-of-play agreement on the following pages was submitted by the State of North Carolina, and was approved by FEMA Region IV in preparation for the McGuire Nuclear Station exercise on August 14, 2001. The extent-of-play agreement includes any significant modification or change in the level of demonstration of each exercise objective listed in Subsection A of this appendix.

H = Host County, R = Risk County

Site: McGuire Nuclear Station
 State: North Carolina

Exercise
 Date: August 14, 2001

Type: Partial Participation State
 Full Participation Risk Counties
 Partial Participation Host County

	NO SERT	RAD PROTECT	CABARRUS	CATAWBA	GASTON	IREDELL	LINCOLN	MOCKLEBURG
1. Mobilization of Emergency Personnel	X	X	X	X	X	X	X	X
2. Facilities/Equipment/Displays	X	X	X	X	X	X	X	X
3. Direction and Control	X	X	X	X	X	X	X	X
4. Communications	X	X	X	X	X	X	X	X
5. Emergency Worker Exposure Control	X	X	X	X	X	X	X	X
7. Plume Dose Projection		X						
9. Plume Protective Action Decision	X							
10. Alert and Notification	X							
11. Public Instructions	X							
12. Emergency Evacuation - Meds	X							
13. Plume Control	X							
14. Use of KI	X							
15. Protective Action - Sensitive Population								
16. Protective Action - Schools								
17. TCPs and SROs	X	X	X	X	X	X	X	X
18. Reception Centers		X	X	X	X	X	X	X
19. Congregate Care Centers		X	X	X	X	X	X	X
20. Medical Services - Transportation								
21. Medical Services - Facilities								
22. Emergency Worker Decontamination Station			X	X	X	X	X	X
23. Supplementary Assistance	X	X	X	X	X	X	X	X
31. Off-Site Support for evacuating on-site personnel								X

Extent of Play Agreement McGuire Nuclear Power Station Exercise

August 14, 2001
0900 to 1500 Hours

OBJECTIVE #1:

Demonstrate the capability to alert and fully mobilize personnel for both emergency facilities and field operations. Demonstrate the capability to activate and staff emergency facilities for emergency operations.

STATE OF NORTH CAROLINA

The Utility will make the initial notification to the State Warning Point. The State Warning Point will then notify the Division of Emergency Management Operations System and the Division of Radiation Protection. Upon notification of Alert Qualification, EM Operations staff will notify SERT agencies and request that they report to the State EOC. The Utility will be notified when the State EOC is activated and further notifications will come directly to the EOC. (State staffing for the Joint Information Center and Utility Emergency Operations Facility (EOF) will be pre-positioned in the local area due to scenario time constraints.)

DIVISION OF RADIATION PROTECTION

Two field survey teams will deploy and conduct readings from the location. (Field units and Radiation Protection EOF personnel will be pre-positioned due to scenario time.) Radiation Protection personnel responding to the State EOC will report from their normal work locations.

GATAWBA, IREDELL, LINCOLN, GASTON & MECKLENBURG COUNTIES

Alert and notification of the County EOC shall be made by the county Emergency Alert lists. Once the county EOC is activated, notification will be made to the State EOC and utility. County staff will be pre-positioned as the exercise is being conducted during normal work hours.

CABARRUS COUNTY

The North Carolina Emergency Operations Center will make initial notification to the county Emergency Management Coordinator. Alert and notification of Cabarrus County EOC will be made by the County's EM Office using a notification list. County staff will be pre-positioned as the exercise is being conducted during normal work hours.

OBJECTIVE #2:

Demonstrate the adequacy of facilities, equipment, displays, and other materials to support emergency operations.

STATE OF NORTH CAROLINA

Emergency information and event status information will be displayed at various locations within the EOC. Commercial telephone lines, FAX lines and computer modem lines will be available for use by SERT representatives. Security will be provided by State Capitol Police. A picture ID will be required for entrance to the State Emergency Operation Center.

CABARRUS, GATAWBA, GASTON, IREDELL, LINCOLN & MECKLENBURG COUNTIES

Event information will be displayed as necessary within the operations room. Security for the facilities will be provided by local law enforcement agencies. A picture ID will be required for entrance into the Emergency Operation Centers.

SUBJECTIVE #3:

Demonstrates the capability to direct and control emergency operations.

STATE OF NORTH CAROLINA

The STATE Law Enforcement will have direction and control over all resources and personnel through the counties. The counties will be in direction and control with Henderson County being the lead coordinating agency. The State will provide support and technical assistance to the counties. At the request of the counties, the State will assist in the coordination and control of the emergency response. The State will be responsible for the direction and control of all off-site response activity.

CATAWBA, GASTON, IREDELL, LINCOLN & MCDONOUGH COUNTIES

The county commissioners (if not present they will be simulated) will make protective action decisions. The EAC Coordinators or designated staff members will conduct protective actions. The North Carolina EOC will coordinate protective actions with the counties.

CABARRUS COUNTY

Cabarrus County is a host county to support emergency response from Henderson County. The County Controller will be in direction and control with Henderson County EOC. The County will provide resources for the Henderson County EOC. The County will provide resources for Henderson County EOC.

OBJECTIVE #4:

Demonstrate the capability to communicate with all appropriate emergency personnel at facilities and in the field.

STATE OF NORTH CAROLINA

Communication will be demonstrated between the State EOC and the Emergency Planning Zone (EPZ) county EOC, the Utility Emergency Operations Facility (EOU), Joint Information Center (JIC), and the NC State Warning Team.

DIVISION OF RADIATION PROTECTION

The Division of Radiation Protection will demonstrate the ability to communicate with the Utility EOC, the Incident Command and deployed hot survey teams. The scenario will not contain any off-site communication system failure.

CABARRUS, CATAWBA, GASTON, IREDELL, LINCOLN & MCDONOUGH COUNTIES

Communication will be demonstrated between the State EOC and the Emergency Planning Zone (EPZ) county EOC, the Utility Emergency Operations Facility (EOU), Joint Information Center (JIC), and the State Warning Team. The scenario will not contain any off-site communication system failure.

OBJECTIVE #5:

Demonstrate the capability to continuously monitor and control radiation exposure to emergency workers.

STATE OF NORTH CAROLINA

NC Wildlife Commission personnel performing lake warning, State Highway Patrol personnel staffing traffic control points and security road blocks, and Department of Motor Vehicle registration centers and decontamination stations, will be provided the following equipment: 10 mile EF-Z-0-200 mR Self Reading Dosimeter (SRD), 0.20 R SRD, simulated TLDs (cloths pins) and individual dose cards. Personnel outside the 10-mile EPZ will be provided: 0-200 mR SRD, simulated TLDs (cloths pins) and individual dose cards. The North Carolina turn back value for field operation is 5R. Mission dose for protection of large populations from radiation exposure above PAgS, life saving activity and preventing valuable property loss may exceed the 5R limit.

RADIATION PROTECTION

All field staff will be provided with the following equipment: 0-200 mR SRD, 0-20 R SRD, emergency TLD (demonstrated with clothespin). The North Carolina turn back valve for field staff is SRT Mission dose for individuals involved with protection of large populations from radiation exposure life saving activity or preventing valuable property from being damaged by SR event.

CATAWBA, GASTON, HEDWELL, LINCOLN & MECKLENBURG COUNTIES
Emergency Responders will be provided the following equipment inside the 10 mile EPZ: 0-200 mR Self Reading Dosimeter (SRD), 0-20 R SRD, simulated TLD's (cloths pins) and individual dose cards. Personnel inside the 10 mile EPZ will be provided the following equipment: 0-200 mR SRD, simulated TLD's (cloths pins) and individual dose cards. Exposure records for all responders will be kept by the County EMC coordinator. If exposure limits are reached, responders will call the EOC to receive instructions.

OBJECTIVE #7:

Demonstrate the capability to develop dose projections and protective action recommendations regarding evacuation and sheltering.

RADIATION PROTECTION

The Division of Radiation Protection will establish an independent dose assessment and projection team at the State EOC. The team will communicate with the Utility EOC, the Metals Lab and deployed field survey teams to obtain data for developing dose projections (either based on plant conditions or source term data). Back-up dose assessment capability will be demonstrated via a battery powered portable computer.

OBJECTIVE #8:

Demonstrate the capability to make cost and appropriate protective action decisions.

STATE OF NORTH CAROLINA

The Division of Radiation Protection will analyze technical data provided by the Utility and make protective action recommendations to the SERT Leader and County Emergency Management Coordinators. While the Counties will in direct communication and control jurisdictional actions recommendations will be discussed with the SERT Leader using the Decision Line. When the State is in direction and control, the SERT Leader will discuss protective action decisions with the counties and then make the appropriate protective action decision.

CATAWBA, GASTON, HEDWELL, LINCOLN & MECKLENBURG COUNTIES

Local EM Coordinators will discuss protective action recommendations made by the Utility with the SERT Leader and other EPZ counties using technical guidance from the State EOC's response personnel. This information will be shared with County Commissioners in each county and a final decision reached. After the State assumes direction and control, counties will be advised by the SERT Leader of protective action decisions to be implemented.

OBJECTIVE #10:

Demonstrate the capability to promptly alert and notify the public within the 10-mile plume pathway emergency planning zone (EPZ) and disseminate instructional messages to the public on the basis of decisions by appropriate State or local officials.

STATE OF NORTH CAROLINA

During Site Area Emergency, the Counties will be in direction and control. SERT will lend technical support to the Counties. Coordination and development of messages and implementation of alert and notification activity will be done by Mecklenburg County, as "lead County". Message content will be discussed with the EPZ counties and the State EOC using the Decision Line. At General Emergency the State EOC will have direction and control and will select the appropriate pre-scripted message from the McGuire Plant support plan. Upon concurrence with the counties, North Carolina SERT will lead and conduct the countdown. The EAS Coordinator at the State will transmit

OBJECTIVE #1: Demonstrate the capability to coordinate the development and dissemination of clear, accurate, and timely information in the event of a nuclear emergency. The County will be able to coordinate with the State and other counties to ensure that the public receives accurate information in a timely manner. The County will be able to coordinate with the State and other counties to ensure that the public receives accurate information in a timely manner. The County will be able to coordinate with the State and other counties to ensure that the public receives accurate information in a timely manner.

Actual Back-up Power Alerts will not be conducted in any of its counties. A representative from each county meeting with the back-up Power-Alerting Function will be available in each county EOC to discuss back-up Power Alerting procedures with the alerting.

Lake Warming and Boater Notification for Lake Norman and the Catawba River will be accomplished as an Off-Scenario activity prior to the activated exercise

**Date: Off Scenario on Wednesday, June 20, 2001
Time: 1:00 p.m. EDT**

OBJECTIVE #2: Demonstrate the capability to coordinate the formation and dissemination of accurate information and information to the public.

STATE OF NORTH CAROLINA
Counties will have a person and county in the event of a nuclear emergency. Messages will be coordinated through Mecklenburg County, who is the lead county. The State will utilize the use of EAS messages and/or the use of broadcast messages from the nuclear support plan. At General Emergency the State will assume direction and control and will send the appropriate pre-scripted messages from the McGuire Nuclear Site, Emergency Response Plan.

COUNTY OF MECKLENBURG
County EOC will be able to coordinate with the State and other counties to ensure that the public receives accurate information in a timely manner. The County will be able to coordinate with the State and other counties to ensure that the public receives accurate information in a timely manner. The County will be able to coordinate with the State and other counties to ensure that the public receives accurate information in a timely manner.

OBJECTIVE #3: Demonstrate the capability to coordinate the development and dissemination of clear, accurate, and timely information in the event of a nuclear emergency.

STATE OF NORTH CAROLINA
North Carolina Public Information Staff will have support staff to the County Public Information Officers during activation of the Joint Information Center (JIC). (State PIO will also represent Cabarrus County or the JIC). State PIO staff at the JIC will assist & cooperate with the County PIO's for development of news releases and participate in media briefings to answer questions concerning State activity and resources. When the State assumes direction and control, the State Lead Public Information Officer will take the lead role for off-site public information.

CATAWBA, GASTON, IREDELL, LINCOLN & MECKLENBURG COUNTIES

During Site Area Emergency, the Counties will be in direction and control. SERT will lend technical support to the Counties. Coordination and development of messages and implementation of alert and notification activity will be done by Mecklenburg County, as Lead County. If Commissioner are not present by EOCs to review message traffic, then reviews will be simulated. Message content will be discussed with the EPZ counties and the State EOC using the Dadsion Line. Upon concurrence with the counties, Mecklenburg County will lead and conduct the countdown for siren activation. There will be an actual activation of the sirens by Gaston, Lincoln, Iredell and Mecklenburg Counties at Site Area Emergency.

Actual Back-up Route Alerting will not be conducted in any of the counties. A representative from each county tasked with the Back-up Route Alerting function will be available in each county EOC to discuss back-up Route Alerting procedures with the evaluator.

Lake Warming and Boater Notification for Lake Norman and the Catawba River will be accomplished as an Off-Scenario activity prior to the evaluated exercise.

Date: Off Scenario on Wednesday, June 20, 2001

Time: 1:00 p.m. EDT

OBJECTIVE #11:

Demonstrate the capability to coordinate the formulation and dissemination of accurate information and instructions to the public.

STATE OF NORTH CAROLINA

Counties will have direction and control at Site Area Emergency. Messages will be coordinated through Mecklenburg County, who is the "lead" County. The State will advise on the use of EAS messages and/or the use of pre-scripted messages from the Mecklenburg support plan. At General Emergency the State will assume direction and control and will select the appropriate pre-scripted message from the McCure Nuclear Site, Emergency Response Plan.

CATAWBA, GASTON, IREDELL, LINCOLN & MECKLENBURG COUNTIES

County EOCs will be responsible for emergency public information and operations. Catawba, Gaston, Iredell and Lincoln Counties will coordinate with Mecklenburg County and the State on contents of EAS messages. At Site Area Emergency the counties will be in direction and control, Mecklenburg County as "lead" County will draft and/or use pre-scripted EAS messages from the plan and control NC LP-1 Station. At the General Emergency the State EOC will coordinate and draft EAS messages.

OBJECTIVE #12:

Demonstrate the capability to coordinate the development and dissemination of clear, accurate, and timely information to the news media.

STATE OF NORTH CAROLINA

North Carolina Public Information Staff will serve as support staff to the County Public Information Officers during activation of the Joint Information Center (JIC). (State PIO will also represent Cabarrus County at the JIC) State PIO staff at the JIC will assist & coordinate with the County PIO's for development of news releases and participate in media briefings to answer questions concerning State activity and resources. When the State assumes direction and control, the State Lead Public Information Officer will take the lead role for off-site public information.

CATAWBA, GASTON, JREDELL, LINCOLN & MECKLENBURG COUNTIES
Incidents involving the Public PIO and the Public Control Staff at the JIC and the JIC. The
will work together to develop news releases, obtain approval from appropriate county officials, an
address the media during press briefings. Once the JIC is established all press releases will
come from there.

OBJECTIVE #10:

Demonstrate the capability to establish and operate rumor control in a coordinated
and timely manner.

STATE OF NORTH CAROLINA

The Public Information Officer in the State EOC will handle Rumor Control until such time as the
JIC is activated. At that time, the State will provide Rumor Control Staff at the JIC to answer
telephones and handle rumor control calls. If a rumor call needs to be cleared or suppressed, the
PIO should develop a news release or hold a media meeting to directly suppress the rumor. State
PIOs will handle at least one news release prior to the activation of the JIC and at least one when
the JIC is operational.

CATAWBA, GASTON, JREDELL, LINCOLN & MECKLENBURG COUNTIES

Rumor Control calls will be handled by County PIOs. Once the JIC is operational, the respective
EOCs and the JIC is activated. Upon activation of the JIC, all rumor control calls will be transferred
to PIOs at that location. If a rumor control call requires to be cleared or suppressed,
the PIO should develop a news release or hold a media meeting to directly suppress the rumor. The
PIO will prepare at least one News Release to address one rumor. The Federal Evaluator will be
provided a copy of this news release that was required to suppress the rumor.

Rumor Control calls will make for calls per hour per person playing in the JIC and counties,
beginning at the A7a Emergency

OBJECTIVE #11

Demonstrate the capability to implement petroleum spill(s) (PIS) protective actions for
emergency workers, institutionalized individuals, and if the State plan specified, the
general public.

STATE OF NORTH CAROLINA

Personnel in the State EOC will discuss the distribution items and dose administration procedures
with the Federal Evaluator.

CATAWBA, GASTON, JREDELL, LINCOLN & MECKLENBURG COUNTIES

Counties will discuss distribution actions and dose administration procedures with the Federal
Evaluator at the County EOCs. Inventories can be made available on paper or by Inspector.

OBJECTIVE #12

Demonstrate the capability and resources to implement actions for special
populations.

CATAWBA, GASTON, JREDELL, LINCOLN & MECKLENBURG COUNTIES

Counties will discuss proper actions and procedures with the Federal Evaluator at the County
EOCs.

OBJECTIVE #18:

Demonstrate the capability and resources necessary to implement protective actions for school children within the plume pathway emergency planning zone (EPZ).

GASTON COUNTY

Interviews with the principals of assistant principals and County School Administration personnel will be conducted at the Gaston County EOC.

Schools to be evaluated for 2001:

Kiser Elementary School
Springfield Elementary School
Stanly Middle School

Date: Off Scenario on Monday, June 18, 2001

Time: 1:00 p.m. EDT

IREDELL COUNTY

Interviews with the Principal or Assistant Principal and County School Administration personnel will be conducted at the Irredell EOC.

Schools to be evaluated for 2001:

Brawley Middle School

Date: Off Scenario on Friday, June 22, 2001

Time: 9:00 a.m. EDT

LINCOLN COUNTY

Interviews with the principals or assistant principals and County School Administration personnel will be conducted at the Lincoln County EOC.

Schools to be evaluated for 2001:

East Lincoln High School
East Lincoln Middle School

Date: Off Scenario on Tuesday, June 19, 2001

Time: 3:00 p.m. EDT

MECKLENBURG COUNTY

Interviews with the principals or assistant principals and County School Administration personnel will be conducted at Hornets Nest Elementary School.

Schools to be evaluated for 2001:

Davidson I.B. Middle School
Davidson Elementary School
Hornets Nest Elementary School
Long Creek Elementary School

Date: Off Scenario on Tuesday, June 19, 2001

Time: 10:00 a.m. EDT

OBJECTIVE #17:

Demonstrate the organizational capability and resources necessary to control evacuation traffic flow and to control access to evacuated and sheltered areas.

STATE OF NORTH CAROLINA

The North Carolina State Highway Patrol will provide support to the Counties in the form of manpower to staff designated traffic control points and security roadblocks.

CABARRIUS, CATAWBA, GASTON, REDELL, LINCOLN & MECKLENBURG COUNTIES

Traffic control points will be demonstrated at the Cabarrus, Catawba, Gaston, Irredell, Lincoln & Mecklenburg County EOCs by interview. Law enforcement agency representatives, (State Highway Patrol, County Sheriff & Local Police) will meet with the Federal Evaluator to discuss proper procedures, equipment, turn back values etc. If Federal Evaluators would like to see one location demonstrated then law enforcement will be available to go with the Federal Evaluator to a TCP/SRB.

Cabarrus County:

CB-6 - NC Hwy 73 & Trinity Church Rd. - NCSHP
CB-8 - Trinity Church Rd. & Ophiridge Rd. - Cabarrus County Sheriff
CB-7 - Trinity Church Rd. & Northwest Cabarrus Drive. - Cabarrus County Sheriff
Date: Off-scenario Thursday, June 21, 2001
Time: 2:00 p.m.

Catawba County:

CT-1 - NC 150 & NC 16. - NCSHP
CT-3 - NC 16 & Buffalo Shoals Rd (SR 1003) - Catawba Co Sheriff Dept
CT-6 - Sheriff's Ford (SR 1848) & Bandy's Crossroads (SR 1813) - Catawba Co Sheriff Dept
Date: Off-scenario, Monday, June 18, 2001
Time: 6:00 p.m.

Gaston County:

GS-31 - Sunset Drive & Chestnut St. Extension. - Gaston County Police
GS-32 - Dallas-Stanley Hwy. (NC 275) & Hickory Grove Rd. - NCSHP
GS-33 - Hickory Grove Rd. & Spencer Mountain Rd. - Gaston County Police
Date: Off-scenario, Monday, June 18, 2001
Time: 3:00 p.m.

Irredell County:

IT-7 - NC 150 & SR1109 Williamson Road. - NCSHP
IS-10 - SR 1100 Brawley School Road & Brawley School. - Irredell Co Sheriff Dept
Date: Off-scenario, Friday, June 22, 2001
Time: 10:30 a.m.

Lincoln County:

L-7 - Jeb Seagle Dr & Skip Lawing Rd - Lincoln Police
L-6 - Hwy 27 & SR 1002 - Lincoln Co. Sheriff
L-27 - NC 16 & Mundy Rd (SR 1349). - NCSHP
Date: Off-scenario, Tuesday, June 19, 2001
Time: 4:30 p.m.

Mecklenburg County:

MT & MS 5 - Interstate I-77 & NC-73 - NCSHP
MT & MS 3 - NC-73 & Sam Fut Rd. - Huntersville Police
MT & MS 2 - Olesed Road & Beeches Ferry Rd. - Charlotte/Mecklenburg Police
MT & MS 6 - Davidson Police
MT & MS 4 - Cornelius Police

Date: Off-scenario, Tuesday, June 19, 2001
Time: 1:00 p.m.

OBJECTIVE #13:

Demonstrate the adequacy of procedures, facilities, equipment, and personnel for the radiological monitoring, decontamination, and registration of evacuees.

SABARRUS COUNTY

Reception will be demonstrated at Northwest Cabarrus Middle School. Red Cross and Department of Social Services personnel will discuss the procedures for registration of evacuees. Local Fire & County Rescue personnel will discuss the procedures for monitoring and decontamination registration of evacuees. Reception personnel will monitor six (6) people.

Date: Off-scenario, Tuesday, August 14, 2001
Time: 6:00 p.m.

CATAWBA COUNTY

Reception will be demonstrated at Maiden High School with the Maiden Fire Department. Reception personnel will discuss the procedures for monitoring and decontamination registration of evacuees. Reception personnel will monitor six (6) people.

Date: Off-scenario, Tuesday, August 14, 2001
Time: 7:00 p.m.

GASTON COUNTY

Reception will be demonstrated at Gaston College, corner of C. Grier Beam Blvd. & 321 Hwy. Gastonia Fire Department Hazardous Materials Team will discuss the procedures for monitoring and decontamination of evacuees. Reception personnel will monitor six (6) people.

Date: Off-scenario, Monday, August 13, 2001
Time: 6:00 p.m.

IREDELL COUNTY

Reception will be demonstrated at South Iredell High School. Statesville Fire Department and West Iredell Fire Department personnel will discuss the procedures for monitoring and decontamination registration of evacuees. Reception personnel will monitor six (6) people.

Date: Off-scenario, Monday, August 13, 2001
Time: 5:30 p.m.

LINCOLN COUNTY

Reception will be demonstrated at West Lincoln High School. Lincoln and Union Fire Department personnel will discuss the procedures for monitoring and decontamination registration of evacuees. Reception personnel will monitor six (6) people.

Date: Off-scenario, Monday, August 13, 2001
Time: 7:00 p.m.

OBJECTIVE #19:

Demonstrate the adequacy of facilities, equipment, supplies, personnel, and procedures for the congregate care of evacuees.

CABARRUS COUNTY

Congregate Care will be demonstrated at Northside Cabarrus Middle School. Red Cross and Department of Social Services personnel will discuss and demonstrate the procedures for registration of evacuees on six (6) individuals.

Date: Off-scenario, Tuesday, August 14, 2001
Time: 8:00 p.m.

CATAWBA COUNTY

Congregate Care will be demonstrated at Millen High School. Red Cross and Department of Social Services personnel will discuss and demonstrate the procedures for registration of evacuees on six (6) individuals.

Date: Off-scenario, Tuesday, August 14, 2001
Time: 7:00 p.m.

GASTON COUNTY

Congregate Care will be demonstrated at North Gaston High School, 1133 Ralston Road, Dallas, Red Cross and Department of Social Services personnel will discuss and demonstrate the procedures for registering six (6) individuals.

Date: Off-scenario, Monday, August 13, 2001
Time: 7:00 p.m.

IREDELL COUNTY

Congregate Care will be demonstrated at South Iredell High School. Red Cross personnel will discuss and demonstrate the procedures for registering six (6) individuals.

Date: Off-scenario, Monday, August 13, 2001
Time: 5:30 p.m.

LINCOLN COUNTY

Congregate Care will be demonstrated at Lincoln High School. Red Cross and Department of Social Services personnel will discuss and demonstrate the procedures for registering six (6) evacuees.

Date: Off-scenario, Monday, August 13, 2001
Time: 7:00 p.m.

OBJECTIVE #20

Demonstrate the adequacy of vehicles, equipment, procedures and personnel for transporting contaminated, injured or exposed individuals.

MECKLENBURG COUNTY

MS-1 field activities will involve Charlotte-Mecklenburg EMS(MEDIC) and University Memorial Hospital. MEDIC will respond to an injured contaminated patient. The response team will perform field radiological survey and medical care of the injured party prior to transport. University Hospital will conduct patient decontamination. Drill will be conducted at the MEDIC building, located at 4525 Statesville Road. Patient will be transported to University Hospital from Statesville Road.

Date: Off-scenario, Thursday, June 21, 2001
Time: 6:00 a.m.

OBJECTIVE #21:

Demonstrate the adequacy of equipment, procedures, supplies, and personnel of medical facilities responsible for treatment of contaminated, injured, or exposed individuals.

MECKLENBURG COUNTY

MS-1 field activities will involve Charlotte/Mecklenburg EMS (MEDIC) and University Memorial Hospital. The hospital will prepare the Radiation Control Zone to receive an injured contaminated patient. The hospital will provide a radiological emergency medical team consisting of a doctor, nurse, radiological safety officer and required support staff. Hospital security will maintain access control for the Radiation Control Zone. The medical team will monitor, decontaminate and treat the medical needs of the patient in accordance with hospital procedures. The hospital will also monitor the EMS personnel and vehicle.

Date: Off-scenario, Thursday, June 21, 2001
Time: 6:00 a.m.

OBJECTIVE #22:

Demonstrate the adequacy of procedures for the monitoring and decontamination of emergency workers, equipment, and vehicles.

CATAWBA COUNTY

Emergency worker decontamination will be demonstrated at the Sheriff's Ford Rescue Squad Base. Personnel and equipment decontamination procedures will be discussed using diagrams and unit SOPs. Unit radiation monitor will demonstrate actual monitoring of emergency personnel and equipment.

Date: Off-scenario, Monday, June 18, 2001
Time: 6:00 p.m.

IREDELL COUNTY

Emergency Worker decontamination will be demonstrated at Rest Area on I-77 North. Stateville and Shepherd Fire Department personnel and the County Fire Marshal's office will be prepared to discuss and demonstrate the objective. Personnel and equipment decontamination procedures will be discussed using diagrams and unit SOPs. Unit radiation monitors will demonstrate actual monitoring of emergency personnel and equipment.

Date: On-scenario, August 14, 2001
Time: 9:00 a.m.

LINCOLN COUNTY

Boger Fire Department at Hwy 27 and Salem Church Road will demonstrate emergency worker decontamination. Personnel and equipment decontamination procedures will be discussed using diagrams and unit SOPs. Unit radiation monitors will demonstrate actual monitoring of emergency personnel and equipment.

Date: Off-scenario, August 14, 2001
Time: 7:00 p.m.

MECKLENBURG COUNTY

Emergency worker decontamination will be demonstrated at the Charlotte Fire Station 21 at 1023 Little Rock Road. Personnel and equipment decontamination procedures will be discussed using diagrams and unit SOPs. Unit radiation monitor will demonstrate actual monitoring of emergency personnel and equipment.

Date: On-scenario, August 14, 2001
Time: 10:00 a.m.

OBJECTIVE #3:

Demonstrate the capability to identify the need for external assistance and to request such assistance from Federal or other support organizations.

STATE OF NORTH CAROLINA

SERT Leader will make a request for any Federal resources that may be required. The State may also request for Federal Disaster Aid.

CABARRUS, CATAWBA, GASTON, REDELL, LINCOLN & MECKLENBURG COUNTIES

Counties will demonstrate the objective by requesting assistance from the State of North Carolina.

OBJECTIVE #31

Demonstrate the capacity to provide off-site support for the evacuation of on-site personnel.

MECKLENBURG COUNTY

Mecklenburg County will demonstrate the ability to provide assistance to decrease in the management of traffic and access control, and providing information on shelters, decontamination facilities etc.

FINAL DRAFT, May 10, 2001

APPENDIX 4

EXERCISE SCENARIO

This appendix contains a summary of the simulated sequence of events, which was used as the basis for invoking emergency response actions by OROs in the McGuire Nuclear Station exercise on August 14, 2001.

This exercise scenario was submitted by the State of North Carolina and approved by FEMA Region IV.

**McGuire Nuclear Site
Biennial Exercise Scenario
August 14, 2001
Partial Participation Exercise
Narrative Summary**

This exercise will be a full station exercise with the Simulator Control Room, Technical Support Center (TSC), Operations Support Center (OSC), and the Emergency Operations Facility (EOF) staffed with players, controllers and evaluators. The Media Center and the Joint Information Center (JIC) will be staffed because the State of North Carolina and Counties of Gaston, Mecklenburg, Lincoln, Cabarrus, Catawba and Iredell are playing in this exercise. The NRC will have limited participation in a communications role. The Public Spokesperson will not provide any stand-up news briefings onsite. These will only be conducted at the Media Center.

Time Event

- 0800 The plant is operating at full power with all redundant equipment available.
- 0820 Unisolable NCS (reactor coolant system) leak inside containment commences at -5 gallons per minute (gpm) and increases to 150-175 gpm over a 10-minute period.
- 0830 Reactor trip with Safety Injection, auto or manual based on operator response. Four to six control rods located in close proximity to each other fail to drop into the core. Local flux peaking occurs in that area of the core causing possible fuel clad damage. Upon Safety Injection, the Auxiliary Building Filtered Exhaust System (VA) experiences a component malfunction when the VA filter bypass damper fails in the bypass position. Air being released to the unit vent will be monitored but not filtered, making this a potential release path to the environment.
- 0845 Operations Shift Manager (OSM)/ Emergency Coordinator (EC) declares ALERT based on Emergency Action Level (EAL) 4.1.A.1, potential loss of NCS barrier. Site Assembly is to be conducted to account for all onsite personnel.

1145 Radiation levels inside Containment exceed 125 R/hr as indicated on EMFs 51A and 51B.

1200 The EOPD declares a GENERAL EMERGENCY (GE) based on EAL 4.1.G.2, loss of any two fission product barriers with the potential loss of the third. Protective Action Recommendations (PARs) should be to evacuate the 2 mile radius and 5 miles downwind (zones L,B,M,C,A,N,D), plus shelter in place the remainder of the emergency planning zones (zones E,F,G,H,I,J,K,O,P,Q,R,S).

1215 State and Counties notified of GE via ENF using Selective Signaling System. PARs are communicated. Local and state authorities, in turn, will coordinate public notification among themselves, with simulated notifications occurring via sirens and the Emergency Alert System (EAS).

NOTE: There will not be an activation of the sirens, or of EAS unless there was a problem with these activities at the earlier activation.

1300 The leaking ECCS valve, 1NV-412, has been repaired so its external leakage has stopped.

1330 The VA system filter bypass damper has been closed by repair teams and the VA filter has been placed in service. Any radiological gases released in the Auxiliary Building will now be filtered as well as monitored prior to release to the environment, resulting in a much-reduced radiological release rate to the environment.

1400 - 1500 This exercise will be terminated when all required objectives have been demonstrated.